



**Universidad de Granada**

Facultad de Ciencias de Educacion

The Effectiveness of a Listening Awareness Program on Students with Learning Difficulties in Arabic Language Reading in the Schools of Irbid City in Jordan

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## ABSTRACT

The Effectiveness of a Listening Awareness Program on Students with Learning Difficulties in Arabic Language Reading in the Schools of Irbid City in Jordan

By

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The purpose of this study was to explore the effectiveness of a listening awareness program on students with learning difficulties in Arabic language reading in the schools of Irbid city in Jordan as assessed using a multi phase evaluation and statistical analyses of three different tests. The population of the study consists of students with learning difficulties from the second, third and fourth grades whose ages range between 7-9 years old, and those enrolled in the resource rooms affiliated to the Jordanian Ministry of Education in Irbid Province. The sample of the study consists of 120 male and female students from the basic second, third and fourth grades enrolled in the resource rooms at Asma Bint Umayyad School in Irbid Province divided into two experimental and controlling groups. The study uses the comparative descriptive approach through identifying auditory perception skills for students with learning difficulties in resource rooms and the nature of differences of such skills for the sample according to the gender and age of the student. The independent variables were the training program, gender and age. The Dependent variables were the auditory perception which has three levels: auditory discrimination, auditory analysis skills and auditory memory capacity. The data collected was statistically analyzed using the T test, Arithmetic means and standard deviations, as

well as unilateral contrast according to the study independent variables (groups, gender and age).

The results revealed the existence of differences of statistical significance at the significance level of ( $\alpha \leq 0.05$ ) attributed to the effect of the program in all skills and in the overall marks as the differences have been in favor of the experimental group on which the training program has been implemented. There has also been significant differences attributed to age in favor of the 9 years old group (the older age) in the overall auditory perception skills. Finally, there were no significant differences attributed to the gender variable.

## DEDICATION

This research is dedicated to:

my mother for the positive attitude and strength she gave me;

my father who instilled me at an early age the importance of hard work;

my husband, Dr. Mohamad, who made suggestions, gave encouragement, and assisted with technical support; he has been a great help throughout this long journey;

my sons Alhareth and Abdulrahman who gave me the energy to continue;

my daughters Esra and Bushra who were a great help in taking care of the family when I got busy.

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## Introduction

## **Introduction**

Many scientists in the field of special education emphasized that perception is one of the most perceptual mental processes with which an individual deals with environmental stimuli for wording them in an intellectual system that expresses a meaningful concept facilitating harmony with the surrounding environment with all its material social elements. Many studies have confirmed the presence of perceptual problems among children with difficulties in learning more than their presence among ordinary children. Some people may suffer from visual perception that involves difficulties in organizing and interpreting visual stimuli, while others may suffer from difficulties in kinetic or dynamic perception or general consistency and synergy of organs of the body, especially during movement and writing.

Some of the developmental difficulties facing students with difficulties in learning are problems related to auditory perception which affect learning process (Hafid, 2003).

Deficiency in auditory perception is considered more visible among children with difficulties in learning than ordinary students. Therefore, it is necessary to use the appropriate therapeutic methods in order to reduce these problems which appear in the form of disturbances in the interpretation

of the auditory stimuli which accompanies learning difficulty (Salem, Shahat & Ashour, 2003).

This requires learning in a study environment similar to the local environment or in any position that includes response to sounds that require a child's ability to classify audio signals in units of meaning and then regulate these units, remember them and respond to them appropriately, automatically and fast.

Studies show that many weak readers have sound and audio linguistic difficulties, as those students do not suffer from problems in hearing or its sharpness, but they have difficulties in auditory perception, which is the ability to distinguish and interpret what is heard. Due to the fact that the abilities of auditory perception develop normally through the first years of a child's life, most academic teachers are mistaken in the assumption that all students have acquired those skills (Lener, 2003).

Auditory perception affects the success of the reading process, as the ability to analyze, sequence and remember auditory stimuli is considered essential in reading skill, as the more efficient the child in the analysis of the words to voices, the better becomes his level of reading. Usually students with difficulties in reading fail to perceive the acoustic structure of

the spoken language whether at the level of the word or at the level of the sentence (Oshea & Oshea & Algozzine, 1998).

The suffering of students with learning difficulties appears in perception, and in order to address these difficulties, it is necessary to develop special auditory training programs for them as they perceive things differently. It is wrong to put pressure on them because it makes them feel that they have failed and are unable to perceive and discriminate, as they are in need of special means for learning (Hammill & Bartel, 1995).

Perceptual processes are considered prerequisites to learning to read because developmental learning difficulties represented in synthesis of sounds (auditory perception) are the reasons that prevent the child from learning to read (Kirk & Kalphent, 1988).

Many researchers confirmed that interest in this category should not exceed the study of academic learning difficulties to the developmental learning difficulties, because they are the origin and main reason for academic difficulties (Al Zayat, 1998).

Children at pre-school age acquire auditory and visual perception skills, which facilitate them to join schools and expand their memories and skills of thinking, in addition to

learning how to understand and use language, which is developmental skills that students will need later in learning academic topics. Due to the fact that perception is an learned skill, the learning process may have a direct impact on the development of the perceptual skill of a child (Lerner, 2003).

Therefore, the existence of programs for the development of the auditory perception skills of students with learning difficulties has become an important element for the development of their learning process. These programs require the use of methods that suit students' abilities, as the development of these abilities may positively affect their personal aspects, whether psychological or mental or social, in addition to the fact that it is expected to raise their abilities in academic achievement.

This current study seeks to prepare and execute a training program on the development of auditory perceptual skills for students with learning difficulties, and confirm the extent of its effect on the development and promotion of auditory perception skills due to its expected importance for the child from different aspects whether personal or academic.



## **The problem of the study**

The problem of the study will be identified by establishing and preparing a training program on the development of auditory perception skills for children with learning difficulties who are enrolled in the resource rooms.

The problem of the study can be summed up to answer the following questions:

- Are there significant differences in the auditory perception skills between the experimental and the control group attributed to the effect of the training program?
- Are there significant differences in the auditory perception skills among sample students with learning difficulties attributed to the gender variable?
- Are there significant differences in the auditory perception skills among sample students with learning difficulties between the experimental and the control group attributed to interaction between the group and gender?

## **Importance of the study**

### **First: Theoretical importance**

This study deals with a very important and essential topic which is the development and promotion of the auditory

perception skills for students with learning difficulties considering that these skills facilitate enrollment of students at school and the development of their memories and skills of thinking which are the requirements that students need in the development of academic skills. The importance of this study is also prominent due to the fact that it is one of the few Arab studies which have dealt with the topic of auditory perception among students if compared with the number of foreign studies. Its importance is also that it is concerned with training of students with learning difficulties on the utilization of strategies for auditory perception through a group of various activities related to the processes of auditory perception included in the training program prepared by the researcher for the development of the auditory perception skills and measurement of its effectiveness.

### **Second: Applied importance**

This study is gaining its importance through the following:

- It provides a practical viable program which contributes to the improvement of the auditory perception skills among students with learning difficulties after confirming its effectiveness. This helps in the improvement of the academic achievement among students with learning difficulties who are enrolled in the resource rooms of the Jordanian Ministry of

Education or special needs centers. These centers apply the program on children with learning difficulties in order to reduce the problems of auditory perception among them, bearing in mind that there are no training programs available in the resource rooms for the development of auditory perception skills.

- It ends the suffering of students with learning difficulties regarding failure in the auditory perception as a lot of teachers diagnose them with hearing problems in spite of inexistence of organic auditory problems among them.

### **Method and tools of the study**

The research methodology and procedures are based on an experimental field method which divides the sample into two groups (control and experimental) so that the therapeutic program is executed in the learning difficulties on the experimental group and building of tests as a tool of data collection.

The study will take the following steps:

- Conducting field visits to learning resource rooms at school in Irbid Province.
- Implementation of the training program on the individuals of the experimental group.

- Treating data by using suitable statistical methods to answer the questions of the study.
- Getting use of observations.
- Analyzing results.
- Discussing and documenting results.

**Determinants of the study:**

- Taking sample from students with learning difficulties in the resource rooms at Asma Bint Umays Basic Education School in Irbid Province.
- Measuring the extent of the diagnosis by teachers of the resource rooms of the sample individuals and classifying them from students with learning difficulties.
- Using the accurate and authentic tools of the study because using other tools may lead to different results.

## **Chapter I**

### **Theoretical framework and previous studies**

## **1.Theoretical framework**

### **1.1 Special education**

#### **1.1.1 Introduction and theoretical background**

The issue of special education and care for people with special need is considered one of the modern issues and it refers back to the scientific organized beginnings of the first half of this century. The topic of special education combines a number of sciences as its roots extend to the fields of Psychology, Education, Sociology, Law and Medicine, and the topic of special education deals with exceptional individuals.

Exceptional individuals are those who deviate significantly from the general average of ordinary individuals in their mental, social, sensory, dynamic and linguistic growth, a matter which requires special attention by educators of this category as to the methods of their diagnosis and selection of appropriate methods of teaching them (Subhi, 1994: 8).

Exceptional individuals belong to the following categories:

- **Mental impairment**

The American Association on Mental Retardation (AAMR) defines mental impairment as a mental deficiency in the current functional performance, and it is clear from the significant and apparent decline in the mental functions and which its appearance coincides with the existence of deficiency in two or more of the following adaptive skills: self-care, domesticity, social skills, use of public facilities, spatial orientation, health and safety, employment of academic skills, enjoyment of leisure times and work (Al saratawi & Ayoub, 2000).

- **Hearing impairment**

It is the total (the deaf) or partial (auditory weakness) loss of hearing that limits a person's ability to use the hearing sense in learning language and communication with others (Al Khatib & Al Hadidi, 2009:166).

- **Visual impairment**

It is the weakness in the sense of vision which limits a person's ability to use it effectively a matter which negatively affects his/her performance. Visually impaired persons are classified into two categories: the blind and the partially sighted (Al Khatib & Al Hadidi, 2009:166).

- **Physical impairment**

It includes the category of students who have formed an obstacle prohibiting them from the ability to normally operate their bodily and physical functions that make them unable to learn unless services of special education are provided (Al Khatib & Al Hadidi, 2009:166).

- **Emotional impairment**

This category includes students with disorders, bad social adaptation, depressive mood etc. It can be caused by the depressions and severe problems that children encounter in their seeking for self-independence and mastering the basic developmental skills such as self-expression (Al Waqfi, 2004).

- **Giftedness and creativity**

Giftedness means susceptibility of excellence in one area of life such as creativity and talent in music or sports or arts or literature or mathematics, while creativity means high general mind susceptibility or high IQ, i. e., creativity is a group of talents or a general academic talent, hence, creativity is adequacy of mind above the average, while giftedness is a performance above the average, and as such, creativity is prerequisite to giftedness but it is not required for the creative person to be gifted or talented (Gagne, 1985).



- **Speech and language disorders**

Irish Association of Speech and Language Therapists (IASLT) defines speech and language disorder " a term currently used to describe children whose skill in understanding or expressing themselves through speech and language is significantly impaired. These difficulties occur in the context of normal cognitive abilities and are not primarily attributable to social, emotional, behavioral, educational, physical or sensory difficulties" (IASLT, 2007).

- **Autism**

The American Autism Association defines autism as a severe or chronic growth impediment which appears in the first years of the child's age. It results from nervous disorder which negatively affects the functions of brain and spreads among male more than female and occurs among all social and ethnic groups (Al Azza, 2001).

- **Learning disabilities**

Children with learning difficulties are those who show difficulties in one or more basic psychological processes like understanding and use of written or spoken language. These difficulties seem to occur in the disorder of hearing, thinking, speaking, reading, spelling, counting and numerical skills. This

disability is associated with simple defect in the brain functions and not with mental, auditory, visual or other types of impairment (Lerner, 2003).

### **1.1.2 The concept of special education**

Hallahan, D. et al. (2007) define special education as the programs, means and strategies prepared and designed to suit special needs of challenged children such as: children with visual impairment, learning difficulties, mental disorder, autism, and physical impairment or disability (Hallahan, D. et al. 2007).

UNESCO defines Special Education Needs as 'Education designed to facilitate the learning of individuals who, for a wide variety of reasons, require additional support and adaptive pedagogical methods in order to participate and meet learning objectives in an educational program. Reasons may include (but are not limited to) disadvantages in physical, behavioral, intellectual, emotional and social capacities. Educational programs in special needs education may follow a similar curriculum as that offered in the parallel regular education system, however they take individuals' particular needs into account by providing specific resources (e.g. specially trained personnel, equipment, or space) and, if appropriate, modified educational content or learning

objectives. These programs can be offered for individual learners within already existing educational programs, or be offered as a separate class in the same or separate educational institutions' ISCED. (2011: 83).

The American Autism Association defines special education as a group of specialized educational programs designed specially to confront the needs of disabled individuals which a regular classroom teacher cannot provide, and which include special methods and means and help in facilitating education of the disabled and development of their abilities to the maximum possible limit (Obaid, 2009: 18).

Al Khatib & Al Hadidi (2005) define special education from a practical dimension as a number of individual and organized methods which include a special educational situation, special and adapted materials, equipment and educational methods, and specific methods of treatment aiming at helping people with special needs to achieve the maximum possible limit of personal self-satisfaction and academic success (Al Khatib & Al Hadidi, 2005: 12).

Therefore, the term special education has been widely used in this century to refer to the comprehensive services provided to the challenged students. Even though some researchers used the term limiting it to a specific type of

challenged students, most researchers used it in a comprehensive scope.

Based on that, special education can be defined as the modified services and programs that suit the classes with special needs, particularly those who cannot cope with regular education programs with the aim of helping them to develop their abilities to the maximum possible level and assisting them to adapt to the society where they live.

### **1.1.3 The basis of special education**

#### **1.1.3.1 The religion basis**

Heavenly religions and sects call for equity in rights and duties as well as for the necessity of caring by the society to its weak members, all of which represent one of the basic indicators in any society towards its disabled members (Al Qamash & Al Saayida, 2008: 24).

Man is honored and his human dignity is preserved in religions. In Islam for Example, human beings are honored regardless of race, religion, or gender. God says in the Quran “*And We have certainly honored Adam’s children*” (Holy Quran, Surat Al-Isra, verse 70).

### **1.1.3.2 The legal basis**

International declarations, legislations and legal texts issued by different conferences and United Nations (UN) organizations, in addition to constitutions, charters and international declarations related to human rights and what they include regarding human dimensions and trends, all represent an international recognition of the disabled rights, and this recognition requires the necessity of commitment by all countries of the world to adopt such declarations and policies and implement them and to enact law which guarantee such rights (Al Qarayoti, et al. 2004:29).

### **1.1.3.3 The democratic basis**

Call has increased within the last centuries for faith in human rights and basic freedoms and solidification of democratic principles and equality of opportunities among members of the society including equality of educational opportunities applied to all members of the society regardless of whether they are normal or disabled (Al Waqfi, 2004:15).

### **1.1.3.4 The economic basis**

The economic basis stresses on the importance of providing the general educational and professional services to the disabled and training them as per their abilities so that such

disabled do not form a burden on their societies (Al Khatib, 1999).

#### **1.1.3.5 The social basis**

It is related to concern given to the individual within a group to which such individual belongs, and educating him/her the requirements of decent living, a matter which helped in the appearance of the trend called: "Community Based Rehabilitation", as the disabled person learns things from around him/her and the method of living within the community where he/she lives in order to satisfy and fulfill his/her desires in a decent manner of living (Al Khatib, 1999).

#### **1.1.4 The objectives of special education**

Al Qamash & Al Saayida (2008) talked about the following objectives of special education:

- Independence: One of the basic objectives of special education is to achieve the independence of the individual which means the situation or position to which the individual reaches and which makes him/her able to meet his/her needs and desires alone without help from others.
- Communication: Special education seeks to reach control over the communication process whether in its verbal

or symbolic form in consistence with the nature of relationship.

- Social integration: It is the process of reaching the point where the disabled person participates in social life and adapts to it with all its requirements, and therefore, achieving his/her social humanity.
- Getting involved with children who are not disabled through suitable tools of measurement and diagnosis for each class of special education.
- Preparation of educational programs for each category of special education.
- Preparation of educational technical means for each class of special education such as special education means for the blind or mentally or auditory impaired (Al Qamash & Al Saayida, 2008:25).

Al Rosan (2001) added the objective of Preparation of disability prevention programs, in general, and working on reducing the occurrence of disability through the prevention programs (Al Rosan, 2001:18).

### **1.1.5 Stages of the development of special education programs**

Obaid (2009) listed the following five stages of the development of special education

#### **1.1.5.1 Residential School**

Residential schools are considered one of the oldest special education programs used to and still provide shelter, health, social and educational services for individuals with disability. Parents used to be allowed to visit their children in such residential schools but a number of criticisms were directed to the residential schools accusing them of isolating those children from the outside community and its natural life. Members of these schools described themselves as discarded by the community (Al Rosan, 2007).

#### **1.1.5.2 Special Day Care School**

These Special Day Care Schools appeared as a reaction to the criticisms directed to Residential Schools and many of these Special Day Care Schools work almost to midday, and during this period individuals with special needs receive educational and social services. The school transports them to their homes as well as it makes sure that the individual with special needs stays with his/her family and in a natural atmosphere. These schools also received some criticisms the most important of which is the absence of appropriate places for establishing Special Day Care Schools, and the limited



number of specialists in the various fields of special education (Al Khatib & Al Hadidi, 1999).

### **1.1.5.3 Special classes within regular schools**

These special classes appeared as a result of criticisms directed to Special Day Care Schools which are concerned with special education and due to the change in the general trends toward the individuals with special needs ranging from negative to positive. These classes are specified for individuals with special needs in a normal school whose students do not exceed ten and where students receive their educational programs from special education teachers; the students also have joint educational programs with average students.

The objective of these programs is to increase the opportunities of social and educational interaction among students with special needs and average students.

These classes faced also a number of criticisms the most important of which is the difficulty in moving from special classes to average students' classes, and how to identify the joint subjects between students with special needs and average students (Al Khatib & Al Hadidi, 1999).

#### **1.1.5.4 Mainstreaming**

This trend appeared in special education programs due to criticisms directed to special classes' programs within regular schools, and due to the positive trends towards the participation of students with special needs with average students in classrooms.

Al Khatib & Al Hadidi (2009) defined Mainstreaming as a type of programs which place a student of special needs in an average students classroom for some time and in some subjects so that the challenged child benefits from being with average students. They said that it includes three stages which are as follows:

- Homogeneity among average students and students with special needs.
- Planning educational programs and means of their teaching for each average student and student with special needs.
- Identifying responsibilities of the educational process parties such as school administration, teachers, supervisors and all working cadres (Al Khatib & Al Hadidi, 2009:45).

### **1.1.5.5 Normalization**

This is a final stage in the development of special education programs for students with special needs because the programs help in whatever positive towards students with special needs from members of the community and this is represented in the field of work through providing suitable working opportunities for them being productive members of the community.

Integration of students with special needs also in residential neighborhoods through providing suitable and appropriate residence for them as an independent family and dealing with such family on the basis of neighborhood and its requirements (Obaid, 2009: 45-46).

### **1.1.6 Educational intervention in the field of special education**

Educational intervention is represented in the following programs:

#### **1.1.6.1 Preventive programs**

It means the intervention which prevents the potential problems from developing the aspects of disability. The efficiency of the preventive programs increases at early stages. These programs aim at motivating infants and young children to acquire such skills which most average children

acquire without help or special training (Al Qamash & Al Saayida, 2008).

### **1.1.6.2 Remedial programs**

Remedial programs are intended to overcome the aspect of disability of the individual through education or training. It is important here to distinguish between two terms: (remedial) and (rehabilitation), because remedial is an educational term while rehabilitation is a term used more in the field of social services but both concepts have joint objectives represented in educating the person who suffers from disability in one aspect of the basic skills necessary to achieve his/her independence (Al Qamash & Al Saayida, 2008).

In the school, for instance, these skills may include academic aspects (such as reading, writing and solving mathematical issues and problems) or social aspects (such as following instructions and daily routine and interaction with others) and personal aspects (such as eating food, dressing and using toilet without help). Recently schools have also begun teaching professional configuration skills in order to prepare students of special needs for their future life as adults in the community.

The basic assumption in all remedial and rehabilitation programs is the need of the individual with special needs for

help, particularly for success in normal situations (Al Qamash & Al Saayida, 2008).

### **1.1.6.3 Compensatory programs**

Compensatory programs aim at helping the individual who suffers from disability to be compensated through helping him/her to learn the use of an alternative skill or alternative performance (Al Qamash & Al Saayida, 2008: 34-35).

### **1.1.7 Special education in Jordan**

Special education in Jordan witnessed a tremendous and great development, especially during the last twenty years. After the UN Declaration of 1981 as an International Year of the Disabled and its important recommendations which contributed to working on improving the status of the disabled, Jordan has become at the forefront of the Arab countries and third world countries. The government of Jordan showed a special and tangible interest in highlighting the issue of disability as one of the social issues; this required establishing policies to be consistent with the provision of the best educational, training, guidance and organizational care programs and services for all disabled individuals. These policies were in accordance with the challenged students' abilities and tendencies in the light of the resources and procedures to be provided in order to assimilate them and

make them active and interactive members of their community.

In the thirties of the last century, Jordan paid great attention to persons with special needs through establishing the first school for the blind in Jerusalem in 1938-1939 named Alayia School which was concerned with the affairs of the blind. The concern for the disabled accelerated, the educational services developed as well as the process of building and constructing schools, centers and institutions that provided services for various classes of children with mental, auditory and physical impairments. These facilities were established by official or voluntary bodies. There was a qualitative transformation and development in the programs and services at the beginning of the nineties accompanied by a quantitative expansion in the number of centers, schools and classrooms till they reached 112 institutions by 1998. They belonged to different governmental, private, voluntary sectors as well as international relief agencies (Obaid, 2009).

Ministry of Social Development is considered the most committed official body which supervises the special education policies towards the challenged individuals. These efforts continued with the collaboration of other bodies such as:

- Queen Alia Social and Voluntary Action Fund whose name is changed now to The Jordanian Hashemite Fund for Human Development.
- Ministry of Education.
- General Union of Charitable Societies.
- Charitable societies and native sectors.

Since 1973, the Ministry has been bearing the responsibility for the management of special education programs in Jordan and planning their future policies. According to Obaid (2009), the Ministry carries out the following responsibilities and duties:

- Provision of care and educational and psychological educational services within a special educational policy through a group of various schools, centers and classrooms which provide care and shelter in addition to education.
- Drawing the policy of special education services in Jordan, adopting and preparing leading projects, and setting plans suitable for scientific measures and procedures regarding the above mentioned leading projects.
- Provision of training and professional qualification services and employment opportunities for blacksmith, carpentry, sewing, upholstery, knitting and simple handwork jobs.

- Supporting guidance, awareness and social education programs for the families of the disabled and the local community which aim at preventing from disability and the procedures followed in dealing with the disabled child and working on correcting the trends of the community toward such issues.
- Carrying out studies and research and conducting seminars and courses, and diagnosing disabilities, and providing technical, educational, professional and psychological advice and consultation for the disabled and their families.
- Employing and granting facilities, privileges and exemptions to the disabled as per the applicable rules and regulations.
- Supervision over schools, centers and classrooms that provide special education services whether in public or private sectors; following up and evaluating various programs and activities, and continuous work on updating them; developing methods of dealing with the disabled in addition to amending plans and modifying the curriculum to suit each special education category.

Through the competent official and semi-official authorities and voluntary organizations, the government of Jordan has



exerted considerable efforts to follow-up the development of special education with its different categories, fields, programs and services to include scientific, social, psychological, professional or other purposeful activities and events. Jordan continues working on transferring the experiences of the developed countries in various fields and areas to the region (Obaid, 2009:33-36).

#### **1.1.8 The size of disability problem in Jordan:**

The phenomenon of disability prevalence is considered common in every society, and the numbers of the disabled in Jordan can be compared with those of other Arab countries, as the number of persons with special needs in the Arab countries as per the statistics conducted by Arab Labor Organization in 2003, is estimated to be over twenty million persons; It seems that this number can be compared with the total population of the Arab region which is estimated at 300 million people which means that the percentage of the challenged persons is around 6,6% of the whole population. In Jordan, the number of persons with special needs is estimated to be around 500000 persons (as per the statistics conducted by Ministry of Social Development); this means a percentage of around 7% of the 7 million residents of the country. Of the challenged cases, 25553 cases of children were diagnosed with different types of disabilities by Disability

Early Detection Center, an affiliate center of the Ministry of Health of Jordan, within the period from 1990 until 2004.

In the field of prevention from disability, Jordan has paid attention to the health and medical aspects as it was one of the national priorities carried out through the official institutions such as Ministry of Health, civil and military medical institutions as well as various hospitals and healthcare centers that are working and coordinating among themselves to set up a general and comprehensive policy to upgrade and promote the physical and psychological health of the individuals. Jordan spread social and health awareness, and worked on enhancing the programs of continuous prevention and children vaccination against communicable and infectious diseases. In addition, Jordan paid a special attention to the prevention from traffic accidents and work injuries. There has also been a considerable focus on the causes of disability, studying and analyzing the causative factors through early detection, as well as intensifying preventive programs. Medical seminars and lectures, pregnant women care programs, in addition to media messages via various means such as TV, radio, specialized newspapers and magazines have all helped in educating the community on the prevention measures to reduce disability cases. The government of Jordan made a lot of efforts to set

an early detection and diagnosis system, family orientation and guidance, genetic and psychological guidance at juvenile centers and institutions specialized in such programs which lead to satisfying results (Obaid, 2009).

### **1.1.9 Jordan's experience on issuing rules and legislations related to people with special needs**

The concern regarding issuing of special rules and legislations related to people with special needs started in Jordan at the beginning of the eighties and following the international year of the disabled in 1981. The legislative committee which is an affiliate of the national committee of the international year of the disabled, recommended the necessity of issuing special rules for people with special needs, and as a result, Ministry of Social Development prepared a draft until 1989 as some amendments were made to some articles and redrafting was made to other articles until Welfare of the Disabled Persons Act No. 12 of 1993 was enacted (Al Rosan, 2007).

Justifications for the issuance of the law appeared through its twelve articles which aim at realizing the basic principles as under:

- The right of the disabled to integrate into the general life of the community.

- The right of the disabled to higher education as per their abilities.
- The right of the disabled to employment which suits their abilities and qualifications, and their right to sports and promotion.
- The right of the disabled to a suitable environment which provides them with freedom of safe movement.
- The right of the disabled to obtain tools, equipment and resources which help them in education, experimentation and movement.
- The right of people with multiple disabilities to education, training and qualification.
- The right of the disabled to the participation in making decisions related to them (Welfare of the Disabled Persons, Act No. 12 of 1993) in (Yahiya, 2006: 441).

To sum up, we can say that people with special needs require a specific and thoughtful style to deal with. In order to find appropriate programs to help those people and reduce their suffering, hard work and cooperation among all members of the community are needed; these people have been given due concern in all fields in order to enable them adapt

themselves to their social surrounding and develop their skills and abilities to be productive members of the community.

#### **1.1.10 Suggested methods to promote the service level of special education in Jordan**

After more than 5 years of working in the field of special education in different schools and institutes in Jordan, the researcher suggests some methods which can increase the efficiency of special education services in Jordan and the number of beneficiaries from these services. These suggestions are mainly based on the researcher's personal experience and his discussions with some other teachers in the same field. These suggestions are:

- Preparation of accurate statistics on the numbers of challenged persons and their abilities so that necessary and actual programs can be provided, encouraging and providing support to families in order to declare the real numbers of the disabled.
- Enacting laws and legislations which help in reducing the numbers of the disabled persons as much as possible through pre-marriage medical tests and secure the right of the challenged individual to education, employment, health insurance and vaccination against disabilities and diseases.

Many countries initiated issuing of such laws like the Hashemite Kingdom of Jordan and the Kingdom of Saudi Arabia. In many Arab countries there are employment legislations regarding the disabled such as the presence of a considerable percentage of the disabled among employees of some departments and institutions.

- Conducting scientific studies and research in the field of the disabled education for the use of the latest methods and techniques to educate challenged persons and prepare them for self and community service.
- Utilizing media for spreading awareness in order to protect children and enroll them at special education centers and schools as an early intervention measure.
- Expansion in the numbers of specialists in the field of special education for all categories to secure provision of actual and suitable services. There is a large trend presently in the Arab countries aiming at preparing qualified cadres to work with persons with disabilities such as Jordan University, the University of Muta in Jordan and King Saud University in Saudi Arabia at the level of Bachelor, Higher Diploma and Ph. D. Degrees, therefore, Jordan is considered a forerunner in the preparation of qualified cadres in the field of special education.

- Focus on early detection services especially for the newborns, training and joining centers.
- Regional and international cooperation in the field of special education and teaching of challenged persons, and preparation of specialists for the purpose of benefiting from the experience of the developed nations.
- Monitoring and following up of special education institutions as to their work and realization of their objectives (Kuafaha & Yusuf, 2007: 30-31).

## **1.2 Learning difficulties**

### **1.2.1 Introduction**

The term learning difficulties is one of the modern terminologies in the field of special education. It requires a clear and accurate definition being involved with other categories of special education. Sometimes, children with learning difficulties are classified with mentally impaired children, while sometimes they are classified with children with behavioral disorders or children with speech or language disorders; other times they are classified with sensory impairment, as a large number of those children show delay in learning speech and the use of language in spite of the fact that they are not deaf, and some of those children are unable to visual perception and visual stimuli, nor are they

blind, and some of those children do not learn through the normal methods and strategies though they are not mentally impaired.

There are many terms that indicate children with learning difficulties. Al Rosan (2006) and Al Dahir (2004) listed the following:

- Hidden disability.
- Minimal brain dysfunction.
- Brain injury.
- Dysphasia.
- Dyslexia.
- Dysgrafia.
- Dyscalculia.
- Children with perceptual disability.
- Children with learning difficulties

Samuel Kirk (1963) was the first person to describe this category as children with learning difficulties. This term was accepted in the educational circles and by students' parents.



Based on the above, we see the topic of learning difficulties is one of the relatively modern topics in the field of special education as it has become familiar to those working in the field of special education since 1970, and thereafter the use of this term has become common to the public and spread in the fields of education, press and legislation; it caused specialists to focus on this topic with the aim of introducing the aspects of learning difficulties especially (academic, physical and emotional difficulties). It has become a motive for them to study the theoretical basis of this topic and then to set strategies suitable for training those students and meet the needs of this category (Al Saratawi et al. 2001).

### **1.2.2 The theoretical basis of learning difficulties**

The definition and understanding of theories related to learning difficulties is one of the basic requirements for people working in this domain, as the theory helps in identifying accurately the learning difficulties from which a child suffers and contributes to giving an idea on the method to be used with the child in the teaching process.

In general, the theory does not acquire its value unless it comes out of assumptions and stereotypes into tangible practical application.

In the field of learning difficulties, there is an urgent and inevitable need to develop theories on which the methods of remedial teaching are based, and there are numbers of theories in the field of learning difficulties focusing on the following fields: physical development, perception, language skills, development of personality and behavior, and some of these theories are as follows:

### **1.2.2.1 Physical perceptual theories**

They are given this name because they focus on the sensory physical growth and perceptual physical growth given that the sensory and physical skills as well as the physical perception reflect the status of the children's nervous system, their physical mental experience and their current status of the physical growth.

Many theories tried to set assumptions to explain the physical perceptual growth of the child and the relationship between the physical perceptual growth and learning, and some of these theories are as under:

#### **1.2.2.1.1 Getman (Visumotor Theory, 1965)**

This theory is concerned with manifestations and aspects of visual - motor growth and its relationship with learning. Getman, an optics specialist, defines vision as the process

through which an individual recognizes vacuum as an integrated form, i. e. a child learns vision and through it a child can understand the world around him and his relationship with this world. Getman explained the ability of the child to acquire perceptual physical skills through consecutive and developing stages and each one of these stages depends on its previous stage, and these stages are:

- Growth of the first response system which is responsible for the initial physical reflections which a child shows at birth such as spell reflex and interactive reflex in the impulsive and non-impulsive movement of body, body relaxation and readiness, as well as hand reflex, light reflex and the first response system which is considered as the first basis in the future learning process.
- Growth of the general movement system which is the system to which crawl, standing and advancement processes are attributed without assistance, as well as walking, running, jumping and leaping.
- Growth of special movement system which is responsible for the movement which depend on the above mentioned two stages such as the relationship between the hand and the eye, the movement of the hand and foot, as Getman

noticed that children with learning difficulties cannot cut angles or color squares.

- Growth of Visumotor system: One of the important factors in the success of classroom learning is the movement of the eyes as such movements include transferring sight from one area to another, following moving objects, the ability of the eye to move in all directions and concentration within a classroom which has great impact on the classroom learning process.

- Growth of audio-motor system: this includes the audio and audio-motor system which is responsible for babbling, imitation and speech skills.

- Audio-visual and physical memory: it includes the ability of an individual to remember or imagine things in the event of the absence of the original sensory stimuli, and this is what we call normally imagination and it is possible that it is a present or future or past memory.

- Sight or perception: it happens through achieving all the previously mentioned stages.

- Individual perception of abstract concepts, excellence and mental growth.

According to Getman theory (1965), there must be enough learning for each stage of the above mentioned stages, mastering and practicing them properly before moving to a subsequent stage.

Getman also believes that stability of the previous stages and providing enough training for the child for each of the basic levels of physical development contribute to reaching the perceptual level (Abdul Rahim, 1982).

An example of the above mentioned is the case of Tony who cannot read neither can he jump and he runs in a very strange manner and cannot balance by using one foot upon jumping, therefore, his problem in reading can be attributed to incompleteness of growth of the general physical system, so he needs training in order to master physical skills (Al Mayetta, 2007).

Getman designed many educational programs such as: the program called (development of willingness to learning) which includes activities for the development of the following six fields: general synergy, balance, visual-manual synergy, eye movement, perception and visual memory).

One of the most important aspects of this theory is the impossibility of applying it to visually impaired children and neglecting the aspect of speech and language and visual

perception. The theory does not explain how children move from the level of physical and body growth to the levels of perception in learning. One of the educational applications of Getman theory is that this model requires the necessity of enough learning at the stage prior to moving to the subsequent stage. Getman believes in the necessity of reaching the perceptual level through stability of the previous stages and providing enough training to the child at the basic stages of physical development (Lerner, 2003).

#### **1.2.2.1.2 Kephart Perceptual and Motor Theory, 1967)**

This theory focused on child's perceptual- physical growth stability studies. Kephart relied in his theory on the principles of developmental psychology more than relying on (metrological) damage. Kephart says that a child begins to learn the world around him through movement, i. e., the beginning of confrontation by the child to his environment is through some physical activities by the child and that this physical behavior is considered a prerequisite for learning at later stages.

Through the normal process of his growth, a child acquires various forms of movement through which he can develop physical generalizations and based on these physical generalizations, the child build a perceptual cognitive form.

Kephart identified four physical generalizations which can help in school success:

- The child's ability to maintain the stability and balance of his body in the presence of ground gravity force during his movement and transfer.
- Communication which includes physical generalizations such as catching and leaving or dropping objects in order to identify their characteristics and develop perceptual skills.
- Movement which includes crawling, walking, running and jumping movements for the purpose of exploring a child's environment and his surrounding and distinguishing the relationships between things in this surrounding.
- Pushing force which includes reception and pushing forces of things existing in the child's surrounding such as catching these things, pushing and pulling them, throwing and beating, and in this case the child deals with three lines regarding his body which are a side line including the right and left sides of the child and a front line and a back line, an upper line and a bottom line.
- Kephart (1967) believes that the hierarchy of the previous physical generalization is of great importance as average children, in Kephart's opinion, can develop a world

of stable perceptual - physical experience at the age of six. Regarding children who face special learning difficulties, the world of perceptual - physical experience is not stable to them, therefore, there is stable basis for facts related to the world around them, and as such they are not regular physically, perceptually and cognitively (Al Gharayaba, 2008).

Due to the fact that children cannot check or explore all of their surroundings through movement, so they learn to check and explore some of these things through a perceptual manner and the perceptual information is more valuable and of a better and clearer meaning upon linking it with the physical information which a child has previously learned and caused harmony between the two pieces of information, and this what Kephart called (perceptual – physical matching) but a child who suffers from special learning difficulties does not achieve the perceptual – physical matching appropriately, therefore, he lives in two separate worlds, the world of perception and the world of movement (the physical world) as he does not trust the information which he obtains and such information does not acquire the capacity of stability as he always tries to touch things in order to know and make sure of what he saw and he cannot develop the perception of shape and weight.



One of the aspects of shortcomings in Kephart's theory is that it focuses on the perceptual –physical development but with concentration on the application of the above mentioned along with academic and cognitive growth, and it neglects preparation of assisting programs for the disabled children. The role of language and speech is also not clear in this theory. One of the most important educational applications of Kephart's theory is that the average child can develop the skills of perception and movement at the time he enters the school, therefore, this will help him in confronting school learning. Regarding children with school learning difficulties, especially in the first grades of primary schools, they suffer from shortcomings in the growth of perception and movement a matter which affects their school achievements, and s such it is necessary to develop training programs in order to help those children to overcome these problems and grow properly (Lerner, 2000).

#### **1.2.2.1.3 Nervous Direction Theory (Dooman & Delcato, 1966)**

Medicine, especially Neurology, has played an important role in diagnosing and treating some cases of persons with learning difficulties who face difficulties in reading or who are mentally retarded or who suffer from brain disorders.

The nervous system consists of (the spinal cord, cerebellum, midbrain and cortex), and there are brain injuries that lead to learning disorders such as reading, writing, speech and calculation difficulties.

Neural Patterns Theory is one of the theories that have tried to develop educational programs for the purpose of helping this category of children who suffer from learning difficulties in the area of writing or who suffer from mental disorders or brain injuries, and that aim at developing the natural developmental neural stages for this category, and as such it contravenes Getman and Kephart Theories, i. e., it contravenes the Physical Direction Theory.

Al Gharayaba (2008) mentioned that human body carries out a number of functions which are physical skills: speaking, writing, reading, hearing and touching, and that realization of these functions in a perfect form plays an important role in the growth of an individual towards a perfect regulation of the nervous system. An average child can develop a complete nervous system, while children with learning difficulties, due to a defect in the growth of one of the previous stages, are affected in terms of nervous aspect, and therefore, that causes problems in movement and communication. The methods of treatment of these children begin by identifying their defects and providing special

activities as per the defect so that help is given to them for their nervous growth.

Regarding the aspects of defect related to Nervous Patterns Theory, it is necessary to provide the remedial measures 100% otherwise the child will suffer and the remedial measures need a long time and they are not flexible a matter which affects other members of the family (Bryenkolb, 1990).

#### **1.2.2.2 Memory Theory:**

Before learning difficulties are considered a subject of study, it is noticed that students with unsuccessful learning are those with weak memory. Weak memory is defined as the ability to store and retrieve the senses and perceptions that have previously been experienced when the motive which evoked them is not present.

Memory is of different types: there is long term memory, short term memory, and visual memory, auditory memory, memorizing and saving memory, tactile physical memory and the memory which related to language.

Memory also comprises of three sections:

- Information receipt and classification unit.
- Information storage and saving unit.

- Information retrieval unit.

Students with learning difficulties for instance face difficulties in remembering things or remembering their sounds, as the problem is not related to a long or a short term memory but the problem is the difficulty in arranging the natural abilities of memory. It has been noticed that the performance of students with learning difficulties is weak during examinations which require a memory related to aspects such as words perception, numbers and facts.

Among the factors affecting memory is student's intensity of attention, the nature of subjects, interest in the subject matter and the amount of exercise and excessive learning.

Steps to be taken to evaluate deficit include the following:

- Identifying and describing the tasks and duties in which an individual faces his problem of remembering.
- Identifying whether educational factors affect memory.
- Evaluating physical, emotional, social and mental factors.
- Study learning strategies used in areas which require remembering.

The educational requirements of Memory Theory include: consideration to fact that the performance of students with learning difficulties is weak during examinations that require a memory of (words perception, numbers and facts), and the teacher should consider that during teaching and examination (Al Saratawi & Al Saratawi, 1988).

### **1.2.2.3 Maturational Lag Theory**

Learning and maturity are two important aspects for growth and each one depends on a number of factors some of which are related to the internal growth while others are related to the surrounding circles and social environment. Maturity is affected by the factors of nutrition, body care and natural environment such as water, air and warmth, as well as the social environment such as dealings and communications among parents, brothers, friends and adults, various activities and experience such as thinking, feeling and movement.

Knowledge of maturity and natural cognitive development can be adopted for comparing between average children and children with learning difficulties because the maturity situation of a child is affected by his ability to learning.

Supporters of delayed maturity theory suggest that development and advancement of abilities happen within appropriate circumstances and as per this theory, many

cases of learning difficulties could have been avoided which happened due pushing by the community of children to perform academic tasks before they were ready to perform. One of the factors that increased the severity of some cases of learning difficulties is the provision of experiences which are beyond the power and readiness of the child at a certain stage of maturity as Kirk believes (Kirk, 1967). Children with learning difficulties tend to perform comfortable functions and avoid uncomfortable functions because they have certain processes of delayed maturity and do not function properly.

Kwitzi (1973) also proved, through a study she conducted on 177 cases of learning difficulties for 5 year, the existence of delayed maturity among children and that such children need more time to learn and grow in order to compensate the nervous disorders and those children can achieve academic success if they are given enough time and the necessary help, in the opinion of Piaget (1967).

Cognitive growth happens in a series of stable stages and at every stage the child becomes capable of learning certain cognitive tasks. Piaget divided these growth stages into four sections:

- Sense physical stage (0-2 years old) at which a child learns through senses and movements and by his interaction with the material environment.
- Pre-processes stage (2-5 years old) at which a child begins to distinguish without symbols and language becomes important increasingly and the child begins to learn the features and characteristics of the world around him.
- Material processes stage: (5-7 years old) at which a child becomes capable of perceive the concepts and luck and begins to use some logical processes such as arrangement of certain forms and shapes as per length and weight.
- Official processes stage: (11years old and above) at which a main transformation happens in the thinking process as the child owns the ability to work on abstracts and theories and logical relationships without a need to refer to tangible things and expresses efficiency in solving problems (Al Saratawi & Al Saratawi, 1988).

#### **1.2.2.4 Perception Theory**

Perception is defined as the ability to distinguish sensory information as the mind can distinguish sensory consulting. It is important that the teacher knows that perception is an

acquired skill and there is a big role and effect played by the teacher on the child's perception through teaching methods that he follows. The teacher can amend these processes and teaching methods within the classroom to suit the child's perceptual abilities. Since the perceptual disorders are overlapping strongly with memory, attention, thinking and language, they are not understood clearly because some children are visual learners, others are audio learners while some are tactile learners; the teacher should choose the methods children prefer and identify the points of weakness and strength possessed by them.

The Perceptual Theory classifies perception difficulties into six main classifications as under:

- Intervention in the perception systems to the extent that such interventions happen between information coming through different senses a matter which increases children learning difficulties.
- Overall and partial perception: some children perceive things through the overall method while others through the partial method but they face the problem of reading as an individual needs the two methods together in order to learn reading.



- Visual perception: visual perception is important for reading but some children face difficulty in the tasks of visual differentiation of geographical drawings, graphics and pictures. Some children have succeeded in this task but they have failed in distinguishing letters, words and writing. These children may possess normal visual acuity but they may have difficulty in perception and distinguishing between two or more visual stimuli, while they also fail to distinguish the characteristics related to size, shape, distance and deep perception.

- Auditory perception in some cases where a child possesses normal hearing acuity but faces difficulties in exploring aspects of similarity and difference between the degree, volume distance and duration of sound. Those children face difficulty in learning to read and spell by vocal methods. This will be discussed more clearly later.

- Tactile perception: the sense of touch gives child information on the environment where the child is present. Children who suffer from defect in the sense of touch have difficulties in performing duties that is needed by this sense such the use of knife, fork and spoon, and the skill of writing or catching and carrying small things or performing any duty that requires consistency in the use of fingers. Tactile perception is considered important in avoiding some

dangerous things such as fire and insects, therefore, those children are more exposed to danger than other children.

- Social and emotional perception:

The ability of student to acquire social skills is considered one of the vital and effective aspects in the learning process as evidence indicates that many students with learning difficulties lack these skills though they are at the average level or higher than the normal average in many other aspects such as verbal IQ; therefore, they fail in performing the basic social requirements of daily life.

This does not necessarily mean that all students with learning difficulties have social competences because some of them have social and academic difficulties while other suffer from social difficulties but they are average in academic learning. On the other hand, some students fail in academic achievements even though they possess enough social competences. Social perception difficulties can appear in the following forms:

- Social spontaneous behavior.
- Social chaotic behavior.
- Inappropriate social behavior.

The social perceptual theory focuses on the concepts related to social competence and emotional adaptation by students with learning difficulties (Al Saratawi & Al Saratawi, 1988).

### **1.2.3 Definitions of learning difficulties**

- Kirk's definition (1963):

Learning difficulties indicate that there is delay in learning or learning disorders or growth failure of one or more of the following: speaking, communication, reading, writing, arithmetic processes or any other school subject resulting in psychological impairment. This impairment is usually emerging from disruption of functional performance of brain or from behavioral or emotional disorders. An exception from that are children with learning difficulties that emerge from mental retardation, sensory disability, cultural deprivation or poor educational conditions and circumstances (Hallahan et al, 2007).

- Bateman's definition (1964):

Bateman defines children with learning difficulties as children who show a clear learning disorder between the level of mental performance and the actual level which is related to the basic disorders in the educational process and they may result from the dysfunction of the central nervous system (Salem et al. 2003).

- Definition of the Society of Children with Learning Difficulties in 1967:

A child with learning difficulties possesses suitable mental abilities, appropriate sensory processes and emotional stability; however, he has a certain number of difficulties related to perception, integration and expressive processes which strongly affect his competence of learning. This definition includes children who suffer from dysfunction in the central nervous system which affects directly the competence of the learner (Al Qasim, 2000: 14).

- Definition of US Department of Education in 1977:

Learning difficulty is disorders in one or more aspects of the basic psychological processes related to the understanding and use of spoken and written language. Its symptoms include inability to listening, thinking, speaking, reading or performing arithmetic calculations. It may result from perceptual impairment, brain impairment, mild cerebral insufficiency, language difficulties, verbal aphasia and dyslexia. These difficulties are not resulting from other disabilities such as mental and emotional retardation or cultural deprivation (Lerner, 2003).

- Lerner's definition 1981 which included two main dimensions:

- The medical dimension for the definition of learning difficulties. This definition focuses on the functional physiological causes which are represented by the nervous disorder or brain damage.
- The educational dimension for the definition of learning difficulties:

It refers to lack of growth of mental abilities in a regular manner and which is accompanied by academic failure especially in reading, writing and spelling skills, as well as numerical skills and the reasons for such academic failure are not due to mental or sensory disorders as indicated by the educational definition that there is a contrast in the academic achievement and the mental ability of the individual (Lerner, 2000).

- Definition of the National Advisory Committee for Children with Disabilities 1994:

Children with learning difficulties are those children who show disorders in one or more of the basic psychological processes which include the understanding and use of written or spoken language and which seem to be appear in hearing, thinking, speaking, reading, spelling and arithmetic calculation disorders, as well as numerical skills which relate to causes linked with a simple defect in brain functions but they are not

referred to reasons related to mental or hearing or visual or other disorders (Lerner, 2003).

- Nabeel Hafid's definition:

Learning difficulties as a disorder in the mental or basic psychological processes which include attention, perception, formation of concept, remembering and solving problems, which their echoes appear in inability to learn writing or writing and arithmetic and what results from that whether at primary school basically or later as to failure to learn different school subjects (Nabeel, 2003).

By following the previous definitions of learning difficulties and other definitions, one can conclude to the fact that in spite of the difference among the different definitions as to the degree of focus of each on the nervous system and its functions, however, there are common elements that combine these definitions on which researchers and those interested in studying learning difficulties agree, and such common elements show that:

- Learning difficulty is a problem of special nature and is not a result of a general disability such as mental retardation or sensory disabilities or emotional impairments or environmental problems.

- The learning difficulty from which the child is suffering should be of behavioral nature such as thinking or formation of concepts or remembering or speaking or language or perception or reading or writing or spelling or arithmetic and the skills resulting from the same.
- The basic academic skills (such as reading, writing and arithmetic) are the most obvious fields which it appears from the performance of the child that he faces special difficulty in learning.
- The learning difficulty is not resulting from the child's mental or sensory impairment or behavioral disorders neither are they resulting from cultural deprivation or deficiency in educational services.
- It is true that there is a correlation – and in most cases- between learning difficulties and dysfunction of the central nervous system and that this dysfunction may be resulting from brain damage or nervous disorder.
- Children with learning difficulties are not a homogeneous group whether in terms of the nature of difficulty or its manifestations which result from it, for example difficulty in reading suffered by two children may be resulting from a problem in the auditory perception for one of them

while it may be resulting from visual perception for the other child (Suleiman, 1992: 165-167).

- Based on the above, children with learning difficulties can be defined as a heterogeneous group of individuals within a normal classroom with average or above the average intelligence which leads to the appearance of a disorder in the basic psychological processes of these children to the extent that a clear contrast appears between the actual achievement and the expected achievement in the basic skills such as understanding or use of readable or audio language, and that such disorders may be referred to the existence of a defect or delay in the growth of the central nervous system.

#### **1.2.4 Criteria of learning difficulties**

There is a number of approved and resorted to criteria upon judging a student, and in case of their availability, the child is often judged as belonging to the category with learning difficulties, these criteria include:

##### **1.2.4.1 Contrast criterion:**

The best description to be given to children with learning difficulties is to say that they are those who show educational contrast between their susceptibility which is estimated by IQ



tests and their actual performance in academic fields in comparison with academic achievement tests, and this contrast is attributed to the gap between what the child can learn and his real achievement. This contrast helps in distinguishing children who fail in learning due to other apparent impairments such mental impairment or behavioral disorders and between those who fail due to learning difficulties. There is a disagreement on the amount of this contrast or its limits, as some educators consider the year of failure in the actual performance from the expected performance of the mental age as a sufficient criterion to describe the child with learning difficulty, while others consider two years or more as a criterion for this description. Some have tried to set rates in order to explain the amount of this contrast, however, these equations are not proved to be sincere in various cases, and the judgment on the amount of the contrast remains an individual matter to be estimated by the examiner as an indicator of other indicators on which the examiner relies on in order to judge the presence or not of learning difficulty (Al Waqfi, 2004).

#### **1.2.4.2 The criterion of contrast in growth:**

Children with learning difficulties show significant developmental contrasts between multiple manifestations of their psychological behavior (such as perception, the vision of

relations, physical and visual ability, attention and memory, etc.). They also show an unexplained paradox between the fields of their academic achievement and their ability or their achievement in other fields as the psychological aspect is like saw teeth where some capabilities go up while other go down; this is often noticed at pre-school level where there is non-developmental balance in the performance of linguistic, social or visual physical functions. It is also noticed that there is a presence of contrasts between general or limited manifestations of mental development and academic achievement at school age. We often see a lot of plateaus and slopes on the line graphics of their academic achievement which points to fast growth of some abilities and deceleration of others. For instance, a child who does not speak at the age of four in spite of existence of other normal perceptual, cognitive or physical capabilities raises doubts on his suffering from learning difficulties. Another example is a child at school who possesses medium mental abilities and scores suitable academic achievement in arithmetic and other subjects but does not learn reading after three years of appropriate school learning, can be among those who suffer from reading difficulty (Al Waqfi, 2004).

#### **1.2.4.3 Elimination criterion:**

Most definitions of learning difficulties eliminate or except the educational problems which can be explained by clear disability factors such as mental retardation or auditory or visual damage or emotional impairment or non-availability of suitable educational opportunities or cultural or social or economic deprivation; nevertheless, it is not correct to eliminate any of those who suffer from these hindering factors from the possibility of their suffering from learning difficulties. Some students show learning difficulties in addition to their obvious disability which imposes and requires the development of dual programs. The important thing regarding the elimination criterion is that if a child is not suffering through his learning from other problems, it is inevitable that he is a child with learning difficulties (Al Waqfi, 2004).

#### **1.2.4.4 Intelligence criterion:**

Definitions of intelligence almost agree, in an undeclared way, that children with learning difficulties are of average intelligence or are above the average intelligence. The elimination criterion supports such understanding as it necessarily eliminates children with low intelligence from the domain of learning difficulties as learning problems in this

case are attributed to the apparent cause of mental impairment (Al Waqfi, 2004).

#### **1.2.4.5 Academic difficulties criterion:**

Perhaps what brings more attention to child and raises doubt in the existence of learning difficulties, is the difficulties that the child faces in learning long series of educational tasks as certain problems can appear in acquiring speech or verbal language or reading or writing or handwriting or spelling or arithmetic or physical or perceptual skills or social psychological skills (Al Waqfi, 2004).

#### **1.2.4.6 Special education criterion:**

Children with learning difficulties are children who need special education in order to help them to grow and develop. Without this service, a child who shows academic failure due to unavailability of learning opportunities will not be considered a child with learning difficulties in spite of the existence of contrast between his capabilities and his academic achievement. He usually learns through the usual methods of learning exercised outside school until the age of nine or ten and possesses normal cognitive and perceptual abilities but not reading, writing or arithmetic. This takes place because the child cannot learn through the usual methods of learning for average children and needs special educational

programs like those previously defined. The criterion of need for special methods due to developmental impairment that obstructed the child from academic achievement is an important factor to be considered as part of the diagnosis process (Al Waqfi, 2004).

### **1.2.5 The causes of learning difficulties**

Causes of learning difficulties are still vague due to the modernity of the topic and overlapping between it and mental impairment on one hand, and emotional disorders on the other hand. However, previous studies and definitions agreed on the association of learning difficulties with simple brain injuries or simple brain dysfunction. This type of injury is associated with one of the following four factors:

#### **1.2.5.1 Acquired brain injury**

It is supposed that the most common reasons leading to learning difficulties are attributable to brain damage or simple and acquired dysfunction prior, during or postnatal. Prenatal reasons include: the genetic factors; shortage of mother's nutrition during the pregnancy period; sickness of the pregnant mother that might affect the fetus's rubella as well as the consumption of alcohol or drugs by the pregnant mother. For instance, if the mother gets infected during the first three months of the pregnancy, she may cause various

abnormalities that lead to simple brain damage, while drinking alcohol and use of drugs during pregnancy period might lead to irregular growth of the nervous system of the fetus.

Reasons that occur during pregnancy period are attributed to such circumstances affecting the child shortly during or at prenatal stage. These reasons include: oxygen deficiency, birth injuries that might happen during the delivery process as well as premature and distressed birth.

Postpartum reasons include: encephalitis, meningitis, rubella and scarlet fever which can affect the brain and other parts of the nervous system (Al saratawi & Al saratawi, 1988).

#### **1.2.5.2 Genetic factors**

Growth begins when the male sperm impregnates the female egg forming the basic cell as growth physical and mental growth begins. Geneticists pointed out that genetics controls the color of eyes, hair, skin and a lot of other physiological feature whether negative or positive. The most important which is genetically determined is the gender of the baby whether male or female. It is confirmed that there are some communicable genetic diseases such as mental impairment or weakness which leads to learning difficulties to children in future (Mercer, 1997).

Several studies have focused on the impact of genetics on reading, writing and linguistic difficulties, as some studies have been conducted on some families that include a large number of members suffering from reading and linguistic difficulties. Haligern (1950) conducted a comprehensive study on a number of families. He studied (276) individuals with reading difficulties, as well as their families in Sweden. He found out that the prevalence of rates of reading, writing and spelling difficulties among relatives, is sufficient evidence that cases like this exist in families and it appears that such families are subject to genetics law (Al saratawi & Al saratawi ,1988).

#### **1.2.5.3 Biochemical factors**

Studies point out that human body produces chemicals to make balance within the body and this is what is called biochemical, such as secretions of endocrine glands which flow in blood directly. Excessive secretions of the thyroid glands lead to learning difficulties (Mercer, 1997).

#### **1.2.5.4 Environmental deprivation and nutrition**

Several studies indicated that shortage of nutrition and functional deprivation are related to simple dysfunction of brain which affects largely the suffering of children with learning difficulties. Kirk and Kalphent (1988) concluded, through numbers of study surveys that children who suffered

from severe malnutrition for a long period of time at early age, are affected in terms of their learning, particularly the skills available for them, in addition to the fact that there are several factors which affect learning difficulties such as non-biological, cognitive and emotional factors. The degree of impact differs from one factor to another as per the type of learning difficulty (Ajaj, 1998).

Based on the above, it appears to us that through controlling, remedying and preventing from the above mentioned reasons, we can overcome the phenomenon of children with learning difficulties, in addition to the provision of medical care for children, as well as proper nutrition, providing a child with an environment rich with material stimuli, all of which enhances the ability of child to learning and increases the child's motives.

Al Dahir (2004) added to these factors a number of factors which can make a child different from his peers, especially if these factors are associated with any reason that leads to learning difficulties a matter which increases his difficulties, for instance, if a child is suffering from simple brain dysfunction, there are variables which may contribute to the increase or decrease of difficulties if they are positive, and some of these factors include:



### **1.2.5.5 Family**

Family has great impact on the bringing of a child, especially in his early years because they draw the basic features of what the child will be in future. It is not easy that a child adapts entirely to this complicated changing world and be self-adapted and adapt to his environment, particularly following the great openness in the world as a result of technological development and cultural intermingling. Variables related to family can be divided into the following:

#### **1.2.5.5.1 Methods of parental treatment:**

Methods of parental treatment have great impact on the formation of a child, as the parental treatment forms the family environment, considered as the basic element in the formation of children's personalities and their education. There are methods that limit proper education of children, a matter which creates confusing behaviors among children which may affect in a way or another their learning in a proper manner, especially such behaviors that lead to anxiety, fear, lack of safe feeling, aggressiveness and dependency. Some of these methods include:

- **Control method**

According to this method, the treatment of children is harsh and rigorous, and children bear more responsibilities than they can afford as it depends on command and rejection, punishment and deprivation, therefore, the child becomes submissive losing control of his will, and such matters will lead to limitation and restriction of children from exploiting their real capabilities a matter which makes a difference between actual performance and the expected real performance.

Parents, according to this method, are the ones who determine children's style of life regarding their activities and studies, what games children play, the persons children play with and so on. This method instills fear, hesitation, lack of independence and submissiveness in children's hearts, which makes them of weak personalities (Al Dahir, 2004).

- **Excessive protection method**

When a father or a mother or both carry out duties or things which a child is supposed to carry out, this matter limits the child's freedom in realizing his or her desires and as such he becomes, over time, submissive and dependent on other losing his own will. This method can take two forms either bullying or excessive pampering, and either of them has negative dimensions and impacts on children.

This also affects the children's social relations to the extent that makes them unable to face difficulties and problems that confront him and he may feel that he is less than his other peers. Learning needs some commitment and self-responsibility and endurance, as a child may not be at the required level a matter which is reflected on his ability of learning compared with other peers (Al Dahir, 2004).

- **Neglect method**

Some parents may neglect their children explicitly or implicitly through indifference of their education, necessary physiological and psychological desires and needs a matter which may create a feeling of guilt, anxiety, instability and real feeling of belonging to the family by fathers which opens doors to deviation by child through inner rejection to this treatment which may take a form of hostility as a case of internal release. It is worth mentioning in this regard that neglect by mother is more severe to children especially in their early years as such neglect obstructs their mental, physical, emotional and social growth, therefore, it can be said that neglect method is an erroneous education method which is associated with in a way or another with learning difficulties which children face.

- **Oscillation method**

Instability in treating children as per stable methodology may create anxiety, fear and hesitation among children as parents may use, according to this method, reward and punishment randomly a way from considering scientific and objective aspects as parent do not know when to reward or punish a child. Parents may use different methodologies a matter which confuses the child as to whether to obey the father's or mother's method. This oscillation may cause anxiety, fear, hesitation and instability a matter which makes the child of unstable personality and this surely affects the child's learning compared with his peers.

- **Segregation method**

Parents may follow segregation method through favoring one child or some children for various reasons such as gender or chronological age or birth ranking or health or appearance or due to polygamy as husbands often favor the children of the last wife, and the same can from the father or mother or both, for instance, a father may be flexible with his son but tough and rigorous with his daughter.

This method does not create one atmosphere for children to develop their abilities and their readiness, but it creates, sometimes, inner groans which may result in an

unacceptable behavior or may lead to retreat and grumbling which can be expressed by disobedience, revolt and hostility. The segregation method may also create hatred, loathing and jealousy, therefore, this method affects the way children look at themselves and may also affect their education. These non-educational methods result in negative impacts which affect the way children look at themselves, and as such affect self-concept and control center. There is a correlation coefficient between the low self-concept, control center and learning difficulties as children who are associated with the low self-concept and external control center, fail in their education and academic achievement (Al Dahir, 2004).

#### **1.2.5.5.2 Family size**

Family size (number of family members) affects methods of parental care provided to children. Parents with few children will have more time to spend with each child; they will have to study and apply the modern methods of raising and educating their children. Usually a smaller family will have more financial assets and more time to provide for the children. The parents will be more capable of meeting their children's psychological, cognitive and social needs. In this regard, a study conducted by Abdul Gadir Mahmoud (1973: 331-372) aiming at identifying child-rearing methods and

personality in three Arab countries which are Egypt, Kuwait and Bahrain, confirmed that there is a negative relationship between increase of family size and the level of parental care provided for children, therefore, family size affects children readiness or their abilities or it might even be depressing, a matter which is reflected on their education (Al Dahir, 2004).

#### **1.2.5.5.3 Order of children according to date of birth**

Order of children according to their date of birth is considered one of the factors that affect adaptation or lack of adaptation of children to his family. In big families, the first child normally receives more care than the fifth or sixth child who is usually treated by neglect, so the neglected child resorts to aggressive and stubborn methods as an expression of internal ego which he suffers from; on the other hand, the first child becomes the leader and imitates the behavior of adults, while the last is spoiled by everybody and dependent on others.

#### **1.2.5.5.4. Parting incidents**

The most important thing a child needs during his early years is his parents, particularly his mother due to her great impact on his emotional development like love and compassion. Therefore, it can be said that the absence of the mother does

not only affect the adaptation of the child, but also leaves impacts that can never be eradicated in the emotional and mental development of the child which might result in a negative behavior. Upton (1983) pointed to the fact that long parting of the child from his mother during his early years, is one of the most important reasons of delinquency. He also pointed to the fact that separation or parting of the child from his mother due to her long hours of work, negatively affects the psychological and behavioral development of the child (Al Dahir, 2004: 54). This leads us to ask the governments to give working mothers less hours of work, especially while their kids are still very young.

#### **1.2.5.5.5 Parental disagreement**

Various studies have shown that continuous problems between parents negatively affect children and their development, particularly at early stages of their life, as the relationship between parents has impact on the emotional, social and cognitive development of children; therefore, it can be said that the positive relationship between parents with love, understanding and harmony sheds its shadows on children to the extent that a positive interaction occurs among children. On the other hand, if the relationship between spouses is of continuous ruction, quarrel and resent, it also sheds its shadows on children to make them feel

unstable, anxious and scared. This situation affects children and their interaction with the local and school environment as well as its negative impact on academic achievement. ISCED, (2007)

Al Tuibi (1992) believes, in this regard that, if the parents fail to satisfy their psychological needs toward each other, they feel comfortable discharging their emotions on children, therefore, continuous parental dispute results in fears to the children which appear in the form of physical and psychological symptoms.

These circumstances, under which children live, curb and restrict their real abilities a matter which leads to the presence of contrast between their real abilities and their academic achievements (Al Tuibi, 1992).

All these variables are related to family and there are other complementary factors to them which are school, the social, economic and cultural levels of parents, the self-concept and others. Below is an explanation to these variables:

#### **1.2.5.6 School**

School is one of the variables which is not less important than family in making a learner self-adaptable or non-self-adaptable due to its great impact on caring about mental,



physical, emotional and social aspects. A teacher has great impact on making student love or hate education and school, and the teacher is the first element in accepting education through the methods he follows with students. If the methods are negative and tyrannical, students will averse and hate school and education, but if these methods are negligent lacking connection and solution, anarchy will prevail. A study conducted by Liecht Kistner (1985) which aimed at knowing the reasons of learning difficulties, confirmed the role of the teacher in learning difficulties. The study reached a conclusion that the reasons of failure include internal factors related to the learner and other external factors related to the teacher and the external factors include the teacher's mood and his negative trends.

School curriculum sometimes has an impact on the learning process as well as on the students' desire to learning. A curriculum that is developed to motivate the student's creativity and self confidence would certainly give better results and encourage the learners' perseverance and diligence.

The general atmosphere and policies of the school also have great impact on the psychological and emotional status of the learner. For instance, the democratic atmosphere gives to the learner the opportunity to express his ideas and

thoughts as the learner feels secure, tranquil and stable. A different school atmosphere which is prevailed by authoritarianism, negative control and rigidity leads to non-adaptation by child to school and it may create rejection behaviors in expression of refusal and resentment; such atmosphere cannot be motivating to learning and participation. Of course, the child with learning difficulties may be more affected than others in such atmospheres (Al Dahir, 2004: 57-58).

Al Sharqawi (1983) concluded to the fact that the most important factors associated with learning difficulties are bad relations between the learner and the teacher, inappropriateness of the curriculum and overcrowding of classrooms which are strongly associated with cases of learning difficulties suffered by the students of primary schools in Kuwait (Al Sharqawi, 1983).

#### **1.2.5.7 Social and economic level**

Unfortunately, poverty is cyclical and children often unwittingly grow to be what they live (Bowman, 1994). Poor children are very likely to become poor adults (Lewit, Terman, & Behrman, 1997). Poverty is a recurring cycle that often begins with parents' lack of education. "Poor educational attainment is a major cause of poverty, and poverty is a key

influence on academic failure" (Arnold & Doctoroff, 2003, p. 518). Therefore, it should not be startling to find that poverty had a tremendous negative impact on individuals and society (Arnold & Doctoroff). Children who live in poverty often need additional resources from schools and teachers to overcome the daunting task of breaking the cycle. Regrettably, the schools that educate the masses of poverty-stricken children were frequently the systems receiving the least amount of funding, thus, at an economic disadvantage themselves (Archibald, 2006; Arnold & Doctoroff; Haycock, 2001). Although the task may seem discouraging and disheartening, the academic failure of low socioeconomic children is a problem that warrants special attention.

Al Dahir (2004) adds that material and cultural insufficiency has great impact on unavailability of appropriate chances and circumstances for development and growth as required by modern education because poor families cannot afford the basic needs for the proper development of their children. For instance, poor families cannot afford provision of necessary games for their children which are considered, as testified by all educators, the best means of learning at pre-school age.

For these reasons, the possibility of existence of causes of failure of a poor child is high and everybody knows the

disappointment associated with failure and its negative impact on the child, a matter which is reflected on the image that the child sees and his/her motives to learning.

Based on the above, low socio-economic level, generally, is more associated with learning difficulties than other levels and is considered as one of the reasons that lead to learning difficulties as it worsens the situation and sometimes the learner may have the mental ability that enables him/her to reach an acceptable level or even more but the circumstances under which such learner lives, limit or hinder the use of such abilities (Al Dahir, 2004: 59-60).

#### **1.2.5.8 The cultural level of the parents**

The culture of the parents means a lot considering upbringing of children, as the parents who are of considerable cultural and educational level are more appreciable to the psychological, physical, social and mental needs of their children, while parents who are of less culture and education do not treat children in scientific manner and through dialogue methods but their treatment will be characterized with toughness and control or punishment, therefore, their children become less adaptable than others. If the child becomes non-adaptable within the community where he lives, this will lead to problems at the educational institution,

and therefore, these problems contribute in a way or another, to learning difficulties (Al Dahir, 2004).

The summary of the topic could be that parents represent the first basic models for their children, as males imitate their fathers in many things intentionally or unintentionally and females imitate their mothers in many things, therefore, parents are supposed to be models and good examples for their children. Parents with a high cultural level know quite well the importance of love, compassion, cooperation and harmony within a family, as well as they are aware of the importance of encouragement, reinforcement, feedback and how to keep their children away from failure and how to avoid punishment especially physical punishment, as well as how to utilize the capabilities of their children. This situation will definitely shed its positive shadows on the way children look at themselves and on their learning and vice versa.

### **1.2.6 The proportion of learning difficulties**

There is no accurate statistical information available on the number of students with learning difficulties and the proportion of their spread due to two reasons:

- Differences in the definitions of learning difficulties.
- Differences in the measures and procedures of detecting them.

However, globally, the percentages of prevalence of learning difficulties ranged between 1 - 30% of the school students community. Lerner (2000) points out that the percentage of students with learning difficulties in the USA during the school year 1992-1993 for school students whose ages ranged between 6-12 years, is 4.09 of the total population of the USA (Al Qamash & Al Mayetta, 2007: 177-178).

Regarding the spread of learning difficulties in comparison with other impairments, learning difficulties amounted to 51.1%, which means more than half of students who are served within the students of special education are with educational difficulties.

The report by the Government of the United States of America of 1981 stated that 12 of the states of the USA had learning difficulties amounting to 40% of the total number of disabled children registered at such states, and that 6 states mentioned that the percentage of students with learning difficulties amounts to 50% of the total disabled students (Kaval et al, 2005: 12).

Chalfant (1989: 392) points that the annual report issued by the Bureau of Education in the United States in 1984 states that the number of students with learning difficulties has doubled within the last ten years and that more than 40% of

the students are students with learning difficulties and that this percentage represents 4% of the total number of students enrolled in the school of the United States of America.

By studying this report which submitted to the American congress, it is found that it has represented a survey to the percentage of spread of learning difficulties against the percentage of the spread of other impairments among students whose age range from 3 – 21 years in comparison with the community of average learners. The report pointed out that there is serious increase in the percentage of students with learning difficulties compared with students with different disabilities collectively, and that the percentage of students with learning difficulties increased at 1% as of 1983-1984, as the percentage of students with learning difficulties in 1983 represented 3% of the total average students in the schools and that this serious and growing increase is considered an annoying matter confronting the educational governments and institutions according to( Kaval et al, 2005: 3-14).

Regarding some Arab countries, a study conducted by Ahmed Awad (1988) on some primary schools in Qaliubiya Province of Egypt where a preliminary sample has been taken of around 245 students from the fifth grade, has shown

that the percentage of learning difficulties for this sample is 52.24% as a whole (Awad, 1988: 1-66).

Suleiman (2003) conducted a study on some students of preparatory grade aiming at investigating some variables associated with learning difficulties on a sample of 296 students. The results of the study have indicated that the percentage of spread of learning difficulties is 57, 4%.

Al Rosan (2007) also conducted a study on some Jordanian environment schools at primary stage where he found that 21% of primary school children suffer from learning difficulties in Arabic language (Al Rosan, 2007).

Al Mayetta (2007) commented "At the local level, statistics revealed by Department of Statistics and Information at the Jordanian Ministry of Education of the year (1995-1996), show that the number of students at the primary schools amounts to 824642 male and female students if we consider the percentage of learning difficulties at the basic stage which is 1% at least, which means that 8246 male and female students suffer from leaning difficulties in Jordan (Al Mayetta, 2007).

Lerner (2003) adds that statistics emphasize the prevailing belief that the percentage of prevalence of learning difficulties for males is higher than females as the percentage of males amounted to 72% while that of females amounted



to 28% of the total students with learning difficulties who receive educational services.

Researchers have explained that the number of male students suffering from learning difficulties is more than female students on the basis of the number of factors that include:

- **Biological factors:** Studies indicate that male children are exposed to brain damage at prenatal stage more than female children because the weights of male are more than the weights of female children a matter which may lead to more risks during child birth and males are also exposed to brain damage at postpartum stage due to direct head injuries more than females (due to the nature of physical activity of males).

In some cases, genetic vulnerability is related to the gender of the developing organism. Generally, male embryos (XY) and fetuses are at a greater risk than female in that male embryos are more often aborted spontaneously. In addition, newborn males have more birth defects, and older males have more learning disabilities and other problems caused by behavioral teratogens (Berger, 2000: 106-109).

- **Factors related to maturity:** It is noticed that the rates of male maturity are slower than those of female since birth age until adolescence. Nervous growth of the cerebral cortex of

males which is associated with attention is also slower than that of females.

– **Social factors:** It noticed that social factors are associated with factors related to maturity indirectly because the rates of slow maturity for males which have been previously mentioned, lead to the weakness of school readiness, therefore, this may lead to weakness in their academic performance and achievement especially at first grades (Al Smadi et al, 2003: 184).

In brief, the spread of learning difficulties represents a big problem and a serious challenge to those who deal with this category, whether in the developed or third world countries due to lack of full knowledge of the concept, characteristics, diagnosis and treatment of this category with learning difficulties. Problems associated with learning difficulties such as serious psychological disorder, have negative impacts on the learning of students with learning difficulties. Other problems such as lack of self-confidence, stress, shyness, absence of motivation, lack of perseverance, sense of failure and doubts by students with learning difficulties regarding their abilities, may go to the extent that students with learning difficulties develop a lot of emotional and psychological stress and tension.

## **1.2.7 Early detection of learning difficulties**

### **1.2.7.1 The importance of early detection of learning difficulties**

There is wide acceptance and importance to early survey of the development and growth stages of children at early childhood. Through the indicators obtained by the parties responsible for such preliminary survey tests, undeveloped aspects of the child can be identified and work can be done with the aim of reducing the gaps in an early generation as much as possible, as the main skills such as language, movement and ability to social interaction do not develop separately from each other but they are associated, and if there is a defect in any of them, this will negatively affect the other fields, for instance, we can imagine a child riding a tricycle and at the same time he wants to greet others and listen to instructions, this should require a number of skills at a time but without enough maturity in all fields, he will face future difficulties. The importance of early detection for any developmental gaps for children at early stage lies in the possibility of identifying the problem and working on it at early stages in order to prepare student for school at appropriate time (McLaughlin & Lewes, 1994).

Early detection begins in the child's environment or at the place of his growing up at early stages of his age and often

the detection task is carried out either by relatives or specialist in early childhood as the child shows some inappropriate behaviors and responses as to the average of his natural development. Areas to be focused on the following main categories: linguistic skills such as speech, understanding of spoken language, perceptual skills, memory, physical skills and the ability to employ them in coordination with other senses, listening skills, focus under different circumstances, the ability to think, solving problems in addition to some general behavioral aspects.

Early detection is of great importance in the process of treatment later, as the child whose points of strength and weakness are identified in an early generation, benefits directly from the services provided by care and maternity centers for primary school kindergartens, and thereafter a child can receive care from his parents in a sufficient manner if his parents have the appropriate awareness to deal with the problem at its early stages before it exacerbates. Thereafter, preventive steps and procedural follow ups can be started with for the purpose of preventing the simple difficulty from turning into a permanent impairment accompanying the child at all the stages of his life. Hence, early detection is important for avoiding dealing with the phenomenon at a time treatment programs unable to

provide the required need for the child (McLaughlin & Lewes, 1994).

### **1.2.7.2 Early detection stages**

In general, the process of early detection of learning difficulties passes through four stages related to one another. Lerner has identified these stages as follows: search survey, diagnosis and evaluation. These stages work as a complementary circle to each other (Lerner, 1993) as under:

– **Locating:**

This stage discusses the methods of detection and locating persons with impairments in the local community, as focus will be on the increase of awareness among the public on various impairments, and in this case learning difficulties in particular. Usually, this stage is dealt with within unofficial frameworks and at pre-school stage such as care and nursery institutions and centers, public libraries, local clubs, public centers, radio, TV, newspapers and magazines. The aim, generally, is to warn parents and guide them, on the general features of the phenomenon (Lerner 1993)

– **Screening:**

This stage studies those who need special educational services, as a number of children whose ages range between

3 to 5 years, are invited to undergo free tests for hearing, vision and the ability to pronunciation and speak. Higher mental skills are also detected such as listening, concentration, memory and discrimination, accurate and heavy-handed physical skills and the ability to self-care, communication and interaction with others.

– **Diagnosing:**

At the third stage, the extent of impairment is identified, if any, as well as thinking on suggestions and treatment services which a child needs later. Focus will be on the nature of the problem for which means of intervention should be found.

Diagnosis is carried out by a team of specialists which may include utterance and language specialist, psychologist, specialist in the field of learning difficulties, functional treatment therapist and other specialists, if necessary.

– **Evaluating:**

The fourth stage is meant to identify whether a child needs to stay within the framework of special education or not. If so, how long and what the intensity or amount of the educational subject he requires or the services he needs. Emphasis will be on the methods of diagnosis in order to know the extent of development achieved by the child. The

evaluation process determines whether a child needs continuation in treatment or not (Lerner, 1993).

Taking into consideration all the influential factors in the process of diagnosis, there should be an integrated tendency so that we can measure the medical, social and psychological aspects because for us to approve a multiple-standard definition, should depend on approving a multi-standard diagnosis while we study the previous aspects as the case under study and diagnosis unfolds to us and thereafter be treated, as that includes:

- **Medical dimension:** It is about studying any physical physiological which may lead to impairment or features of impairment and be reasons within multiple reasons for this impairment, as well as getting acquainted with the type of drugs taken by the person and their effects, and studying any aspects in the medical dimension which can affect the case of this person and its development.
- **Educational dimension:** It is concerned with any academic problems related to this impairment such as continues low academic achievement which indicates that the case should not be casual or accidental but that this impairment is the main reason for this low academic level.

The two dimensions become more obvious upon studying the school and medical files of this person.

- **Psychological dimension:** In this dimension, the psychologist measures, within this team, the mental abilities, the level of intelligence, the interests, the trends and the tendencies by applying standardized and recognized methods and the possibility of their usage is what is applied during the stage of scrutinized diagnosis (Ziyad, 2004: 139-160).

- **Social dimension:** This aspect is discussed through measuring the adaptation behavior and whether this person is able or not to adapt to the social and family environment through (parents, brothers and sisters), the community (school, in case a person is a child or an employer if such a person is an employee), as we study the social dimensions and the social characteristics of this person (Peter, 2008: 105-106). This stage of the diagnosis process aims detecting whether there are internal or external factors playing a role in the presence of this problem with the child.

### **1.2.7.3 Early detection methods of learning difficulties**

The early detection methods of those with learning difficulties at early childhood are of various kinds and can take different shapes. All of that is associated with the percentage of



awareness of the surrounding environment, skills and professional skills on the subject matter. Communities that have developed in the field of professional and educational dealing with this phenomenon reflect the understanding of the community to this method of early detection and appropriate therapeutic intervention at all levels which include parents, kindergartens, early childhood center, schools and other professional institutions.

Ziyad, (2004) mentioned that the optimal method of early detection of children with possible learning difficulties depends mainly on the party who carries out the task. If the initiating party is the parents, the optimal method here should be continuous monitoring of the child's behavior and comparing the same with other children's behaviors from close environment; some central results can be relied upon regarding the stages of growth by early childhood specialist and a Pediatrician. But if the party carrying out the task is a nurse or early childhood specialist, this depends mainly on comparing the condition of the child with the lists of the local Health Ministry or international list of UNESCO. If it is noticed that there is a clear defection or remarkable different gaps at the level of the memory, perception or listening, this may cast doubt and conducting more diagnoses. Waterman (1994) says that the best way to identify educational or mental

impairments is through children's behavior via proper monitoring of the child for a continuous period of time and registering all points of strength and weakness which concern us.

#### **1.2.7.4 The fields and skills to be diagnosed at early childhood stage**

Diagnoses related to early childhood stage are various and divergent and this associated with the type of impairment suspected suffered by the child but may include all basic developmental fields when the matter is concerned with learning difficulties. These fields include physical and health factors such as hearing, sight and the central nervous system as well as mental perceptual domain which include understanding, listening, perception, memory and the ability to solve problems and the basic preparation skills. Child's abilities are also diagnosed on communication, understanding and use of spoken and written language including its linguistic wealth and employing the proper linguistic rules. Due to the importance of language in the formation of social and emotional interaction of the individual, any disorder of this aspect can largely affect the adaptation of the child later on, accurate, heavy-handed physical skills and the ability to sensory physical synergy and general balance are also diagnosed due to the great

importance of these skills in playing big roles and detecting things suffered by the child. In addition to the previously mentioned skills, these social and emotional fields within and outside the house are of great importance. Finally, the behavioral field and self-care are also diagnosed in order to know the emotional and independent factors of the child (McLaughlin & Lewes, 1994).

In general, focus is given to learning readiness skills in the kindergarten generation and below due to the importance of these fields in the basic learning skills such as reading, writing and arithmetic skills, while focus is transferred, in addition to the previous skills, to emotional fields and the ability to adaptation and acceptance of instruction when a child is at the primary stage (McLaughlin & Lewes, 1994).

### **1.2.8 Early intervention**

The term early intervention discusses the cases of children at the primary school level or pre-primary school level who are with certain impairments and special needs that can affect their natural development like other children in their generation. Early intervention includes provision of services and assistance for child and his parents in order to reduce the aggravation of impairment in future. Such services can be preventive from the possibility of occurrence of impairment or

can remedial reducing the effects of impairment at the earliest possible (U. S. Department of Education, 2000).

Early intervention is of various forms and stages, which can be taken upon working with children with learning difficulties in the early generations. In any case, and before detailing the most important steps and educational programs which are concerned with early childhood, it is necessary to note the importance of early intervention and the benefits which result from early intervention whether to the child or his family or to the community and educational institutions.

#### **1.2.8.1 The importance of early intervention:**

Early intervention programs can focus on child and his/her family and can be started at the child's environment at home or care homes and centers or kindergartens or at various locations, and early intervention programs can be started at any time after birth up to school generation but the earlier they start the more positive and greater effect they will be as such programs contribute to the development of child's skills and provision of support necessary for parents before they are disappointed, and therefore, leading to the increase of contribution and integration of the child with special needs in the community in future (U. S. Department of Education, 2000).

Longitudinal Studies conducted in the United States of America indicate that the material cost of executing early interventions for children with special needs, including children with learning difficulties, decrease remarkably compared with the treatment provided for the same category of students of school generation later, as the percentage ranged between 4 to 7 fold increase in material cost if it is started with children of six to seven years generation only, as the same are measured by numerical amounts and the equation was that against each dollar spent on a child of early generation until school generation, a range of between four to seven dollars is spent later on if intervention is made in the formal school generation and thereafter (Lerner, 1993, Shonkoff & Hauser – Cram, 1987, McNulty, Smith, & Soper, 1983).

Regarding the effectiveness of early intervention, Janet Lerner pointed in her in-depth methodical book on learning difficulties that early intervention negatively affects the educational development of children in the coming years remarkably particularly in mental and social fields and reduces the behavioral participation which may result from learning impairment. Some disorders may be overcome or reduced to a very large extent that a child may live a happy balanced life at both personal and academic levels later

(Lerner, 1993: 271). The Department of U. S. Education summarized a number of benefits resulting from early professional intervention for children with learning difficulties at early stages based on a number of studies conducted by specialists in this field; some of these benefits include increase of the percentage of intelligence and the development of thinking, in addition to the prevention of minor impairment, such as emotional disorders which result from learning difficulties. Early intervention also reduces the percentage of family stress, excess dependence on assistance from institutions and reduction of need of services of special educational framework at official education stages, in addition to ensuring and developing a number of basic developmental skills, the most important of which include: mental, behavioral, interactive, social and physical fields, development of linguistic abilities and child self-care. The most important reasons of early intervention are also that the development of skills of children at early stages will be at its peak, therefore, any intervention at this stage, meets double success and large opportunities to overcome difficulties compared with late generations (Lerner, 1993: 247; U.S. Department of Education, 2000).

In addition to the important above mentioned points, Department of U. S. Education emphasizes that early

intervention largely affects easement of family atmospheres, particularly among brothers and sisters who feel a kind of depression and social isolation when impairment is remarkable or when a child receive negative observations and remarks at school from other children and teachers. It is also that any development made with the child may positively affect the opinion and expectations of parents and the family towards their child ( U. S. Department of Education, 2000).

### **1.2.8.2 Prevention methods at early childhood stage**

Prevention methods or early intervention focuses on children who are doubted to suffer from educational impairment or remarkable delay in the development of basic skills. Early intervention programs also include both parents and children, to the extent that parents are qualified on how to deal with the child with the aim of reducing the effects of expected difficulties. Early intervention methods can also be preventive or remedial.

Prevention begins by general education of parents through providing them with educational strategies which develop and enrich children skills in all developmental mental, linguistic, physical, emotional and social fields. On the other hand, remedial intervention focuses on weak skills and closes

the gaps between various abilities of the child with the aim of taking him/her to higher levels of development along with the requirements of the surrounding environment. Work at this stage will be focused directly on the child and parents can be integrated in the remedial plan for the sake of providing assistance in the application of such remedial plan along with the remedial professional team. Prevention begins from learning difficulties and avoiding its negative effects on the child, his parents and since birth if it is not possible to predict the existence of the phenomenon before that, as parent can monitor all behaviors of their baby and try to identify the repeated patterns of strange behavior of the baby compared with his/her generation (Lerner, U. S. Department of Education, 2000).

In general, working stage begins in order to avoid the effects of impairment through continuous monitoring of child in a number of situations (Waterman, 1994).

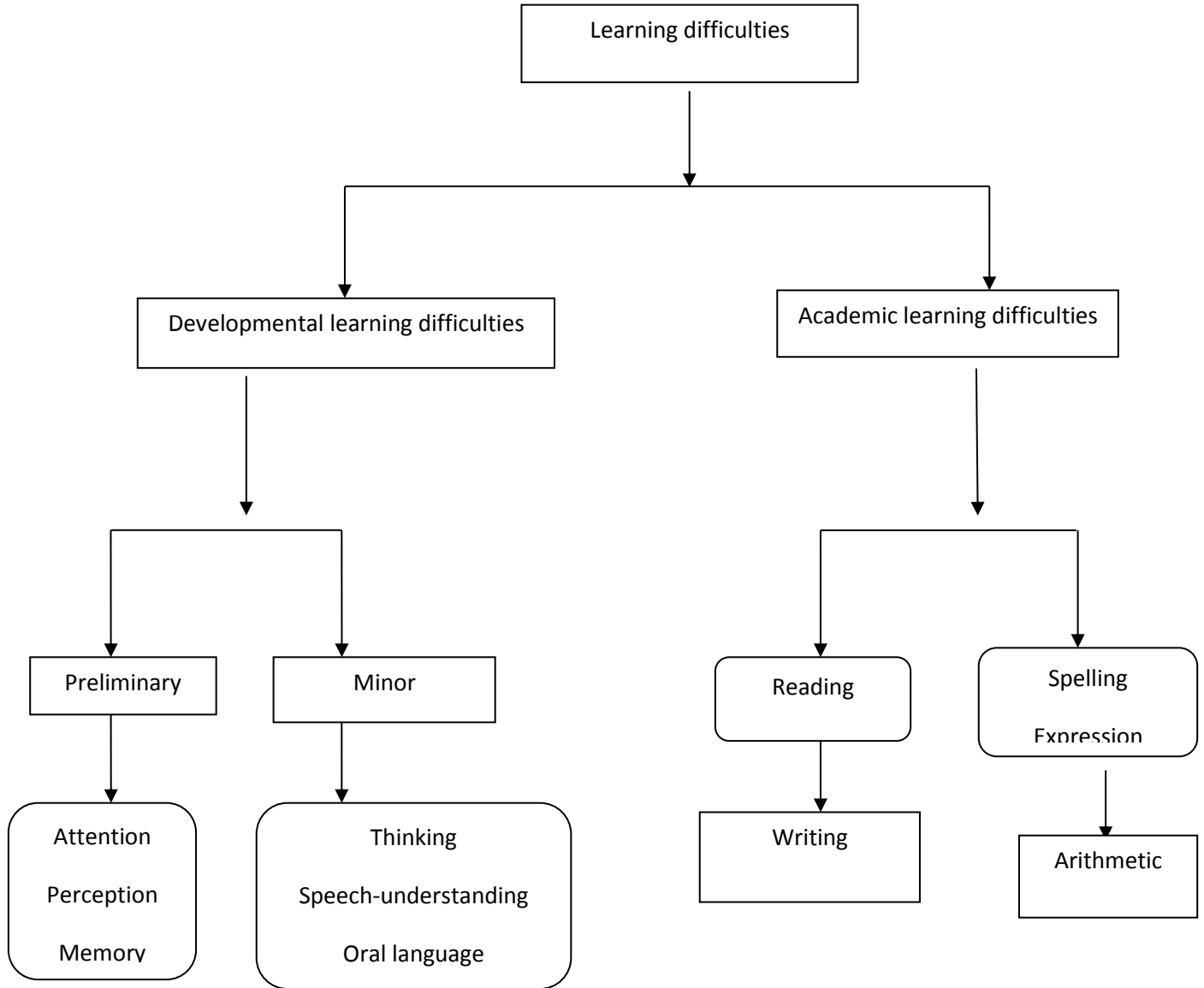
### **1.2.9 Classification of learning difficulties**

One of the most prominent accurate and comprehensive classifications is the one provided by Kirk and Kalphent (1988) of learning difficulties in which two types of learning difficulties are distinguished as follows:

- Developmental learning difficulties.



- Academic learning difficulties.



### 1.2.9.1 Developmental learning difficulties

Developmental learning difficulties are known as psychological processes and include skills needed by the child with the aim of achievement in the academic fields and are intended for pre-academic processes which represent

the cognitive processes related to attention, perception, memory, thinking and language on which academic achievement depends basically and form the most important bases which the cognitive mental activity of an individual performs. Developmental learning difficulties are found to be the most common among children with learning difficulties and these difficulties appear a lot prior enrollment of child at school and may be identified when a child begins to fail in learning school academic topics and subjects, that is why difficulties related to attention, memory and physical perceptual difficulties are considered within the preliminary difficulties because are deemed basic mental functions overlapping with each other, so if they suffered disorders, they affect thinking and oral language, and they are called minor difficulties because they are affected clearly by the preliminary difficulties, and they are often related to the difficulties of attention, remembering, awareness of concepts and things as well as spatial relations (Kirk & Kalphent, 1988: 20-21).

There is also a correlation between developmental learning difficulties which are represented by difficulties of attention and memory, and memory and remembering of some patterns of academic learning difficulties such as reading, reading comprehension, writing and writing expression

difficulties, arithmetic learning difficulties, understanding, hearing, oral expressions difficulties, and academic skills learning difficulties for study, memory and the general pattern of difficulties suffered by university students (Al Zayat, 2003: 526-528).

Due to the importance of developmental aspects in understanding learning difficulties, numerous theories have been developed to explain and understand the perceptual and physical aspects of children with learning difficulties within learning theories as there is, for instance, Visual Perception Theory, Perceptual Integration Theory, Social Perception Theory and Physical Perceptual Theory (Al Sayed, 2000: 151-162), as well as giving due concern to difficulties related to perception (Kirk & Kalphent, 1988, 162-182).

Teaching of theories related to learning difficulties and understanding their dimensions is considered a necessity to people working in this field for the purpose of implementing them for finding effective teaching methods and providing remedial learning which serves this category.

Therefore, any disorder or defect suffered by one or more of these processes results necessarily in a number of academic difficulties; hence, it can be admitted that developmental difficulties are the origin and the main cause of consecutive

academic difficulties. These difficulties are classified into two main types: preliminary difficulties and minor difficulties.

- **Preliminary difficulties:** Preliminary difficulties are considered as basic mental functions overlapping with each other (attention – memory – perception), and if a child is suffering from disorders or failure, this will affect the second type of minor difficulties.

- **Minor difficulties:** Minor difficulties are difficulties related to oral language and thinking, and if a child is suffering from disorder in any of the primary or minor processes to a large and clear extent and is unable to compensate the same through other functions, then such child will face a difficulty in learning academic subjects.

### **1.2.9.2 Academic learning difficulties**

Academic learning difficulties appear with school children and are clear if a child is suffering from preliminary or minor developmental processes or both. Academic learning difficulties mean academic cognitive performance difficulties that represent difficulties related to reading, writing, arithmetic, and spelling or written expression.

When a child shows full ability to learning but he fails to do so after providing the appropriate school learning, then it will be taken into consideration that this child suffers from special

learning difficulties in the previously mentioned academic aspects. Many researchers believe that any failure or delay in detecting and treating learning difficulties through pre-school years will necessarily result in academic difficulties when a child reaches pre-school to primary school age.

Fletcher & Foorman (1994) state that in order to effectively find a treatment to children with learning difficulties to a large extent, focus should be on prevention and early intervention regarding developmental learning difficulties, and this matter needs provision of specialized rational tools which specialized employees and teachers can use in resource rooms or teachers in general can use this type of tests to identify the problems of academic achievement of children (Al Saratawi, 1996).

Zaydan Al Saratawi (1996) states saying that: "the most difficult problems are reading difficulty, as I do not underestimate other problems and difficulties as they all exist but the size of reading difficulties compared with other difficulties, is very large". Among studies conducted in this field to identify the size and nature of learning difficulty programs, it is found that over 75% of children who are served through learning difficulty programs suffer from difficulties of learning to read. We also know that the impact of the difficulty in learning to read is not just about language and

reading, but academic achievement in general, as if there is a problem concerning reading and understanding of children of what they read, this failure is reflected on his performance of the rest of other topics (Al Saratawi, 1996).

### **1.2.9.3 The relationship between developmental and academic learning difficulties:**

The relationship between developmental and academic learning difficulties is a relationship of cause and effect as it represents the developmental bases of learning the main academic learning determinants. Academic learning difficulties can also be predicted through developmental learning difficulties. The relative contribution to each of the cognitive processes in the overall contrast of the existing individual differences among children with learning difficulties differs (Awad, 2009: 66-69).

Many researchers believe that any failure or delay in detecting and treating learning difficulties through pre-school years will necessarily result in academic difficulties when a child reaches pre-school to primary school age. Many researchers confirmed the existence of a significant correlation relationship and a causal relationship between the level of efficiency of cognitive processes related to attention, perception, memory, thinking, language and the

level of academic achievement at different levels and its components and stages and that any developmental deviations in these processes stop behind the subsequent academic learning difficulties.

These researchers believe that pre-school children with developmental learning difficulties need qualitative strategies of therapeutic intervention to teach and acquire them the basic academic learning skills through correction and remedy of these deviations (Lowenthal 1996, & Lyon 1996, & Fletcher, & Foorman 1994, & Al Zayat, 2007: 51).

Sami Melhem (2002) agree with them in confirming the importance of cognitive learning difficulties (attention, perception, thinking and memory) and considered them the basic of learning difficulties, therefore, it should be taken into consideration. Another team of researchers concentrated on the importance of psychological disorders which a person suffers in his life and considered them the main reason for learning difficulties (Melhem, 2002: 280).

## **1.2.10 The characteristics of children with learning difficulties**

### **1.2.10.1 Perception disorders**

Perception disorders include auditory or visual or physical disorder as a child with visual perception disorder may face

difficulties in writing letters correctly or distinguishing between pentacle and hexagon shapes, and that a child with auditory perception disorder cannot distinguish between sounds, for example he cannot differentiate between bus bell and the ringing tone of the telephone (Salem & others, 2003).

A child with auditory perception difficulties also suffers from auditory remembering difficulty and auditory distinguishing, a matter which may lead to lack of attention during the lesson and the child finds difficulty in remembering sounds of letters which form words and remembering information and information sequence difficulty (Al Dahir, 2004).

#### **1.2.10.2 Deficit of attention:**

Some students with learning difficulties suffer from deficit of attention accompanied by excessive activity. Estimates show that around 20% of students who are identified as students with learning difficulties suffer from attention disorders accompanied by excessive physical activity (Hallahan, et al, 2007).

#### **1.2.10.3 Auditory optical synergy difficulties:**

Some cases of learning difficulties suffer from problems of large and precise physical skills or physical auditory or optical synergy.



Lerner (2000) emphasize that physical problems suffered by students with learning difficulties are considered big and that children who suffer from problems of performing large and precise activities face different academic and non-academic difficulties.

#### **1.2.10.4 Memory disorders:**

Al Rosan & Salem & Subhi (1994) explain the characteristics of children who suffer from memory difficulties in saying that their ability to remember is very weak, whether in terms of remembering names or numbers or events or pictures. Students with learning difficulties show problems in remembering things and that includes auditory and visual memory disorders (Kirk & Gallagher, 1985).

**1.2.10.5 Writing difficulties:** Some cases of learning difficulties suffer from writing difficulties such as lack of mastering the shape and size of a letter and lack of control over spaces between letters and spelling errors (Al waqfi, 1996).

**1.2.10.6 Low academic achievement:** Low academic achievement is one of the features associated with students with learning difficulties and such aspects are not common in all subjects but are found in some subjects (Al Dahir, 2005).

### **1.2.10.7 Low self-concept**

Lerner (2000) states that according to research, children with learning difficulties have negative self-impression as they feel unsafe and adopt a negative self-vision that they are incompetent to deal with life, and that low level of self-esteem and self-respect of students with learning difficulties is due to low level of academic achievement and their failure in building social relations and feeling of failure and depression. It also appeared that therapeutic teaching requires building of strong relations between teacher and student.

### **1.2.10.8 Social difficulties**

Merser (1997) points that students with learning difficulties are weak in social skills compared with average students as students with learning difficulties suffer from difficulty in building and developing personal relations with others and maintaining such relations as they tend to perceive social situation negatively, and feel they are unlikeable and undesirable by their fellow students and that they are often shy and forgotten in community.

Coben & Zigmond (1986) confirm that the absence of social competence for these students makes them more likely to

school mal-adaptation and weakness of academic achievement and tendency for bad behavior.

### **1.2.11 Educational alternatives for learning difficulties:**

There are many educational alternatives in which learning is provided for students with learning difficulties. The most common educational alternatives will be provided for most of the world countries and the selection of one of those educational alternatives in any educational system, will depend on the quality and degrees of difficulties suffered by students, the available potentials of the educational system in terms of qualified specialists, furniture and educational mediums. Educational alternative may occur in any society and may not occur in another and this is what is called environment restrictively as mentioned in Individuals with Disabilities Education Act.

A number of students are transferred from different educational grades to the diagnosis evaluation of learning difficulties which is conducted through special education teacher and school classroom teacher, whether within classroom or resource room due to their failure in performing various academic tasks such as reading, writing and mathematics and other fields in which students suffer from learning difficulties.

One of the most educational alternatives for educating individuals with special needs, in general, and including students with learning difficulties, is what is known as resource rooms and this will be discussed in details later on.

One of the most common educational alternatives also for students with learning difficulties, in addition to resource room and the normal classroom which is equipped with special education services, is a classroom with two teachers, the roving teacher, which is a classroom with special character as explained below:

#### **1.2.11.1 The normal class with special education services**

It is a normal class with some additional amendments that suit special education students. A special education teacher gives some of the classes for this class but not all of them (Al Mayetta,1997 ).

#### **1.2.11.2 A classroom with two teachers**

In this model of classrooms, there are around 10-50 children in the classroom, and two teachers, the classroom teacher and a special education teacher (learning difficulties). When the teacher presents some activities for his average students and after completing explanation of the lesson, the learning difficulties teacher will give remedial instructions and

guidance for each student suffering from learning difficulties separately; this model is used in big schools where the number of students with learning difficulties increases.

The advantages of this alternative is that there is an integration between special education teacher and normal classroom teacher, and also that students are not described in this alternative as students with special needs and teachers do not need to be classified by students that they are special education teachers or general education teachers but the disadvantage of this system is that it may lead to raise noise inside the classroom and distract students' attention between normal classroom teacher and learning difficulties teacher (Al Khatib, 1991).

### **1.2.11.3 Roving teacher**

Roving teacher is a person specialized in special education moving between a number of schools in the region or neighborhood to provide instruction for teachers on the mechanism of dealing with students with special needs and the strategies of their education (Al Khatib, 1991).

### **1.2.11.4 A classroom with special character**

In this model, the teacher of learning difficulties is responsible for educational programs that consist of 6-12 students with

learning difficulties. Until a student is enrolled in this classroom, accurate diagnosis should be conducted for such student to identify his educational experience through evaluation tools available in the resource room of the school. This system is used with students who need special support due to their suffering from severe learning difficulties, and after a period of time, the student can be transferred to a school environment that suits his case and according to the type and degree of his difficulty.

This type of classrooms is useful for helping students who suffer from learning difficulties and whose needs cannot be met in the social awareness and self-concept. Usually, these classrooms consist of limited numbers of students ranging between (10-15) and this system works is fit for students who are able to learn from the category of students with mental impairment as well as slow learning students (Awad & Al Imam, 2007: 591-631).

#### **1.2.11.5 Resource room**

Resource room is considered one of the educational alternatives in which special educational services are provided, and it is an educational system which contains specialized programs allowing students to be brought up

educated in small groups or individually in a manner which is appropriate to student's characteristics, needs and abilities.

In this educational alternative, a child with learning difficulties is present in the normal classroom with his average classmates, and when the teacher discovers that such student suffers from low academic achievement, the student is transferred to the resource room teacher (special education teacher) available in the school who completes students' diagnosis and identifies the type and degree of difficulty. He provides educational treatment for the student with learning difficulty within the room or in small groups. A program is prepared in participation with the teacher of the resource room and the teacher of the normal classroom. Student should spend between two to five sessions a week in the resource room and the duration of one session should not be less than 30 minutes provided that the total sessions should not exceed 50% of the time specified for the school day.

The resource room model requires availability of qualified special education teachers, a classroom equipped with personal test tools, programs and multiple educational activities to meet students' needs.

In addition to educational means and equipment required for the teacher to perform the sessions in the classroom properly.

Studies conducted by Sayeed (2002), Mohammad (2002) and Al Mayetta (1999) pointed to the improvement of reading, writing, expression and arithmetic skills of children with learning difficulties after being taught in the resource rooms in Jordan and United Arab Emirates.

In Jordan, for instance, the resource rooms have been used as an educational alternative for students with learning difficulties since 1989 following coordination between Queen Fund Aalia for volunteering in Jordan on one hand and Directorates of Education in Al Karak, the Palace and the Southern Shrine (Al Mazar Al Janoobi) on the other hand by making amendments to special education classrooms in Vqua and Hosseinieh to be resource rooms instead of being special education classrooms. After that, opening resource rooms continued successively in collaboration between the Fund and Ministry of Special Education in the Directorates of Education in the provinces of Al Tafila, Al Karak, Amman the First, Amman the Second, Al Aqaba, Al Zarqa and Liwa Al Korah making the number of resource rooms at the beginning of (94-95), 17 resource rooms from which around 340 male and female students benefited from (second, third and fourth) basic grades and opening of resource rooms continued successively in all Education Directorates in Jordan so that the number of resource rooms at the beginning of (98-



99) reached 170 resource rooms. The Ministry set up a five-year plan for opening resource rooms in all basic schools from the first up to the fourth basic grades until the year (2002) (Al Mayetta, 2007).

Therefore, provision of resource rooms along with programs focusing on the presence of students with learning difficulties with their classmates in the regular classes, is considered the best educational alternatives existing and followed in the Arab countries particularly Jordan.

#### **1.2.11.5.1 Origin and evolution**

The use of resource rooms started since the thirties of the twentieth century with visual impairment category and the use expanded until it has become familiar in the mid-sixties of the same century with learning treatments, simple mental impairment, emotional disorders, learning difficulties and simple behavioral problems.

In the early sixties of the twentieth century, educational resource centers appeared for serving curriculum and method departments at Education Colleges, particularly field education services which badly needed in order to identify and borrow educational resource to use them in field training. In fact, these centers played a big role in updating teaching processes and serving the younger generations of male and

female students at education colleges and faculties in the United States of America.

There were five special education centers in the USA until 1965 one of which was at the University of Wisconsin, and universities preferred to establish resource rooms to serve schools instead of focusing on education departments and curriculums and methods of teaching at universities, and that was the beginning of the birth of resource rooms and widely since then at regular schools or special education schools (Al Khatib, 2009).

#### **1.2.11.5.2 Features of resource rooms**

In this program, students enjoy full remedial program privileges prepared by the teacher of the resource room but it is not implemented in collaboration with the teacher of the regular classroom.

- Students can benefit from certain training in the resource room while being present with their classmates of the same age in the school.
- The resource room is cheaper than other specialized programs.

- The resource room can have a large impact as a bigger number of students can be served under arrangements of resource rooms.
- Young children with simple difficulties can be joined in order to prevent severe disorders later.
- Children can receive assistance from nearby schools to the extent that these arrangement can be cancelled or reduce the necessity of transferring disabled children to the city because when there are more than one locations serving children at the existing center or nearby school there will be no point in using other means of transport to another area.
- Students are given flexible timetables through which full treatment is applied in their classrooms by the regular teacher with some assistance from the teacher of the resource room or in the resource room itself as needed.
- By using the resource room we can avoid naming, stigmatizing and isolation as the case in regular classes.
- Since the resource room accommodates the majority of disabled children at schools, teaching arrangements in regular classes will be a right to disabled students, i. e., students who special classes have developed for, which means the resource room cannot be a substitute for special

classes as special classes will serve students who needed the services within these classrooms (Awad, 2010).

### **1.2.11.5.3 Contents of the resource room**

It is necessary that the resource room contains a number of necessary equipment and educational means in order to help students with learning difficulties to overcome their difficulties, the above mentioned equipment and educational means include:

- Psychological and academic achievement tests (IQ, academic achievement, sorting out, behavioral, social characteristics and linguistic skills etc).
- Different teaching strategic methods which suit the degree and type of learning difficulties of the students.
- Equipment and multimedia (computers, video, cassettes, recorders, TVs, projectors, educational means, boards, educational maps, magnetic and electric blackboards, cards, educational disks, video tapes, radio cassettes etc) which suit the nature of teaching methods and strategies.
- Furniture which suits the nature of teaching in the resource room whether individually or in small groups with the provision of adequate lighting and ventilation.

- Educational library containing specialized references, educational rests and programs.
- Educational and enrichment kiosks interesting for learners and which ensure students participation and positive interaction within the resource room.
- Timetable including the duration spent by student in the resource room and in the regular classroom.
- Files for keeping personal tests applied on students and students' activities, performance reports and the educational plan.
- Lockers and shelves for keeping students' files and contents of the resource room such as electric devices, tests, activities, educational programs and means.

#### **1.2.11.5.4 Stages of work in the resource room**

Due to different characteristics and problems of students with learning difficulties who attend the resource room in terms of causes and effects on one hand and in terms of their age difference, grades and social conditions on the other hand, the teacher of the resource room face a number of difficulties and problems a matter which requires the teacher the exert his best efforts and abilities to play his role properly, in addition to the educational and remedial services expected

from him towards this category of students. Work stages in the resource room pass through two stages, where the second stage depends on the first stage as follows:

#### **1.2.11.5.4.1 Setup and preparation phase**

At this stage, a number of things are done such as:

- Students count:

At the beginning of each school year and following regular attendance of students in their classrooms, the teacher of the resource room begins to collect preliminary information on weak students in the classrooms and in collaboration with the teacher of the regular classroom, and review students' records and school results in order to identify the number of weak students in academic achievement in general with concentration on Arabic language and mathematic subjects being the basic two subjects in the students' academic achievement at the low basic grade and approve the results of these two subjects and call upon students' parents, if necessary.

- Parents meeting:

Following determination of weak students in academic achievement from students with learning difficulties with the help of the teacher of the regular classroom, the teacher of

the resource room prepare for a meeting with students' parents through sending a special invitation to each parent and determine the time and place of this meeting and in the presence of the school principal and social worker in order to discuss and investigate the potential reasons of weak academic achievement of those students and give an overall idea to the students' parents on the services provided by the resource room and the mechanism of its work, in addition to the importance of the role of the parents in cooperating with the school to treat the difficulties suffered by their children, and organize repeated classroom visits in order check the extent of improvement and development of the academic achievement of their children, and in order to raise the level of self-esteem of the children. In the meeting, the parents will sign an approval of the student's parent stating his acceptance for his child to join the resource classroom.

– Formation of the committee supervising the resource Room:

Students joining the resource room will be selected through a committee to be formed for this purpose consisting of the school principal, the teacher of special education, the teacher of the concerned classroom, school educational counselor and student's parent.

- Initial survey procedures for students: The initial survey procedures for students used by the teacher of learning difficulties through:
  - Checking lists of student names who completed and who failed and weak students in academic performance in Mathematics, reading, spelling, handwriting and expression.
  - Studying students' files recorded in the list and following up their performance levels since their enrollment at school until their current grades through their records and certificates.
  - Conducting personal interviews with students for the purpose of building bridges of confidence, intimacy and love with students, and asking some simple questions on academic skills possessed by students in order to check their academic difficulties.
  - Presenting students who are suspected to have learning difficulties to the committee of learning difficulties in the school in order to complete the diagnosis procedures.
  - Taking the notes of the teacher of the regular classroom into consideration upon transferring students to resource room through a full description of the problem suffered by



students and identifying the areas of such problem in his view individually with each student.

- Evaluation and diagnosis are divided into two:
  - Evaluation is conducted for the purpose of diagnosing (all preliminary information and taking decisions). This evaluation aims at ensuring definitely that there is a learning difficulty suffered by students who will be provided with services in the resource room through collection of information on a number of matters which include: student's parent, regular classroom teacher, social worker, resource room teacher or special education teacher, school principal, observations and student tests at his grade in the current year.

The process of measurement and evaluation aims at collecting comprehensive data and information on students with learning difficulties through certain tools and means as the resource room teacher applied personal tests on Arabic language and Mathematics skills and according to a certain conditioning which suits the condition of the tested student and individually in order to ensure accurate diagnosis process of the student's case for the purpose of identifying the difficulties and problems suffered by the student.

- The purpose of diagnosis is teaching (diagnosis and approval of results for preparing students' educational and educational reports).

This type of diagnosis is conducted only on students who are confirmed to be with learning difficulties according to the results of previous evaluation and who will be provided with teaching services in the program and it aims at identifying the points of weakness and needs related to academic field.

- Curriculum development (individual educational plan) for students with learning difficulties:

According to the previous information collected on students, an educational plan should be developed for each student and should be as the remedial program which is built on the hypothesis of the diagnosis consisting of the following aspects:

- Preliminary information on the student.
- Description of the current performance level and the same should be limited to academic points only.
- Description of the general long-term objectives.
- Development of aspects of strength for each student and employ them in the improvement of his academic achievement and elimination of aspects of weakness as much as possible.

- Development of student's morale and improvement of self-esteem and promotion of self-confidence.
- Working rehabilitation of students and improvement of their academic achievement in Arabic language and Mathematics.
- Stressing on the integration of students in their classrooms and working on their participation in curricular and extra-curricular activities, and this plan should be general for all students of resource room.
- Preparation of educational plan for resource room students:

The process of setting and developing an individual educational plan comes after the evaluation process and is built on its results as remedial procedures are developed in the light of our understanding of the difficulties confronted by students and based on all the needs of the students in order to improve the process of his learning. The individual educational plan consists of what will be provided for the learner and will as a guide for the following remedies and treatments that follow. The plan includes the following:

- a description of the long and short range objective as well as the teaching objective listed according to their priorities
- that the long range objectives should identify the skills that need to be mastered, the accepted standard of performance, and the time needed to master these skills.
- The short term and teaching objectives should identify the quantity and quality of skills bearing in mind that no two different skills should be together in one objective. The objective should include a one-action verb (read, solve, write, compare). The objective is also supposed to identify the accepted standard of performance, the expected date to achieve the objective and how to measure the teaching objective.
- The educational plan should be in accordance with the students' future needs bearing in mind the individual differences.
- The sequence of the skills should be taken into consideration when preparing the plan.
- A variety of strategies should be use in the execution of the plan.
- Appropriate teaching aids should be selected to go with the teaching methodology and help achieve the educational objective.

- The type of reinforcement used in achieving the objective should be identified.
  - The individual plan of each student should be approved by the supervising committee of the learning difficulties program in the school (Al Abd Allateef, 2004: 15 -22).
- Preparation of daily monitoring and follow up records of students:

The daily monitoring and follow up records are similar to the daily preparation of each student so that a general goal is derived from the educational plan from which the sub-goals are derived to be the vocabulary of daily monitoring and follow up record according to the analysis of tasks so that such tasks begin with simple basic goals and end up with the pyramid head to a broad general goal. These records are usually done for the Arabic and math subjects in which the teacher writes down the goal which the student studies, the date of teaching the goal, the days of absence of the students to be compensated later on.

- Preparation of lists of names of regular students in the Resource room:

Students are classified in the resource room as per their grades and the same is checked in the list related to the resource room so that it includes the names of students, the level of the current grade, date of birth and any other grades or remarks prepared by students to be recorded in the diagnosis process as well as problems suffered by students.

– Distribution of students into small groups:

Education in the resource room is conducted according to individual learning strategy, therefore, the numbers of students should be prepared which reaches up to 20-25 students approximately as the teacher of the resource room distributes students into groups ranging between 2-5 students, but in reality the number of students may reach more than five students. That affects the quality of services provided for students because the less the number of students, the more attention students are given and the better will the result be.

Students are distributed according to grades in compliance with the daily lessons program and the teacher of the resource room will consider the individual differences in one group on how to present the skill and how to follow up and the quality of enforcement which suits each student as per his needs and his educational model.

- Preparation of the weekly lessons program for the resource rooms:

Preparation of the weekly lesson program is the responsibility of the resource room teacher and upon preparation of this program; the following matters should be taken into consideration:

- That the share of the resource room teacher from the weekly lessons is (20) lessons weekly distributed into classroom lessons, preparation, follow up and the distribution of what the teacher considers appropriate between Arabic language and Mathematics and according to the students' needs.
- The resource room teacher should take into consideration the timetables of Arabic language and Mathematics in the weekly lessons program in the regular classroom. Students with educational difficulties may not be taken into the resource room from lessons other than those with less importance to them. If the student is suffering from difficulties in Arabic language or Mathematics, he should stay in that class and because leaving it will be negatively reflected on his acceptance of the resource room. The teacher should plan the best program for the students who study between the normal classroom and the resource room.

Students who suffer from educational difficulties in Arabic language or Mathematics will be disappointed in that lesson because they cannot cope with their classroom peers according to their limited abilities and weak experience.

- Allocation of 3-4 lessons in Arabic language and Mathematics weekly to be distributed into the two subjects as per the difficulty or problem which student suffers from and after the classroom lesson, student returns to his classroom in the other lessons as per the principle of integration (Awad 2010).

#### **1.2.11.5.4.2 Application and follow-up phase:**

The tasks of this phase are distributed between the parties of the team who cooperate to help students of the resource room to reach their maximum potentials and energies (Awad, 2010).

### **1.3 Perception**

#### **1.3.1 The concept of perception**

There have been definitions to the concept of perception as such definitions tackled a number of aspects the important of which focuses on perception functions, as perception means: it is a precise psychological process aiming at analyzing stimuli coming to the brain through senses and interpretation



of the same and giving them their correct specifications and meanings, and then regulating them in the cognitive construction of knowledge of an individual, i. e., it is a psychological process which contributes to reaching the meaning through senses (Al Qasim, 2000).

Perception is defined as: the ability of a person to regulate sensory stimuli received by him through different senses and treating them mentally within the framework of previous experience, identifying and giving them their different meanings and cognitive significances (Salem & others, 2003).

It is the psychological process which contributes to reaching or accessing to the meanings and connotations of things, individuals and situations with which an individual deals through regulating the sensory stimuli related to them, and interpreting and formulating them in a meaningful and significant processes (Hafid, 2003).

Perception is also defined as the means through which an individual can identify sensory information as it represents the mechanism by which the mind distinguishes sensory stimulus and makes it meaningful as it is a cognitive constructive active and positive process which happens through the translation of sensible things that go to the brain which in turn

translates these sensations into meaningful perceptions (Al Waqfi, 1998).

As such perception is more than just a sense but it is a different thing from what senses just record and it is more than just a reaction to the senses which are transferred to the brain though the sensory signals of things are essentially one but the way they are perceived differs from one person to another due to different circumstances which produced these similar sensory experiences as perception does not happen as a final result of interaction of effects, pattern and type of stimuli (Badran, 2004).

Perception is also defined as a constructive active and positive cognitive process and it is something different from what senses record as this process mediates between the stimuli perceived by the senses and the outcome of the perception process (Al Zayat, 1998).

Perception is a translation process by the brain of the sensations which are received by the brain through senses in the form of coded messages in the form of electric pulses (Al Batayena & others, 2005).

Perception is defined as a bilateral process (mental and cognitive) which many children with learning difficulties suffer from achieving it properly and which is represented in giving

a meaning to the sensory stimuli, whether visual or auditory or tactile stimuli (Al Dahir, 2005).

The researcher considers perception as awareness and interpretation, as well as giving a meaning to things; it is the stimuli that go on around the person by using senses.

Perception has several names according to its connection with the type of sense such as visual perception, physical perception, and auditory perception, and each type has its characteristics and function. Visual perception, for example analyzes visual stimuli while auditory perception analyzes auditory stimuli, and physical perception means consistency of sensory inputs with the outputs of physical activities (Al Far, 2003).

### **1.3.2 Auditory perception**

Cognitive psychologists have given attention to the perception process due to its importance in individual's daily life as an individual deals daily with several stimuli that require understanding, analysis and immediate response. Perception is an important part of information processing system due to its importance in the analysis and understanding of information which comes from the surrounding environment. Auditory perception is important in the individual's daily life perception, as spoken language for instance is a human

advantage bestowed by God for man to help human adaptability and learning. Scientists point out that educated people depend on auditory perception for learning purposes in a manner which exceeds their dependence on the other senses a matter which shows the importance of hearing in realizing understanding and perception.

Auditory perception is defined as the ability to identify what is heard and interpret it, and it is considered as an important perceptual medium for learning (Al Zayat, 1998).

Auditory perception is also defined as the ability to identify what is heard and interpret it (Al Batayena & others, 2005).

The researcher defines auditory perception as human ability to interpret what he hears.

It is worth mentioning the difference between acute hearing which means good hearing or hearing accuracy, and auditory perception which gives meanings to information which is heard.

Children with learning difficulties suffer from disorders in the perception process due to their inability to interpret the environmental stimuli and reach their significance due to the existence of defect in their perceptual functions which results

in learning difficulties a matter which necessitates detection and treatment of the same (Al Batayena & others, 2005).

Human senses are considered as windows to the outside world which surrounds him, but if he limits himself to these senses, his share of this world will be nothing more than just a group of inattentive and telescopic senses which represent auditory, visual, skin and gustatory sense. In addition, he will not be able to adapt himself to the surrounding environment where he lives, for instance; what meaning will be of a lion in human mind if he saw it in the jungle in its shape and color without perceiving that it is a fierce animal whose characteristics involve a serious meaning? How should he behave properly to avoid such danger? What does a book mean to a pupil if he looks at its pages, pictures and shapes without recognizing the benefit and feasibility of its content? (Al Batayena & others, 2005).

Senses are divided into the following:

- External senses such as auditory, visual and skin senses.
- Expletive senses of an internal resource such as stomach, intestines and heart.
- Mental physical senses such as muscles, tendons and joints.

It is worth mentioning that sensory stimuli differ entirely from things as they make us feel things which we perceive, as when we hear the sound of a plane before we see it, we perceive that there is a plane coming because the sound of the plane is the alarm but the plane itself is not the alarm.

Sensory perception is a process of interpreting sensations which provide us with information about things available in the external world and the word things include: the solid objects, spaces, events, features, relations and symbols which we perceive.

As above mentioned, we notice that what is perceived is related to things which are separate from each other such as distinguishing white from black, or a child from a young person, or things involving significance and a meaning such as our perception of the voice of a yawper from other voices. Things are only perceived due to a mental activity connecting separate sensations, and from this connection of the basics, things that we perceive are composed.

### **1.3.3 Rules of sensory regulation**

Rules of sensory regulation are laws that regulate sensory stimuli in separate events or forms, and are of two types:

- Objective factors related to the perceived subject.

- Subjective factors related to the person who perceives.

#### **1.3.3.1 Objective factors include:**

- Convergence factor: Sensory stimuli which converge in time and place seem in our scope of perception as an independent unit or prominent formats.
- Similarity factor: We perceive sensory stimuli which are similar in color or shape or size as an independent unit or prominent formats.
- Communication factor: Sensory stimuli linking straight lines or non-straight lines are perceived as an independent format, as a group of separate points when linked with straight lines are perceived as quadrilateral.
- Closure factor: Incomplete sensory stimuli tend to completion in our perception, as the mind tends to complete what is seen or heard to give an integrated meaningful picture. The previous factors are not limited to visual perceptions but include auditory perceptions also like when we hear a tone amid other sound effects (Melhem, 2002).

#### **1.3.3.2 Subjective factors**

Individuals receive sensory stimuli with varying degrees when perceiving them and this is subject to the following factors:

- The natural structure of the individual: This depends on genetic and previous experience factors. Familiar matters have great impact on the perception of the individual as we perceive what we are accustomed to see and hear.
- Physiological and psychological needs: such as sleeping, hunger, thirst, health and sickness. A hungry person for example, would imagine a vague picture of food or a restaurant due to his need for food something that is not likely to happen with a person with a full stomach.
- Expectations: if you expect something to happen soon, you start to imagine things related to it. If you are waiting for a friend to come to pick you up in a white car, you start thinking of every white car coming in your direction to be his (Al Waqfi, 1998).

### **1.3.4 Auditory perception disorders**

Perception disorders or difficulties occupy a central or pivotal position among developmental learning difficulties in general, and cognitive process disorders in particular, as perception disorders are closely related to attention disorders. Their importance is due to the fact that they are considered one of the basic psychological processes included in the American Federal definition of learning difficulties. Auditory perception



disorders are defined as weakness in the ability of identifying and interpreting audible beeps (Badran, 2004).

Studies conducted on children with perception disorders who suffer from learning disorders showed occurrence of overlapping and disruption suffered by those children upon their receipt of information or stimuli through another medium a matter which reflects significant decrease in their abilities to endure this overlapping or disruption. It is difficult for children to receive information or stimuli through different perceptual mediums or systems at the same (Al Rashdan, 2004).

It is remarkable that the ability of child who suffers from learning difficulties to receive information from various perceptual resource – auditory or visual or tactile – at the same time, decreases compared with the average child. Therefore, such child becomes overburdened and fatigued and shows symptoms of overload such as mixing up things or weakness of remembering or refusal of a task (Al Waqfi, 1996).

Therefore, the researcher advises the teachers of the resource rooms to choose the suitable educational model for the student, auditory, visual or physical and to work on arranging auditory, visual and physical stimuli. He should not present them to students at the same time. If he does arrange the educational methods in an appropriate way, it will be

positively reflected on the educational performance of students.

### **1.3.5 Auditory perception processes**

#### **1.3.5.1 Phonological awareness skill**

It is a cognitive skill which means words which we hear are formed from various sounds such the sounds of letters and syllables in order to become one sound which is word or sentence, and that each letter or syllable has a special sound which distinguishes it from other letters or syllables and upon combining these voices, words, sentences and texts are formed. Here comes the role of negative impacts of phonological awareness disorders in the form of:

- Weakness in reading comprehension.
- Decrease of motivation towards expressive reading or use of language due to their inability to read.
- Deficiency of linguistic knowledge and achievement (Al Batayena, 2005).

Lerner (2003) believes that phonological awareness skill is necessary for learning to read because it is the ability to distinguish words and sounds when we listen to them. It consists of individual voices within one word. For instance, when an individual hears the word (cat), it seems like one

oscillation and one pulse, but a person with sound phonological awareness will know that the word (cat) consists of three sounds (c, a, t), so a child with weakness in auditory perception will not be able to distinguish that the word (cat) consists of three separate sounds. Children with difficulties to learn how to read are unable to distinguish and separate the sounds of a word or a number of sounds of a word, as well as children who do distinguish similar sounds in words and cannot distinguish voices by rhyme itself nor can they understand the use of ordinal principles necessary for learning acoustics and analyze words. Phonological awareness skills are formed during pre-school years and therefore, it is important to evaluate the abilities prior to teaching children to read and training them on these skills, as such training will have a positive impact on reading achievement (Lerner, 2003).

Wong (1998) found out those children at six years of age who suffer from linguistic difficulties benefited from a remedial procedure focusing on acoustic or phonological perceptual elements in retrieval process.

A team of scholars noticed that knowledge and acoustic remedial skills which were focused on in research and studies include: phonological awareness, acoustic memory and fast

retrieval of acoustic information, as they provided definitions for each of these concepts.

Phonological awareness is the sensitivity of the individual towards the acoustic or phonological environment of words in his mother tongue or his clear awareness of such acoustic environment; it is measured through some exercises requiring a child to identify a certain sound in a word or to fragment a word into its sounds or to form a word from a number of sounds. Acoustic or phonological memory refers to symbols and representations used to store oral material such as numbers and letters. Phonological or acoustic memory can be evaluated through exercises which require remembering meaningless words and syllables. Fast call or retrieval of acoustic or phonological information refers to the ability of children to quickly retrieve information stored in the memory easily (Torgesen & Houck, 1980).

Adams (1990) mentioned five different levels of phonological awareness:

- Knowledge of children chants: it is a preliminary level of phonological awareness and it refers to listening to word sounds and according to the exercises of analogue and contrast. These exercises require the child to compare between words in terms of phonological structure and focus

his attention on aspects of similarity and difference between sounds forming two or more words and to check what makes them similar or different.

- Syllables mixing up and segmentation: this level requires a child to know that a word can be fragmented into meaningless sounds. It also requires a child to know how to pronounce these sounds out of the word.

- Phonological or acoustic fragmentation of words: this level requires a child to be aware that words can be analyzed into a series of sounds.

- Sound control: This level requires availability of child's ability to deal with the acoustic or phonological structure of words which enables him later to add or omit or move any sound from its place in a word and produce a new word (Torgesen & Houck, 1980).

### **1.3.5.2 Auditory Discrimination**

Auditory discrimination means the ability of the individual to distinguish various sounds included in speech and to distinguish between letters which are similarly pronounced (Salem et al. 2003).

The skill of auditory discrimination is considered of developmental nature and it grows with age and it means

differentiation among the sounds of speech through comparing and balancing their acoustic or phonological characteristics, and this means auditory discrimination is different from hearing acuity (Al Rashdan, 2004).

This skill is considered necessary to teach children acoustic or phonological structure of verbal language. Expression among sounds of similar letters, syllables and words contributes to the understanding of oral language and self-expression down to easiness of learning to read and spelling in a correct and proper manner.

Auditory discrimination difficulties appear in the following forms:

- Difficulty to distinguish between similar and different words.
- Difficulties in producing different tones of voice.
- Difficulty to integrate sounds of spoken words to form words and sentences.
- Difficulty to understand meanings of sounds (Al Batiyana et al. 2005).

### **1.3.5.3 Auditory analysis**

Auditory analysis skill refers to the analysis of a spoken word into single voices which form it, and this skill is considered one of the important skills in learning to read and spell, such as learning of a child how to distinguish among alphabets and how to identify them as independent formats, and how to link them with the acoustic patterns related to each one of them. If auditory skills do enable the child to analyze spoken word to single voices, the possibilities of the child to understand the concept of the fact that each letter has its own voice becomes weak (Al Waqfi & Al Keylani, 1998).

### **1.3.5.4 Auditory Memory**

Auditory memory refers to storage of auditory data as per their time chronological sequence, as the sensory auditory channel receives the auditory sensory stimuli coming from outside to reach the auditory memory up to the short term memory and then to the long term memory as such data is stored and then retrieved upon necessity.

Children with difficulties in storing and retrieving auditory stimuli lack oral follow-up of dialogue, conversation, reading comprehension and verbal instructions (Al Batiyana et al. 2005 & Al Rashdan, 2004). Children with learning difficulties suffer, in the field of auditory memory, from difficulty in

identifying and determining the voices which they hear or giving meanings to words or following the instructions or directions or names of numbers. (Kirk & Chalfant, 1994).

Cusimano (2001) pointed out that there is a high percentage of students suffering from weakness in the field of auditory memory, and they need training to develop this skill, therefore, she recommended the necessity that educational curricula in the basic stages of school should include training skills in order to develop the auditory memory skill, and this is done through presenting a series of letters and words verbally, and then the child is asked to repeat the series and use the repetition until he becomes able to retrieve them. After mastering the skill or the first level, the length of series should be increased. She also emphasized on the necessary need for early intervention to treat this skill and providing the child by the parents and teachers with the knowledge of how and the types of activities which they can use to develop this skills in their children.

Auditory memory disability may cause disability in the child's linguistic development (Kirk & Gallagher & Anastasiow, 2003).

Shore (1998) describes children with learning difficulties as suffering from difficulties in remembering information such as



remembering what is required from them as to school kits or school timetable or homework.

Therefore, Cusimano (2005) wrote a book including training courses for the development of auditory sequential memory for words, numbers and letters so that they are graded from simple to difficult.

Ashoor (2002) conducted a study aiming at building a training program for treating some developmental learning difficulties such as “attention – perception” for children with learning difficulties, so that the program includes the following:

- Treatment of attention process disorders for children with learning difficulties through focusing on the basic important requirements of the process of attention which includes selection of a stimulus and the duration of continuation of the attention behavior and giving due concern to the sequence of the presented skills and transferring of attention from one task to another.
- Treatment of perception process disorders for children with learning difficulties through training on tasks in which training alleviates aspects of shortcomings and defect in the two processes of visual and auditory perception.

The auditory perception process includes the following sub-processes:

- Auditory discrimination of sound.
- Auditory closure of sound.
- Auditory discrimination between shape and background.
- Auditory sequence and progression.
- Auditory memory.

The program consists of 39 activities distributed between attention, and auditory and visual perception processes. Each activity consists of the objective of the activity and the procedures used to implement such activity and calendar of the child's performance of the task to determine the extent of the child's success in performing such task.

If information is stored according to organized strategies, it is easy to retrieve or recall it upon necessity because the capacity of this memory is very high (Adas, 1999).

#### **1.3.5.5 Auditory discrimination between figure and background**

It is the ability to identify and determine the required sound in case of existence of other voices in the background or surrounding environment (Al Khatib & Al Hadidi, 2003).

These problems are associated with automatic attention and fast perception, as children who focus on related stimuli and neglect other existing stimuli existent in the environment suffer from auditory discrimination difficulties between the figure and background (Salem & others, 2003).

One of the behavioral manifestations and features of children with learning difficulties who suffer from auditory problems related to figure and background disorders is that they are often characterized by weak listening as they are not good listeners.

Such children may not discriminate acoustically between sounds especially the similar ones. They also suffer from disorders in discriminating between pairs of phonemes, or they show a disorder in discriminating between similar words or they tend to delete the first letter in the first pair when they mix up the word "step" to become "sep", as well as the difficulty in discriminating between the vowel letter with sound tide and consonant letters with short voice tide (Al Sayeed, 2003).

The researcher noticed through her experience in working with children with learning difficulties that many of these students used not to be able to follow up the teacher's instructions issued for them in the existence of a noise background, whether from outside and within the classroom, therefore, the researcher reviewed some studies conducted on this important dimension. The researcher also, through her study and reading of educational literature related to the same subject matter, and through her personal experience, designed a group of activities from which the training program is formed which aimed at helping students and alleviating their attention deficit during presentation of instructions.

#### **1.3.5.6 Auditory closure**

Auditory closure refers back to knowing all even if the part is missed. The child who suffers from auditory closure difficulty will have difficulty in knowing the spoken word if hears part of it (Salem & others, 2003).

#### **1.3.5.7 Auditory blending**

It is the ability to mix up sounds to become one meaningful word. This skill is considered very important in learning to read and write for children, and that any disorder in it, will be negatively reflected on the process of learning in the proper

manner. Children with learning difficulties and those who lack such skills find it difficult to carry out the auditory closure processes which mean combing parts of the word acoustically and pronounce them through completing the missing parts (Al Batiyana et al. 2005).

Lerner (2003) believes that auditory blending is the ability of combining single sound elements in one complete word, as most children with learning difficulties find difficulty in combination and integration such as (m-a-n) to be man...

### **1.3.6 Auditory perception difficulties**

Auditory perception difficulties do not indicate that there are problems in hearing acuity, but they are related to a difficulty in or knowing of aspects of similarity and difference between the degrees of the voice, its sections, its rate and duration (Hafid, 2003).

Auditory processes related to learning processes include the following:

- Auditory discrimination difficulties.
- Auditory closure difficulties.
- Auditory discrimination difficulties in discriminating between figure and background.

- Auditory progression or sequence difficulties.
- Auditory memory difficulties (Salem & others, 2003).

Mental sound proper perception of stimuli or different phenomena requires kind of mental preparedness based on:

- The ability to discriminate between perceptions depending on soundness of generalization and abstraction processes.
- The ability to discriminate between the figure of the perceived and its total format or its environmental background on which it depends such as the picture and the shadows.
- The ability to close the sensory perceived to form a general perceived or a meaningful concept, as the incomplete annular figure will be completed to become a circle and a word which is not of complete letters is written or pronounced in full (Hafid, 2003).

### **1.3.7 Methods and strategies of treating perception difficulties**

Many children with learning difficulties need special education to acquire auditory treatment skills and phonological awareness according to confirmation by studies that improvement of phonological awareness

facilitates success in acquiring the principles of spelling and identifying the word upon reading it (Foorman et al. 1998).

Perception process is of high importance in the reception and understanding by students of educational and life experiences and their resulting difficulties such as disorders in the process of learning to read, write and arithmetic, and daily life skills and their relevant relation to learning school subjects. Learning difficulties emerging from perception process disorders express themselves through three main manifestations which are as follows:

- School failure or low academic achievement.
- Skill or physical or synergy difficulties which their impact is reflected on the physical and skill performance, as synergy happens between the movement of the eye and hand, as the hand conveys the perceived information through the eye (sight) and as such the information becomes clearer.
- Failure in the integration of perceptual systems, as a child with learning difficulties cannot receive auditory, visual and physical stimuli at a time.

Therefore, remedial plans should be drawn for such difficulties. To that end, the following steps should be followed:

### **1.3.8 Study of the child's case from various aspects**

Hafid (2003) listed various aspects to be considered in assessing the child's general status of health; these aspects are:

- Physical aspects: to measure the child's height, weight and physical energy in order to determine if he is healthy or average, sick, or disabled.
- Neurological aspects: in order to know whether there is a damage or failure in brain growth or not and this requires deep medical examinations.
- Sensory aspects: in terms of existence of failure in the hearing, vision and touching processes.
- Emotional aspects: in terms of traumatic experiences suffered by the child in his life.
- Social aspects: such as living conditions and socio-economic level of the family.
- School history: in terms of his classroom interaction and participation in various activities whether within or outside classroom (Hafid, 2003).



### **1.3.8.1 Analysis of educational tasks**

Analysis of educational tasks means the types of perception difficulties which a child suffers and its effect on academic achievement such as reading, writing, mathematics and school subjects, as well as methods of daily life dealing.

Writing the objectives, procedures and processes of treatment: this means drawing the procedural objectives which a teacher will follow to overcome different perception difficulties such as:

- Treatment of visual discrimination difficulties:

The teacher asks students to identify aspects of similarities and differences in the following activities:

- The differences between the principal's office, classroom and a library.
- Matching colors and comparing them.
- Comparing between pencils and pens.
- Comparing between geometric shapes: rectangular, square and triangle ...
- Matching between letters and figures (Ashoor, 2002).

- Treatment of perception difficulties and auditory discrimination:

The teacher trains students on discrimination between different voices using recorded tape:

- Clapping hands, phone ringing, sound of a bell and flowing of water.
- Providing words which students listen to beginning with a certain letter: school, teacher, mosque, pen, and students have to discriminate and distinguish the different word.
- Auditory discrimination: the teacher can asks students to close their eyes and identify the direction from where the voice is coming, and is the voice close or far? Is it strong or weak?. (Al Waqfi, 2003).

- Treatment of physical visual synergy difficulties:

The teacher asks students to re-form simple shapes on the blackboard such as: vertical line, horizontal line, circle, square, triangle (Hafid, 2003).

- Treatment of physical perception difficulties:

The teacher asks students:

- To walk on a board: to train on directions and balance.

- To jump over a platform: in order to help them form a concept for sense and physical balance.
- Carry out physical exercises: in order to help in the physical synergy process (Salem & others, 2003).
  - Treatment sequence difficulties:
    - The teacher reads a sequence of numbers and asks students to repeat them as per their order of hearing.
    - The teacher gives a number of instructions to students and asks them to accurately execute them.
      - Treatment of auditory memory difficulties:
        - The activity under the title "Do this": we put a group of tasks in front of the child and ask him to do a specific thing of them as per certain instructions.
        - Lists of numbers and words: help student to memorize a series of numbers and words.
        - Poetic songs: ask the child to remember some songs of poetry that have fine rhythms.
        - TV programs: ask the child about the programs he watches on TV.
        - Repetition of numbers or letters: mention in front of the child a number of serial numbers and then ask him to

complete them. Repetition of sentences: mention a short sentence and ask student to repeat it.

- The order of events: tell a story and ask the student to put the events of this story in order (Al Zayat, 1998).
- The teacher can also put in front of the child five or six things and gives him a series of instructions such as saying: put the red tube on the table and put the rose on the chair and hand the ball to your colleague (Al Waqfi, 2003).

Auditory skills can be developed by allowing the child to listen more than before to the pronunciation of words. There are various subjects to be used by the teacher, as using chants and the reading subject available in children's books. Training auditory may begin by making the child to distinguish familiar huge sounds such purling of water of door closing or typewriter and so on, and then moving to the next step by asking the child to identify any two words having the same sound, and then you pronounce four words to the child from which two words are similar, provided that we use at the beginning words having clear difference such as: (puts) and (wants) then you move to words in which the difference is more accurate such as (said) and (tended, and the child has to close his eyes upon discriminating these sounds in order to make sure that he discriminated the difference between

them through hearing not through looking at the teacher's lips and that the period of auditory training should be short in order to guarantee that the child's attention is scattered because these trainings are very exhaustive to the child.

It is necessary for the child to benefit from verbal study of words and auditory training of pronouncing such words that the child should have the ability to discriminate between a word and another and to combine sounds and merge them to make one full unit which is the word (Mursi & Abu Al Gharayem, 1983).

- Treatment of physical auditory perceptual matching difficulties:

Difficulties related to exercising of activities which depend on physical auditory perceptual matching emerge from the difficulty of following up flow of auditory stimuli and interpreting their implications, meanings and physical or skillful response appropriately. One of the manifestations of difficulties of exercising activities which is based on the physical auditory perceptual matching is the inability of child to follow up instructions issued successively that require carrying out physical activities such as jumping three times and running for 30 meters and then turning and returning back.

Studies conducted in the field of matching or mixing up sounds to learn reading, indicate that functional failure in this ability is positively associated with reading difficulties and physical auditory perceptual difficulties, as the child responds later than his ordinary peers. Children with physical auditory perceptual difficulties tend to repetition due to weakness of their ability to follow up flow of auditory stimuli, perceiving and interpreting them as fast as possible (Torgesen & Houck, 1980).

The researcher noticed that children with physical auditory perceptual difficulties were not able to follow up with physical training teacher instructions to do multi instructional physical activities. She believes that this is attributed to their disability to process the instructions as fast as their average peers caused by their physical auditory perceptual difficulties; this required the researcher to study the activities and the appropriate training to help them alleviate this insufficiency.

#### **1.4 Previous related studies**

The researcher investigated studies which were previously conducted on the development of auditory perceptual skills through visiting university libraries, international information network (internet), Arab and foreign references related to the subject matter of the research.

This study comes within various studies that use a training program for the development of auditory perceptual skills for children with learning difficulties. This study is divided, in terms of source, into Arab and foreign. It will be presented according to time sequence.

#### **1.4.1 Arab studies**

Al Riasti (1991) conducted a study entitled: "The Impact of a Program in the Development of Auditory and Visual Perception on the Willingness to Read for Kindergarten Children". The sample of the study comprised of fifty-fifty male and female, and 100 children half of whom are at ages ranging from 4-5 years and the other half are at ages ranging from 5-6 years, as they were randomly selected. The researcher used a number of tools such as:

- Jodaniv test of intelligence.
- A program for the development of auditory and visual perception.

The researcher concluded to results after implementing the program that there are statistical significant differences between the degrees of male and female children regarding willingness to read in favor of female children, and also existence of statistical significant differences between the

degrees of children at ages of time ranging from 4-5 and 5-6 years in favor of older children.

The results also indicated the existence of differences of statistical significance between the degrees of the sample children before and after the implementation of the program in favor of the experimental group a matter which proves the effectiveness of the program.

Othman (2001) pointed in his study to what Peter (2000) concluded to in his study that aimed at preparing a program for the development of remembering, attention and perception. The sample of the study consisted of 25 children from students with learning difficulties at ages ranging from 5 to 6 years. The percentage of their IQ was between 90 to 110 on IQ test of drawing Jodaniv man and a battery to measure some cognitive aspects. The study concluded to the improvement of the performance of children in the aspects of remembering, attention and formation of concept. A remarkable percentage was achieved for children with learning difficulties who received training in terms of acquiring behavioral skills that led to the decrease of difficulties associated with cognitive aspects.

Salem (2005) conducted a study entitled: Dyslexia Physical Auditory Perceptual Difficulties, on a sample from the



Province of the capital city Amman in Jordan, as the study aimed at detecting the characteristics of children with reading difficulties at the third, fourth, fifth and primary grades. The sample of the study consisted of 120 male and female students with reading difficulties of whom 30 male students 30 female students were selected through simple random selection from among 894 cases with learning difficulties who visited Early Disability Diagnosis Center. Their ages ranged between 9-11 years old. The sample consisted of a total of 160 average male and female students out of whom 30 were male students. The students were selected through simple random selection process from five government schools in Amman.

The researcher applied the following study tools to the study sample individuals:

- Form of the characteristics of students with learning difficulties, the Jordanian version of Stanford Scale as an interface for intelligence, and the Jordanian version of Illinois Test for Psychological-Linguistic Abilities
- of diagnosis of the basic skills of Arabic language.
- Test of reading difficulties diagnosis.

The results indicated that there are differences of statistical significance (at a level of significance  $\leq .0001$ ) between the performance of ordinary children and children with reading difficulties on all sub-tests for twelve of the amended Jordanian images for Illinois Test for Psychological-Linguistic Abilities in favor of ordinary children. The results emphasize the differences between the averages by the significance of the answer ladder and the analysis of unilateral contrast between the degrees of ordinary children and children with reading difficulties. The highest rates of differences have been scored in the following tests: composition test, auditory completion test, serial visual remembering test and grammatical completion test, all of which have been in favor of ordinary children. Results of the study also indicated that there are differences of statistical significance (at the significance level of  $\alpha \leq .05$ ) in the reading characteristics between female and male with learning difficulties.

Al Smadi (2007) conducted a study under the title of: The Effectiveness of Training Programs in the Development of the Memory of Children with Learning Difficulties and Ordinary Children. The study was conducted on children joined the resource rooms in schools that belong to the Directorate of Education affiliated to Irbid First Area. The number of the sample individuals amounted to 100 males and female

students distributed into four groups: two groups for students with learning difficulties, one of which is the controlling group and the other is the experimental group with 25 female and male students each, 13 male students and 12 female students. The study reached a conclusion that there are differences of statistical significance in the marks scored based on the total memory measurement, and on its dimensions between the two groups: the experimental and the controlling groups for students with learning difficulties. The study did not show differences of statistical significance on the memory measurement neither on its dimension which is attributed to the gender variable of the group whether for children with learning difficulties or ordinary children. This study has been benefited from by the inclusion of the training program with I activities associated with auditory memory.

#### **1.4.2 Non Arab studies**

Kilen & Schwartz (1999) conducted a study aiming at the possibility of improving auditory sequential memory through training and the extent of relationship between training on improving the auditory memory and reading ability. The sample of the study included 92 male and female students from four school in of New York State at the second and third grades from among students with reading weaknesses and weakness in sequential auditory memory of whom 33 female

students and 59 male students, 54 of them at the second grade and 38 at the third grade distributed into four groups: the first group being trained on auditory memory, second group on attention, the third group on cognitive enrichment and the fourth group was the controlling group. Results indicated that the first group which was trained on sequential auditory memory improved, especially the second grade students, and the marks scored in reading accuracy for the individuals of this group after training were higher than that of the other groups. The measurement did not show any impact of statistical significance attributed to the interaction of gender with the treatment.

Kavale & Forness (2000) conducted a study aiming at identifying the processes of auditory and visual perception and the ability to read. This study focused on reviewing 267 studies published within the period between the years (1950-1980) which discussed the relationship between auditory and visual perception and the ability to read. Results of the study related to auditory perception indicated that auditory perception skills 267 studies included the following dimensions of auditory discrimination: the ability to differentiate between stimuli presented acoustically, auditory memory: the ability to recall a series of auditory stimuli, auditory joke: the ability to receive auditory stimuli separately and combine them to form

a unit or one word, and auditory comprehension: the ability to interpret and understand materials and objects presented acoustically.

Sunseth (2000) conducted a study aiming to identify the role of speed of naming the skill of auditory awareness in the ability of reading, spelling and knowing the writing system among third grade students. The sample of the study consisted of 68 students from primary third grade, noting that the study was implemented at two stages: the first stage aimed at identifying the role of speed of naming and auditory awareness among three groups of students who were diagnosed as suffering from disorders whether in the speed of naming or in the auditory awareness skill or in both. Results of the study showed that disorder in the auditory awareness leads to difficulty in reading untrue words, and in dictation, while slowness in naming is related spelling skill. Regarding the knowledge of writing system, the study showed that children who suffer from slowness in naming suffer more than those who suffer from problems of auditory awareness. Students who suffer from both disorders also showed results not much different from others. This confirms the importance of speed of naming and auditory awareness in learning written language. At the second stage of the study, two new groups were added so that the size of the sample became 68

students from the third grade divided into the following groups: 17 students who are good at naming speed and auditory awareness, 17 students from those suffering from auditory awareness disorder, 18 students who are slow in naming and 16 students who are late in naming and auditory awareness. Results of this study were consistent with the results of the first stage as good students of the first groups scored good results in both skills on school tools while students who suffered from auditory awareness weakness only were weak in reading true and untrue words and in dictation, however these groups used to have greater ability in reading speed than the group which was slow in naming which used to have ability in reading but slowly, as well as in dictation and spelling. The groups that suffered from disorder in both skills showed delay on all school tools.

McKnight, et al (2001) conducted a study aiming to train a group of kindergarten children on the perception of voices a matter which leads to increase of their ability to read. The sample of the study consisted of 56 children and the researcher divided the children into two groups, one experimental and the other controlling. Upon comparing the performance of the two groups of the study on four tests which are fluency in naming alphabetical letters, fluency in naming sounds and identifying them, the ability to perceive

the phonemes or sounds and the ability to fragment words into phonemes. Results of the study showed occurrence of improvement in the performance of children members of the experimental group on tests used with exception of their performance in fluency test and naming of alphabetical letters as the differences between them and the members of the controlling group were not of any significance.

Williams & Okland (2001) conducted a study entitled "Three Years of Auditory Perception Program for Minority Children", as the study aimed at evaluating three educational methods in enhancing the discrimination of possible sounds and reading achievement for three years. The sample of the study consisted of 80 African-American and Americans of Mexican decent children at the first grade with learning difficulties. This study used to measurement tools of standard and spoken reference at the end of the first, second and third grades to identify the change at the level of auditory perception and reading achievement. The study included three groups taught by three different methods, the first group: received linguistic visual method of reading in addition to auditory perceptual activities, the second group: received linguistic visual method if reading, while the third group: received auditory method of reading. The study concluded, upon comparing the performance of the three groups, to the fact

that there is difference between the performances of the three groups on the standard reference tests but there is a difference in favor of the first group on the performance of spoken reference tests.

Norrelgen, Lacerda & Forssberg (2002) conducted a study on the degree of time accuracy for auditory perception and the phonetic verbal operating memory of 15 children in speech perception who suffer from linguistic disorder, as they were compared with a controlling group included 99 ordinary children and underwent a test on the computer which necessitates answers to questions comprising of two substitutes and which is used to measure their three abilities. It appeared non-existence of weakness for children with auditory perception and the degrees of responses were similar for the two groups of the study (the controlling group and the group with linguistic disabilities). The contrast was also high for the two groups, while the performance of the controlling group was weaker according to what the previous studies showed. There were differences of statistical significance in the performances of the two groups in speech perception and phonetic operating memory. Through measuring, it appeared that the operating memory was the most sensitive for these two standards.



A study conducted by Gonzalez & Espinel (2002) on children with learning difficulties aiming to test two ways of auditory training under the title of "Remedial Interventions for Children with Learning Difficulties". The first method of the study depends on training the phoneme awareness of letters and sounds only, while the second method depends on training on discriminating speech and phoneme awareness of letters and sounds. The sample of the study consisted of 53 children, of whom 43 males and 10 females at ages ranging between 108-132 months old at Spanish schools. The sample was randomly distributed into three groups: the first experimental group which consisted of 18 children trained by using a method that depends on phoneme awareness of letters and voices. The second experimental group: consisted of 17 children trained by using a method which depends on discriminating speech and awareness of letters and voices. The controlling group consisted of 18 children who did not receive any training. Results of the study showed the existence of significant improvement for the two experimental groups in awareness skill compared with the controlling group and the first experimental group.

Nancy et al. (2003) conducted a study aiming to study the performance of memory of 135 children who were classified by using three models which include: auditory awareness

model, dual model (defects of pronunciation processes and defects of auditory processes) and the model of auditory axial variable which supposes that successful reading depends on the integration of operating network communication with different cognitive processes, while the defect of the pronunciation process is central regarding learning difficulties. The children were divided into three groups, the first group consisted of 45 students with reading difficulties whose ages ranged from 9-12 years. The second group consisted of 45 students with model level in reading whose ages ranged between 9-11 years. The third group were students with model level of reading but older than the individuals of the first and second groups. The performance of individuals with reading difficulties in the sequential memory, verbal learning and the performance of visual vacuum memory of the first groups, is compared with the performance of the second and third groups. The study reached a conclusion that the performance of children with reading difficulties in the first group was of less significance from the performance of individuals of the second group of similar age, and less also from the performance of individuals of the third groups of older individuals. The result explained that auditory different variable is responsible for the difference in the performance of the memory more than the

auditory awareness model and the dual model. This study was benefited from by including paragraphs related to successive auditory memory in the training program.

Pokern& Worthington & Jamison (2004) conducted a study entitled: "Auditory Awareness Intervention by Comparing three Programs. The study aimed at comparing three programs that aims to develop auditory awareness skills as the basis for acquiring the reading skill. The sample of study consisted of 54 students with reading and linguistic difficulties. A program based on activities for the development of auditory awareness and linguistic skills was applied. The sample of the study comprised 20 students, 17 males and 3 females who received training at the computer laboratory provided with headphones and the program was in the form of compact discs in the form of interactive games consisting acoustic sounds. The sample involved 18 students, 16 males and 2 females. This program does not depend on computer and it provides activities through the teacher. The program continued for 20 days in the classroom at the range of 5 hours a day of which 3 hours for training separated by intervals and the following tools of measurement were used:

- Auditory survey: where an auditory measurement was conducted for all students by auditory measurement specialist.

- Auditory awareness: where two sub-tests were used to test the auditory awareness which include sounds mixing test and voices cutting test. Results of the study indicated that Earobics and Lips programs are more effective than FFW program in improving auditory awareness. The results also indicated inexistence of impact of the three programs on language and reading.

Leafstedt et al. (2004) conducted a study aiming to investigate the effectiveness of a comprehensive training program on awareness and phonological perception in English language for Spanish speaking kindergarten students. The sample of the study consisted of 60 children divided into two equal groups in number one of which was experimental and the other controlling. The experimental group was also divided into three sub-groups according to the level of linguistic performance of the child (high – medium – low) without occurrence of any difference in the procedures followed. Execution of this program took three hundred minutes (five hours) and results showed occurrence of development in reading of words by children who received standard program compared with their fellow students in the controlling group who did not receive training on this program and were satisfied with the normal program provided by the kindergarten. There were also significant

differences between the children of the experimental group in the linguistic performance as per the level of their previous linguistic performance in favor of the students with the level of highest performance.

Hogan et al. (2005) conducted a study aimed at investigating the effectiveness of evaluating acoustic or auditory awareness in predicting the reading skill as the researcher and his team tested the auditory awareness skill and identified the letters at the kindergarten level, and then tested the auditory awareness skill and decoded the letter and read the word whether of or without meaning. This test was implemented at the second grade and then the fourth grade.

The sample of the study consisted of 570 children in this longitudinal study of reading and linguistic disorders. Some results showed the ability of the auditory awareness skill to predict reading at the second grade but lost the ability to predict the reading skill at the fourth grade.

- Cherry & Kruger (1983) investigated the selective auditory attention skills of learning-disabled (LD) children as compared with the performance of normal achievers aged 7–9 yrs. The task involved students pointing to the appropriate picture of a monosyllabic word presented audibly. The task

was always presented first in quiet and then under 3 noise (distractor) conditions: white noise (nonlinguistic), backward speech (linguistic no semantic), and forward speech (semantic). The performance of the LD students was affected more than the performance of normal achievers under all distractor conditions, with the greatest difference found when the distractor was semantic. The performance of 8-yr-olds was significantly better than 7-yr-olds on these listening tasks. These findings suggest that LD children may be differentiated from average achievers using a selective auditory attention task with a semantic distractor.

- Dietrich (1994) conducted a study that examined the reading profiles of adult poor readers at a community college and investigated the effectiveness of auditory perception training in the reading ability of these adults. Subjects, 30 students from varied ethnic backgrounds attending the Community College of Rhode Island who were registered for a reading and study skills course, were placed into two equal sized groups based on the confines of the students' schedules and randomly assigned to one of two instructional conditions: a control group using a traditional metacognitive approach and an experimental group using a phonological skills approach based on the "Auditory Discrimination in Depth Program." Pre- and post-test results from a variety of measures

were compared. The final subject group used for analysis consisted of 21 students. Results indicated that 1. Subjects continued to be plagued by deficiencies in phonological processing and word attack skills; 2. Knowledge of vocabulary was low; 3. Subjects' reading comprehension scores were below the tenth percentile for students at the end of twelfth grade; 4. Spelling was poor; however, 5. The experimental group made significant improvement on phonological tasks. Findings suggest that phonological skills do appear to be important to the reading process and that it is possible to teach adults phonological skills. Follow-up research is called for, and a longitudinal study would be helpful. Three tables and one figure are included.

### **1.4.3 Comment on previous studies:**

- Results of most studies have shown that there is a close relationship between students' auditory awareness skill and academic achievement.
  
- Most Arab studies have given due concern to the development of perception and attention skills and memory of students with learning difficulties. Most studies have emphasized the importance of developing auditory perception skills due to their close association with the ability to learn academic skills.

- Most studies have adopted the experimental method and semi-experimental method for both the experimental and controlling groups.
- Various studies have relied on auditory methods and activities to address deficiencies in academic skills.
- The current study agrees with the previous studies in discussing one of the skills suffered by students with learning difficulties as to the deficiency in the auditory awareness skill which contributes to the alleviation of their suffering from reading difficulties.
- The current study has benefited from the previous studies in the preparation of the study tools as well as the theoretical dimension which contributed to the enrichment of the study.
- This study differs from the previous studies by its holistic approach of the subject matter as the previous studies were limited to diagnosis, while the current study proceeds to establish a program which has been of a clear effect on the improvement of auditory perception skills of students with learning difficulties.



## **Chapter II**

### **Method and procedures**

## **2. Method and procedures**

This chapter describes the population and sample of the study, as well as the method through which the sample of the study has been selected, the way of preparing study tools, particularly the training program which develops auditory perception skills for students with learning difficulties, design of the study and statistical processing.

### **2.1 Study approach:**

The study uses the comparative descriptive approach through identifying auditory perception skills for students with learning difficulties in resource rooms and the nature of differences of such skills for the sample according to the gender and age of the student.

### **2.2 Study population**

The population of the study consists of students with learning difficulties from the second, third and fourth grades whose ages range between 7-9 years old, and those enrolled in the resource rooms affiliated to the Jordanian Ministry of Education in Irbid Province amounting to 120 male and female students for the school year 2013- 2014.

### 2.3 Sample of the study

The sample of the study consists of 120 male and female students from the basic second, third and fourth grades enrolled in the resource rooms at Asma Bint Umays School in Irbid Province divided into two experimental and controlling groups. Each group is separated from the other to ensure non-effect on the execution of the program so that the individuals of the experimental group do not mix up with the individuals of the controlling group to guarantee that the effect of training or treatment does not transfer to the individuals of the controlling group. The below table explains the distribution of the sample individuals.

**Table (1)**

**Distribution of the sample individuals**

	Categories	Number
Group	Experimental	60
	Control	60
Gender	Male	50
	Female	70
Age	7 years	38
	8 years	40
	9 years	42

## 2.4 Equivalence of groups: pretest auditory perception skills

In order to verify the equivalence of groups, arithmetic mean and standard deviation for advanced auditory perception skills have been extracted according to the variable of the group (experimental, controlling), and in order to explain statistical differences between the arithmetic means, "T" test has been used. The below table explains this.

Table (2)

The Pre (T) test,

The arithmetic means and standard deviation according to the effect of the variable of group on the auditory perception

	Group	N	Mean	Std. Deviation	T	Df	Sig. (2-tailed)
Pre perception	Experimental	60	27.33	2.297	1.077	118	.283
	Control	60	26.60	4.745			
Pre analysis	Experimental	60	.37	.974	-.942	118	.348
	Control	60	.53	.965			
Pre memory	experimental	60	15.02	5.261	.791	118	.431
	Control	60	14.37	3.584			

	Group	N	Mean	Std. Deviation	T	Df	Sig. (2-tailed)
Pre achievement	Experimental	60	8.20	6.711	-1.439	118	.153
	Control	60	10.13	7.950			
Total score	Experimental	60	50.92	10.255	-.340	118	.734
	Control	60	51.63	12.692			

It appears from the above mentioned table that there are no differences of statistical significance ( $\alpha \leq 0.05$ ) attributed to the group variable in all sub-skills and in the overall degree. This result indicates the equivalence of groups.

## **2.5 The basis on which students with learning difficulties are diagnosed**

The researcher has selected the sample individuals from students with learning difficulties who are enrolled in the resource rooms. They have been previously classified according to measures executed by the Ministry of Education. These measures can be summarized as follows:

### **2.5.1 Implementation of diagnostic tests prepared and approved by the Ministry of Education which include:**

- Diagnostic test in Arabic language which consists of 23 questions to measure the following skills: reading, writing and Arabic grammar. Failure to answer a certain question determines the skills in which a student faces difficulties.
- Diagnostic test in Mathematics which consists of 47 paragraphs to measure the following skills: multiplication of the number ten, a hundred, thousand, and multiplication of a number consisting of one number by a number consisting of three numbers, long division without excess, writing of equivalent fractions, drawing of a rectangle and a square, transferring of units of length and reading time. Failure to answer a certain question determines the skills in which a student faces difficulties.

### **2.5.2 Methods and techniques of descriptive analysis**

Methods and techniques of descriptive analysis include methods and techniques such as observation, interview, case study and different achievement tests.

After implementation of these tests and diagnosing skills and abilities of students by the teachers of resource rooms, student will be referred to resource rooms after obtaining the

written approval of the parent in order that the teacher of the learning resource rooms determines the points of weakness and strength of the students, as well as identifying the scope of difficulty, and then building the individual educational program and the individual educational plan as well as designing a program which includes a number of lessons necessary for students during the week.

## **2.6 Study tools**

### **2.6.1 The training program**

The program was is called: A Training Program for the Development of Auditory Aerception Skills for Students with Learning Difficulties. This programs aims at developing auditory perception skills for students with learning difficulties who are enrolled in the government resource rooms and some centers of special needs in Jordan from the second grade to the fourth grade, and training them on the use of some strategies which are frequently used in the educational literature due to their effect and effectiveness in the improvement of learning process, and involving teachers of resource rooms in the implementation of this program for the purpose of acquiring them enough experience in the improvement and development of auditory perception skills for students of learning difficulties.

- **General objective of the program:** the general objective of the program is specified and realized in the development of auditory perception skills for students with learning difficulties of the basic second, third and fourth grades.

- **Sub-goals:**

The sub-goals enable students to do the following:

- Distinguishing between different and similar sounds.
- Differentiating between similar and different words.
- Distinguishing between sounds of things available in the student's environment.
- Audibly identifying the spoken words if he hears part of same.
- Linking between the sounds of things available in his environment.
- Imitating the sounds of things available in his environment.
- Audibly analyzing a number of words into their letters.
- Retrieving from memory chains of Arabic letters.
- Retrieving from memory series of Arabic sections.
- Remembering series of words.



- Audibly remembering a number of instructions.
- Remembering useful meaningful sentences.
- Conducting a physical activity after hearing a number of verbal instructions.
- Repeating events of a story he heard.
- **Theoretical basis of the training program:**

Some specialists in the field of learning difficulties adopted the explanation of cognitive psychologists of learning difficulties as a number of studies were conducted to test the cognitive model in the diagnosis and treatment of failure of students with learning difficulties. These studies proved – especially those adopting the cognitive model- the effectiveness of remedial introductions derived from the data of the cognitive model in treating learning difficulties.

Bryan & Bryan (1986) point out that a number of students with learning difficulties, if provided with programs containing cognitive activities and strategies for attention training, auditory and visual perception, they show remarkable improvement in their academic skills, as those students suffer from problems in perception and such problems should be corrected by using suitable programs.

It appears from the above mentioned that learning difficulties emerge as a result of failure in keeping, processing, storing, employing and using information, or failure in developing appropriate strategies which are accompanied by weakness of efficiency of cognitive processes, therefore, the defect suffered by students with learning difficulties is a defect of the used strategy and not a defect of ability and mental potentialities.

Swanson explains that failure in the cognitive processes accompanied by using of ineffective strategies leads to the failure of the learning process. Children with learning difficulties suffer from inability to move from strategy to another, i. e., they fail in the inappropriate strategies. Al Zayat (2003).

– **Methods on which the training program focused:**

- **Giving instructions:** this includes providing the trainee with information on how to execute the skill as such information is provided to the trainee after the execution of the skill as per the instructions until such a skill is mastered by the trainee.

- **Modeling:** the teacher performs the task and executes its steps in front of the student explaining to students that the skill can be trained on easily. This strategy comes when

student is not able to learn the skill according by instructions and feedback.

- **Behavioral rehearsal:** the teacher asks the student to repeat the training until the performance of the student reaches the required mastering standard. Student can also be trained on models similar to models he was trained on.

- **Reinforcement:** it is of the most prominent strategies used in training as the teacher reinforces student when he masters the required skill. Reinforcements may be material or moral as the correct students' responses will be reinforced through continuous reinforcement, material and symbolic rewards in order to increase students' motives, and then the researcher guarantees that students continue to attend training sessions. Continuous and intermittent reinforcements have been mixed up so that reinforcement is continuous at the beginning and intermittent as soon as the response required to be learned is stable in order to maintain continuation of the behavior.

- **Homework assignments:** it is an important part of the program as students do homework through application of what they learned during training sessions.

- **Program dimensions:**

This program consists of forty three main paragraphs distributed into the following main dimensions:

**The first dimension: auditory discrimination:**

Auditory discrimination means the ability of the individual to discriminate between different sounds included in the speech, and discriminating between similar letters in pronunciation (Salem et al. 2003).

Auditory discrimination is considered necessary for learning building phonemes of spoken language. Failure in discriminating between similar letters or between sections and words causes a difficulty in understanding the spoken language, as well as self-expression, as children who suffer from problems of auditory discrimination often have difficulties in learning to read and spell in an acoustic manner (Kirk & Kalphent, 1988).

This dimension consists of eleven paragraphs.

**General objective: improve auditory discrimination skills.**

- **Activity 1:** Behavioral objective: upon request, the student should be able to discriminate with 80% of precision, between a group of words some of which are similar and others are different.

		Different	Similar
1-	kān – kān		
2-	mawz – jawz		
3-	jāmy' - jāmyd		
4-	rāsym – qāsym		
5-	zayt – bayt		
6-	bāṣ - bāṣ		
7-	kharūf – kharūb		
8-	rā'yd - qā'yd		
9-	fīn - fīn		
10-	thawb – thawr		
11-	qyṭah - baṭah		
12-	kalb – qalb		
13-	la'yb - ta'yb		
14-	ṣayf – sayf		
15-	naḥlah – nakhlah		
16-	bayt – bayt		

17-	sūr - ṣūr		
18-	ḥadyqah- ḥadyqah		
19-	ḍal - ḏal		
20-	safir - ṣafir		
21-	ṣakhr - ṣakhr		
22-	shawk – shawk		
23-	jafā – jathā		
24-	fās – fāz		
25-	hadā –hadhā		
26-	hadaf – hataf		
27-	rīsh – rīsh		
28-	jaras - ḥaras		
29-	fās – rās		
30-	qāl – māl		
Student's score:		Highest score: 30	

– **Tools (required material):**

- Cassette
- Cassette player
- Cards with similar and different words written on them like: (jāmy' / jāmyd), (can/ can)
  - **Duration of the activity:** (40) minutes
  - **Procedures:**
    - The teacher prepares the cards with the words written on them
    - The teachers requires that the students listen carefully to him
    - The teacher plays the cassette at a medium volume
    - The teacher asks the students to discriminate between the words by saying whether they are similar or different
    - The teacher repeats the activity till the students get to be up to the standard of precision.
    - The teacher reinforces the students who do well.
    - The teacher repeats the training if the student does not get to the standard precision

- **Activity 2:**
  - Behavioral objective: upon request, the student should be able to discriminate with 80% of precision, between a group of different sounds (phone tone, doorbell, whistle, car engine, bird sound, etc.)
  
- **Tools (required material):**
  - **Cassette**
  - Cassette player
  
- **Duration: (40) minutes**
  
- **Procedures:**
  - The teacher prepares the cassette with the teaching material
  - The teachers requires that the students listen carefully to the recording
  - The teacher plays the cassette at a medium volume
  - The teacher asks the students to recognize the different sounds
  - The teacher asks the students to discriminate between the different sounds



- The teacher repeats the activity till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision
- **Activity 3:** Behavioral objective: upon request, the student should be able to discriminate with 80% of precision, between high and low sounds (a sound of a plane in the sky , a sound of a car in the street)
- **Tools (required material):**
  - Cassette
  - Cassette player
- **Duration: (40) minutes**
- **Procedures:**
  - The teacher prepares the cassette with the teaching material
  - The teacher removes all the distracters from the classroom.
  - The teacher requires that the students listen carefully to the recording with their eyes closed.

- The teacher asks the students to listen to the surrounding sounds and discriminate the high from the low sounds.
- The teacher plays the cassette at a medium volume
- The teacher asks the students to recognize the different sounds
- The teacher asks the students to discriminate between the different sounds
- The teacher repeats the activity till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision.
- **Activity 4:** Behavioral objective: upon request, the student should be able to discriminate with 80% of precision, between far and close sounds.
- **Tools (required material):**
  - A bill, a whistle and a phone.
- **Duration: (40) minutes**

– **Procedures:**

- The teacher removes all the distracters from the class room
- The teacher asks the student to close their eyes and listen to him carefully
- The teacher produces sounds from a close distance and a far distance
- The teacher asks the students to discriminate between the far sounds and the close sounds.
- The teacher plays different sounds from outside the class room.
- The teacher asks the students to discriminate the different sounds from outside the class room
- The teacher repeats the activity till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision

- **Activity 5:** Behavioral objective: upon request, the student should be able to match with 80% of precision between the sound and the picture that represent it.
- **Tools (required material):**
  - Cassette player
  - Cassette with sounds of animals, birds and different sounds of vehicles.
  - Pictures of the animals, birds and vehicles.
- **Duration: (40) minutes**
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cassette with the teaching material
  - The teachers requires that the students listen carefully to the recording
  - The teacher plays the cassette at a medium volume and with intervals of 10 seconds between the sounds
  - The teacher asks the students to recognize the sounds

- The teacher asks the students to match between the sounds and the pictures.
- The teacher repeats the activity till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision.
- **Activity 6:** Behavioral objective: upon request, the student should be able to respond to different sound by the corresponding moving activity, i.e. whistle = stand up, bell sound = sit down, etc.
- **Tools (required material):**
  - Whistle, bell, phone.
- **Duration: (40) minutes**
- **Procedures:**
  - The teacher accompanies the students to the school yard
  - The teacher prepares the teaching tools (whistle, bell, and phone)

- The teachers requires that the students listen carefully to the sounds
  - The teacher gives instructions to the students to sit down when they hear the sound of the whistle, stand up when they hear the sound of the bill, and to lie on their backs when they hear the sound of the phone ring.
  - The teacher makes the different sounds and observes the students' response to the sounds.
  - The teacher repeats the activity till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision
- 
- **Activity 7:** Behavioral objective: upon request, the student should be able to match with 80% of precision between the sound and the model that represent it.
  - **Tools (required material):**
    - Cassette player
    - Cassette with sounds of animals.

- Models of the animals whose sounds are recorded on the cassette for the activity.
  
- **Duration: (40) minutes**
  
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cassette with the teaching material
  - The teacher shows the models and pictures of the animals to the students.
  - The teachers requires that the students listen carefully to the recording
  - The teacher plays the cassette at a medium volume and with intervals of 10 seconds between the sounds
  - The teacher asks the students to match between the sound they hear and the model of the animal that produces the same sound.
  - The teacher repeats the activity till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.

- The teacher repeats the training if the student does not get to the standard precision
- **Activity 8:** Behavioral objective: upon request, the student should be able to discriminate with 80% of precision between two groups of sounds, the first group includes pairs of similar sounds (s, s) and the second group includes pairs of different sounds (k, g).
- **Tools (required material):**
  - Cards with pairs of similar and different sounds written on them.
- **Duration: (40) minutes**
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cards of the letters.
  - The teacher explains the activity by giving examples.
  - The teacher requires that the students listen carefully to him while he pronounces the letters.
  - The teacher pronounces the letters clearly and with intervals of 5 seconds between the sounds



- The teacher asks the students to discriminate between the similar and the different sounds.
  - The teacher repeats the activity till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision
- **Activity 9:** Behavioral objective: upon request, the student should be able to discriminate with 80% of precision between two groups of syllables, the first group includes pairs of similar syllables (sa,sa)and the second group includes pairs of different syllables (su,si) .
  - **Tools (required material):**
    - Cards with pairs of similar and different syllables written on them.
  - **Duration: (40) minutes**
  - **Procedures:**
    - The teacher removes all the distracters from the classroom.

- The teacher prepares the cards of the syllables.
  - The teacher explains the activity by giving examples.
  - The teacher requires that the students listen carefully to him while he pronounces the syllables.
  - The teacher pronounces the syllables clearly and with intervals of 10 seconds between the sounds
  - The teacher asks the students to discriminate between the similar and the different syllables.
  - The teacher repeats the activity till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision
- **Activity 10:** Behavioral objective. Upon request, the student should be able to discriminate with 80% of precision between two groups of words, the first group includes pairs of similar words (sat, sat) and the second group includes pairs of different sounds (eat, ate).

- **Tools (required material):**
  - Cards with pairs of similar and different words written on them.
  
- **Duration: (40) minutes**
  
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cards of the words.
  - The teacher explains the activity by giving examples.
  - The teacher requires that the students listen carefully to him while he pronounces the words.
  - The teacher pronounces the words clearly and with intervals of 5 seconds between the words
  - The teacher asks the students to discriminate between the similar and the different words.
  - The teacher repeats the activity till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.

- The teacher repeats the training if the student does not get to the standard precision
- **Activity 11:** Behavioral objective: upon request, the student should be able to recognize the common sound among a group of words that he listens to from the cassette player, i.e. The S sound in: (pass, side, decide), with 80% of precision.
- **Tools (required material):**
  - Cassette player
  - Cassette with the training material recorded on it.
- **Duration: (40) minutes**
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cassette with the training material.
  - The teacher explains the activity by giving examples.
  - The teacher requires that the students listen carefully to him while he pronounces the words.

- The teacher pronounces the words clearly with intervals of 5 seconds between the words.
- The teacher asks the students to discriminate between the similar and the different words.
- The teacher repeats the activity till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision.

### **The second dimension: auditory analysis:**

Auditory analysis skill refers to the analysis of spoken word into single sounds from which the word is formed. This skill is considered one of the necessary skills for learning to read and dictate, as it teaches the child how to discriminate between alphabets and how to identify them as independent forms, and how to link between them and the acoustic patterns related to them. If the child's auditory skills do not enable him to analyze the spoken word into single sounds from which it is formed, the possibilities of the child to be able to understand the concept that each letter has its own sound weakens (Al Waqfi & Al Keylani, 1996).

This dimension consists of seven paragraphs.

## General objective: developing the auditory analysis skills

- **Activity 1:** Behavioral objective: the student should be able to acoustically analyze with 80% of precision, a group of words into their composing letters right after he listens to them.

level	Word	Score
1 <sup>st</sup>	Qalam	3
	Nām	3
2 <sup>nd</sup>	Sāhyr	4
	'arnab	4
3 <sup>rd</sup>	Jarāfh	5
	Jawāfh	5
4 <sup>th</sup>	'yḥtybās	6
	Bwrtwqāl	6
5 <sup>th</sup>	'ysmā'īl	7
	al'amīrah	7
Student's score:		Highest score: 50

- **Tools (required material):**
  - Cards with words written on them like: get, read, clean, etc.
  
- **Duration of the activity:** (40) minutes
  
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cards with the words written on them.
  - The teacher requires that the students listen carefully to him
  - The teacher reads the words at a medium volume starting with words of 3 letters up to words of 7 letters.
  - The teacher asks the students to analyze the words into their composing letters after they listen to each word.
  - The teacher repeats the activities with intervals of 5 seconds between different sounds till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.

- The teacher repeats the training if the student does not get to the standard precision
- **Activity 2:** Behavioral objective: the student should be able to ambled letters right after he listens to it, with 80% of precision.

level	Letter	Word	Score
1 <sup>st</sup>	jīm -lām - sīn		3
	nūn - jīm - ḥā'		3
2 <sup>nd</sup>	jīm - mīm - yā' - lām		4
	hamzah - rā' - nūn - bā'		4
3 <sup>rd</sup>	fā' - rā' - alif - shīn -		5
	tā' marbūṭah		5
	tā' - fā' - alif - ḥā' -		
	tā' marbūṭah		
4 <sup>th</sup>	hamzah - nūn - alif -		6
	shīn - yā' - dāl		6
	bā' - rā' - tā' - qāf - alif -		
	lām		
Student's score:		Highest score: 36	



- **Tools (required material):**
  - Cards with letters written on them, etc.
- **Duration of the activity:** (40) minutes
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cards with the letters written on them.
  - The teacher requires that the students listen carefully to him
  - The teacher reads the letters at a medium volume starting with a group of 3 letters up to a group of 6 letters.
  - The teacher asks the students to form words of the letters after they listen to them.
  - The teacher repeats the activities with intervals of 5 seconds between different groups of letters till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.

- The teacher repeats the training if the students do not get to the standard precision.
- **Activity 3:** Behavioral objective: the student should be able to read with 80% of precision, a word that is missing some letters.

Word	Sound deleted	Remaining
1- 'smā'	mā'	
2- ṭāwylah	ṭā	
3 –wyjdān	Ān	
4 -ḥadyqah	ḥad	
5- bwrtwqāl	Bwr	
6- tadmur	D	
7 - 'yslām	'ys	
8 –sāmyr	Sā	
9 -ḥāsūb	ḥā	
10 - ṭāryq	ṭā	
11 – jawdat	At	

12 - alḥyṣn	N	
13 – tadmwr	D	
14 - ‘ālym	L	
Student's score:	Highest score: 28	

– **Tools (required material):**

- Cards with words written on them like: (break, brea).

– **Duration of the activity:** (40) minutes

– **Procedures:**

- The teacher removes all the distracters from the classroom.
- The teacher prepares the cards with the words written on them.
- The teacher requires that the students listen carefully to him
- The teacher reads the complete word three times
- The teacher asks the student to read the word three times.

- The teacher reads the word after deleting part of it three times.
- The teacher asks the student to read the word that is missing some letters.
- The teacher repeats the activities till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision.
  - **Activity 4:** Behavioral objective: the student should be able to complete with 80% of precision, a word that is missing some letters after listening to it.

Word	Sound deleted	Remaining
1 -jalas	Jal	
2 - ḥasb	ḥas	
3 - 'amīrah	Amī	
4 - baqarah	Baq	
5 - 'alam	'al	
6 -bwrtwqāl	Bwr	

7 -ḥwsām	ḥw	
8 – ghālyb	Ghā	
9 -'arqām	'ar	
10 -ṭīmān	ṭī	
11 - ṭwlāb	ṭwlā	
12 – jamāl	Jam	
13 - tha'lab	tha'	
14 –kytāb	Kytā	
Student's score:	Highest score: 28	

– **Tools (required material):**

- Cassette recorder, Cassette with the complete words recorded on it, Cards with incomplete words written on them like (barb....., hund....., bro.....)

- **Duration of the activity:** (40) minutes

– **Procedures:**

- The teacher removes all the distracters from the classroom.

- The teacher prepares the cards with the incomplete words written on them and the cassette recorder.
  - The teacher requires that the students listen carefully to recording
  - The teacher plays the recording at a medium volume.
  - The teacher asks the student to complete the words as they listen to them.
  - The teacher repeats the activities till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision.
- **Activity 5:** Behavioral objective: the student should be able to assemble with 80% of precision a group of letters that form a word right after he listens to the word.

Letters (transcription)	Word
'ayn - ṣād - fā' -wāw -rā'	

bā' -qāf - rā' - tā' marbūṭah	
Shīn - bā' - alif - kāf	
'ayn -mīm - alif - rā' - tā' marbūṭah	
ḥā' - alif - sīn - wāw - bā'	
alif -lām - mīm - 'ayn - lām - mīm	
alif -lām - ṭā' - alif - lām - bā'	
ḥā' - qāf - yā' - bā' - - tā' marbūṭah	
ṭā' - bā' - yā'- bā'	
Jīm - mīm - lām	
Student's score:	Highest score: 25

- **Tools (required material):**

- Cards with groups of letters that form words written on them like: (w, r, i, t, e./ h, e, l, p)

- **Duration of the activity:** (40) minutes

– **Procedures:**

- The teacher removes all the distracters from the classroom.
- The teacher prepares the cards with the groups of letters written on them.
- The teacher requires that the students listen carefully to him
- The teacher reads the groups of letters
- The teacher asks the student to form a word of each group of letters after they listen to them.
- The teacher repeats the activities till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision.
- The assessment of all the activities is built upon an 80% of precision and correctness of the activity.

**The Third dimension: Auditory memory:**

Auditory memory refers to the ability to store and retrieve stimuli or information which we hear. Children with learning



difficulties suffer from difficulty in storing and retrieving stimuli or information which they hear and they lose the ability to follow u verbal dialogue and conversation, and to obey verbal instructions (Al Rashdan, 2004).

Auditory memory is closely associated with the linguistic aspect, and failure in the same negatively affects the receptive and expressive language, and that an individual suffering from auditory memory difficulties cannot have the verbal ability appropriate to his age, and sometimes an individual is subject to failure and depression as a result (Al Dahir, 2004).

Problems related to verbal and expressive language associated with inability of auditory memory, are sometimes noticed in children who increase their use of signal, gesture and silent acting which affect communication (Kirk & Kalphent, 1988).

This dimension consists of seven paragraphs.

### **General objective: developing the auditory memory**

- **Activity 1:** Behavioral objective: the student should be able to remember with 80% of precision, a group of sounds right after he listens to them.

- **Tools (required material):**
  - Cassette with a group of sounds recorded on it (siren, barking dog, clapping, sound of a cat, etc),Cassette player
- **Duration of the activity: (40) minutes**
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cassette with the sounds recorded on it
  - The teachers requires that the students listen carefully to the recording
  - The teacher plays the cassette at a medium volume
  - The teacher asks the students to remember the sounds they listened to.
  - The teacher asks the students about the sounds to make sure how well they remember the sounds
  - The teacher repeats the activities with intervals of 5 seconds between different sounds till the students get to be up to the standard of precision.

- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision
- **Activity 2:** Behavioral objective: the student should be able to imitate with 80% of precision, a group of sounds right after he listens to them.
- **Tools (required material):**
  - Cassette with a group of sounds recorded on it (siren, sound of a rooster, barking dog, clapping, sound of a cat, etc),Cassette player
- **Duration of the activity: (40) minutes**
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cassette with the sounds recorded on it
  - The teachers requires that the students listen carefully to the recording
  - The teacher plays the cassette at a medium volume

- The teacher asks the students to imitate the sounds they listened to.
  - The teacher repeats the activities with intervals of 5 seconds between different sounds till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision.
- **Activity 3:** Behavioral objective: the student should be able to remember with 80% of precision, a group of letters right after he listens to them.

Level	Letters	Score
1 <sup>st</sup>	Sīn -mīm	2
	rā' - yā'	2
2 <sup>nd</sup>	fā' - ḥā'- shīn	3
	kāf - bā' - hā'	3
3 <sup>rd</sup>	'ayn – dāl - tā' - ḥā'	4
	zayn/zāy – mīm - ḍād - khā'	4
4 <sup>th</sup>	kāf - ṭā' - bā' - jīm – qāf	5

	dāl - ‘ayn – wāw – shīn – ghayn	5
5 <sup>th</sup>	alif – lām – jīm – sīn - tā’ - ḍād	6
	rā’ - nūn - yā’- thā’ - ṭā’ - mīm	6
Student's score:		Highest score: 40

– **Tools (required material):**

- Cards with different groups of letters written on them  
(s, b) (n, s, f) (d, b, v, s) (h, f, r, j, d)

– **Duration of the activity:** (40) minutes

– **Procedures:**

- The teacher removes all the distracters from the classroom.
- The teacher prepares the cards with the letters written on them.
- The teacher requires that the students listen carefully to him.
- The teacher reads the groups of letters starting with a group of two letters and ending with a group of six letters.

- The teacher asks the students to remember and say the letters they listened to in order.
  - The teacher repeats the activities with intervals of 5 seconds between different letters till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision.
- **Activity 4:** Behavioral objective: the student should be able to remember with 80% of precision, a group of syllables right after he listens to them.

Syllables	
mā - 'ū - zū - sā - qā - thū - rū - bū - ṭū - ḏā - nā - rī - fī - ḍū - dā - kū - tā - hū - lā - sī - jū - ghī - ṣā - yā - fā	
Student's score:	Highest score: 28

- **Tools (required material):**
  - Cards with different groups of letters written on them  
(sa, bu) (no, si, fo) (do, ba, vi, su) (hi, fu, ro, ju, di)
- **Duration of the activity:** (40) minutes
- **Procedures:**
  - The teacher removes all the distracters from the classroom.
  - The teacher prepares the cards with the syllables written on them.
  - The teacher requires that the students listen carefully to him.
  - The teacher reads the groups of syllables starting with a group of two syllables and ending with a group of five syllables.
  - The teacher asks the students to remember and say the syllables they listened to in order.
  - The teacher repeats the activities with intervals of 5 seconds between different syllables till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.

- The teacher repeats the training if the student does not get to the standard precision.
- **Activity 5:** Behavioral objective: the student should be able to remember with 80% of precision, a group of words right after he listens to them.

level	Word	Score
1 <sup>st</sup>	Ward – bard	2
	'āmyr – jalas	2
	'ab – qadam	2
2 <sup>nd</sup>	zayt - bayḡ - - qālm	3
	'as'yilah – daftar - ṣabī	3
	tūt -ṭā'yrah - ghwrfaq	3
3 <sup>rd</sup>	jadwal - ṣaf – hyrah - ṭabīb	4
	baḥr - ṭīn - ṣakhyr - 'anf	4
	'āmal – dīk – kwrah - thaūb	4
4 <sup>th</sup>	naml – maūz –bwrj – qalb -khātym	5
	sāmī - qamḥ -ṣārūkh – baīt - laīl	5



	kalb -ṣūf – wajh – dār - ghazāl	5
Student's score:		Highest score: 60

– **Tools (required material):**

- Cards with different groups of letters written on them  
(site, book) (north, egg, class) (door, bar, nose, sun)  
(sheep, fun, roof, deer, ant)

– **Duration of the activity:** (40) minutes

– **Procedures:**

- The teacher removes all the distracters from the classroom.
- The teacher prepares the cards with the words written on them.
- The teacher requires that the students listen carefully to him.
- The teacher reads the groups of words starting with a group of two words and ending with a group of five words.
- The teacher asks the students to remember and say the words they listened to in order.

- The teacher repeats the activities with intervals of 5 seconds between different words till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision.
- **Activity 6:** Behavioral objective: the student should be able to remember with 80% of precision, a group of sentences right after he listens to them.

Level	Sentence	Score
1 <sup>st</sup>	amman 'āṣymat al'wrdwn .	3
	'wḥwbw Waṭany Al'wrdwn .	3
2 <sup>nd</sup>	'wnṣytw 'nda samā' alqwrān .	4
	aljanatw taḥta 'aqdāmy al'wmmahāt .	4
3 <sup>rd</sup>	shāhadat bwshrá al'wlād fī alsāḥah .	5
	albtrā'w myn 'aja'yb aldwnyā alsab' .	5
4 <sup>th</sup>	yaqūmw alṭwlābw byḥal alwajybat wa al'anshyṭatw almadrasīyah.	6

	ṣāda alṣayādw samakatan kabīratan myn albaḥr .	6
5 <sup>th</sup>	ywḥafyẓw ryjal al'amyn al'ām 'alá alwaṭan . fataḥa almwslymūna makata almwkaramataa fī alsanaty althamynah .	7 7
Student's score:		Highest score: 50

- **Tools (required material):**

- Cards with different groups of sentences written on them like: (original sentences are in Arabic)
  - Happy people
  - The clever male
  - Ali played soccer yesterday
  - The man was reading a book.

- **Duration of the activity:** (40) minutes

- **Procedures:**

- The teacher removes all the distracters from the classroom.

- The teacher prepares the cards with the sentences written on them.
- The teacher requires that the students listen carefully to him.
- The teacher reads the groups of sentences starting with a sentence of two words and ending with a sentence of five words.
- The teacher asks the students to remember and say the sentences they listened to in order.
- The teacher repeats the activities till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision.
- **Activity 7:** Behavioral objective: the student should be able to narrate with 80% of precision, the events of a short story right after he listens to it.

alṭālybatw alnashīṭah

saḥar ṭālybatwn nashīṭah , tyḥāfyẓw ‘alá ṣyḥatyha jaīdn , wadhālyka bytanẓīm waqtyhā fahya tatanawalw wajbātw alṭa‘āmy fī ‘wqātyyn mwntaẓamah , twḥadydw sā‘āta aldyrasah , wa twmārys hywayatahā fī waqty alfaragh , fahya twḥybw alrasma wa alrīyaḍah , wa tanāmw bakyrān ḥatá tastayqyẓ nashīṭatan wa tatamata‘w byṣyḥatyn jaīdah .

Student's score:

Highest score: 25

- **Tools (required material):** Cards with different groups of short stories written on them like: (original stories are in Arabic)

Layla went to the market. She bought some papers, a pencil and colors to draw the flag of her country Jordan. She drew the flag of Jordan and colored it with the beautiful colors: black, red, green and white.

- **Duration of the activity:** (40) minutes
- **Procedures:**
  - The teacher removes all the distracters from the classroom.

- The teacher prepares the cards with the short stories written on them.
  - The teacher requires that the students listen carefully to him.
  - The teacher reads the stories.
  - The teacher asks the students to narrate the story after they listen to it.
  - The teacher repeats the activities till the students get to be up to the standard of precision.
  - The teacher reinforces the students who do well.
  - The teacher repeats the training if the student does not get to the standard precision.
- **Activity 6:** Behavioral objective: the student should be able to mention with 80% of precision, the common letter among a group of words right after he listens to them.

Level	Word	Score
1 <sup>st</sup>	qalam – qaws .	2

	daras – jalas .	2
2 <sup>nd</sup>	zaīt – fīn – tamr .	3
	'as'ylah - 'ab - 'arnab .	3
3 <sup>rd</sup>	jadwal – jabal – jawafah -	4
	lwjaīn .	4
	jaras -ṣārūkh – dār - rāmī .	
4 <sup>th</sup>	ward – mawz – lawz – jawz -	5
	hwdw'.	5
	kalb – layl – laban - balah -	
	safarjal ..	
Student's score:		Highest score:28

– **Tools (required material):**

- Cards with different groups of words written on them like: (original sentences are in Arabic), basic, standard ,table, bait, entrance.

– **Duration of the activity:** (40) minutes

– **Procedures:**

- The teacher removes all the distracters from the classroom.
- The teacher prepares the cards with the words written on them.
- The teacher requires that the students listen carefully to him.
- The teacher reads the groups of words starting with two words and ending with five words.
- The teacher asks the students to remember the common letter in each group of words.
- The teacher repeats the activities till the students get to be up to the standard of precision.
- The teacher reinforces the students who do well.
- The teacher repeats the training if the student does not get to the standard precision

**The fourth dimension: reading achievement:**

The researcher has reviewed the educational literature through her study of the Arabic and foreign references and browsing the internet, as well as studying the previous studies



associated with building a training program which aims at developing auditory perception skills and identifying the effect of their development on the improvement of reading achievement through gradual reading from a letter to a syllable to a word to a sentence and then to a fully integrated text having a meaning and significance. It consists of six questions.

The first question: the teacher asks the student to read five letters only each has a mark, the lowest mark is zero and the highest is five marks.

The second question: the teacher asks the student to read five sections only each of which has a mark section, the lowest mark is zero and the highest is five.

The third question: the teacher asks the student to read five words only each of which consisting of letters having a vowel in between. These words have meanings, the lowest mark is zero and the highest is five.

The fourth question: The teacher asks the student to read five words only each of which consisting of a number of letters, and these words have meanings, each word has two marks, the lowest is zero and the highest is ten.

The fifth question: The teacher asks the student to read five sentences only each of which consists of a number of meaningful words, each sentence has two marks, the lowest is zero and the highest is ten.

The sixth question: The teacher asks the student to read the text and trace mistakes, each mistake is half mark and the lowest mark is zero and the highest is ten.

– **Contents of the program:**

Due to the fact that the current program is concerned with treatment of failure in some cognitive processes (auditory perception), hence it does not rely on a predetermined curriculum content for the development of auditory perception skills for students with learning difficulties, but the training will be based on activities including a general content (letters, sections, words, images, shapes). The current program has also relied on vivid information and acoustic strategies which attract students' attention. The following has been taken into consideration in the current program:

- That the program should be suitable for students' levels along with taking care of the manner of presenting auditory and visual stimuli.

- Presenting and providing activities gradually from easy to difficult.
- Training activities focused on the development of auditory perception skills.
- The current program allows the teacher to use auditory stimuli, audio recordings and colored pictures in the presentation of activities.
- The current program adopts a system for reinforcement of students' responses by using material and moral reinforcement.
- A calendar system has been applied to the program.
- Program activities are applied by male and female teachers of resource rooms and individually or in small groups whose individuals' number ranges from 4 to 7 students.
- The current program applied a sample of students from the basic second and third grades from students enrolled in resource rooms in the schools of the Directorate of Education in Irbid Province.
- The current program depends on participation between the teacher and student.

– **Procedures of preparing the training program:**

The researcher prepared a training program for the development of auditory perception skills for students with learning difficulties after reviewing the previous educational literature associated with the subject matter of the study including:

Lerner (2003); Cusimano (2001); Pressman,fit.(1986); Cnerry& Kruger (1983); Al Saratawi & Al Saratawi (1988); Al Batiyana & others (2005); Al Waqfi &Al Keyalani, (1998); Al Zayat (1998) &Ashoor (2002).

The researcher, in preparing the training program, has been affected by what she has found of studies which suit the level of the targeted category in this study.

– **Justifications for building the program:**

A need has arisen to the provision of a training program for the development of auditory perception skills for students with learning difficulties at the basic stage to meet students' needs through training them on some methods which develop their auditory perception skills through providing a suitable content for the targeted age group, helping them in receiving and recalling the communication subject effectively, especially the communication processes which

are conducted during classroom learning. The program helps students in resource rooms to learn the analysis of spoken language to its partial acoustic components and then the forms in which such components are organized to form the compound acoustic pattern of the word. When the student achieves a level of effectiveness in learning to read, spell and dictate, he becomes more familiar with the sounds which form words and the sounds which represent letters.

– **Reliability of the content of the training program:**

The program has been presented to a number of arbitrators for the purpose of identifying the extent of the appropriateness of teaching methods, and the extent of the appropriateness of language drafting to the targeted age group from students with learning difficulties.

– **Procedures of applying the training program:**

Following the preparation and development of the training program in its final form, and selection of a school where resource rooms are available, and after students with learning difficulties are enrolled to a large extent, the following steps have been followed in the procedures of applying the training program:

- Approval of the principals of schools affiliated to the Ministry of Education has been obtained for the implementation of the program on students with learning difficulties in the resource rooms.
- The researcher visited schools where resource rooms are available to identify students with learning difficulties and the administrative and teaching staff, and to explain the objectives and justifications of the study, and the form of activities and training which will be provided to students.
- The researcher presented to the teachers who implemented the program, written evidence of training sessions of the program prepared by the researcher after being drafted in its final form.
- Students were distributed into two groups: the first experimental group including 60 male and female students to whom the training program was applied, and the second controlling group including 60 male and female students.
- The researcher supervised over training of students with learning difficulties, as the program application continued for around 4 months at the range of 2 sessions weekly and the duration of one session is forty minutes.

The first sessions of the preliminary program aimed at identifying the program, its objectives and cooperation between teachers and students and the timetable of the sessions. During the final session, the researcher applied (auditory perception) test on the two experimental and controlling groups.

- **Assessment:**

The program has been evaluated in the light of the objectives and basis on which the program relied, and the procedures of evaluation of the program include steps:

- Front end evaluation:

It aims at determining the preliminary level of the study sample by applying the auditory perception test before the execution of the program session.

Formative assessment:

It aims at evaluating and measuring the performance of students after the completion of each activity in order to identify the extent of development of the sample individuals and identify the extent of realization of the behavioral goals of the program until student reaches mastering point and then moves to the activity which follows, as evaluation of the students' performance used to take place after the

completion of teaching each objective separately to ensure the realization of the specified mastering level.

Final assessment:

It aims at measuring the effectiveness of the training program in treating and remedying auditory perception difficulties through repeating by the researcher of application of auditory perception test dimensionally and observation of differences between the experimental group and the controlling group.

- The role of the teacher: the role of the teacher is represented in the following:

- Avoiding attraction of student's attention through explaining the goal of each activity and modifying the physical environment through changing organization of the classroom, and changing the sensory channels used (auditory, visual and physical), use of movements, gestures, voice tones and signal by using hands, speaking in a low voice and then high voice, and avoiding distracting behaviors such as beating on the table by a pen.

- Giving instructions.
- Providing the student with feedback.
- Reinforcing student's behavior.



- Performing the task before the student through modeling of behavior.
- Explaining the strategies used for the development of remembering skills.
- Giving examples on each presented activity.
- Assigning student with homework and following them up.
- Follow up to identify the extent of the development of the student in mastering educational skills and evaluating them at first hand.
- Using means, methods and tools necessary for each activity.

The role of the student is represented in the following:

- Paying attention to the teacher during a teaching session.
- Executing and achieving the tasks required by the teacher in the classroom.
- Applying the learned strategies.
- Benefiting from feedback in improving his/her performance.

- Borrowing from the model (the teacher) in the application of skills and used strategies.
- Transferring the learned learning situations to other situations.
- Asking the teacher about any matter which is not understood.
- Interacting with the teacher during the educational situation.
- Doing homework.
- Regular attendance at program sessions.

– **Time for the execution of the program:**

The program is executed within the period from 1 October 2013 and 1 December 2013 approximately and the period from 15 February 2014 until 15 April 2014 during the school year 2013-2014.

Time has been allocated before the date of commencement of the program for introducing teachers to students and defining auditory perception skills development program, and explaining the role of the teacher and the role of the sample individuals in the program, stating the program objectives

and the timetable for sessions, their place and ensuring the necessity of commitment to the deadlines.

– **Design of the study and statistical processing:**

The current study is semi-experimental as its individuals have been intentionally selected. The sample has been distributed into two groups: the first group is experimental and the other is controlling selected from among students with learning difficulties from the basic second, third and fourth grades that are enrolled in the resource rooms in Irbid Province.

The experimental group has attended the training program which aimed at developing auditory perception skills, while the controlling group did not attend the training program.

This study aims at building a training program for the development of auditory perception skills for students with learning difficulties at the basic second, third and fourth grades.

Semi-experimental design has been used: design of equal groups of front end test and dimensional test.

To investigate the effectiveness of the program in the development of auditory perception skills for the sample individuals participating in the program, joint contrast analysis method approach (ANCOVA) has been used in order to

compare between the averages of students' marks on the front end and dimensional tests on the measurement of auditory perception for each experimental group whose individuals the training program has been applied to and the controlling group whose individuals did not attend the training program.

**- Teacher's Guide for the execution of the training program for the development of auditory perception for students with learning difficulties:**

This Guide that was given by the researcher to the teachers includes detailed individual educational plan for the development of auditory perception skills for students of the basic third, fourth and fifth grades with learning difficulties which is derived from the curricula of the same grades and prepared in the light of the teaching method which relies on the strategies of improving auditory perception skill and is gradual from easy to difficult, for the purpose of training students on their use in different educational situations.

To successfully execute these plans, please follow the following:

- Build a loving and intimate relationship with students.
- Attract the attention of students through the following:

Explaining the goal of each activity and modifying the physical environment through changing organization of the classroom through changing organization of the classroom, and changing the sensory channels used (auditory, visual and physical), use of movements, gestures, voice tones and signal by using hands, speaking in a low voice and then high voice, and avoiding distracting behaviors such as beating on the table by a pen.( Al Bili, Al Ammadi & Al Smadi 1998).

- Conduct front end evaluation to determine the current performance level.
- Explain instructions to students on how to execute the required skill.
- Bring materials and tools necessary to execute each educational assignment.
- Provide students with feedback.
- Reinforce student's material and moral behavior after the student performs the steps leading to mastering of the teaching task correctly.
- Perform the educational task by executing its steps before students.
- Assign one student to perform the educational task in front of his peers.

- Repeat the educational procedures for each objective until student reaches the mastering the predetermined standard.
- Follow up student's performance and correct his/her mistakes.
- Conducting formative evaluation for the purpose of identifying the progress of student in the performance of required skills and at the end of each dimension of the training program.
- Assign students to do homework for whatever they have learned during training sessions.
- Conduct the final assessment following completion of application of all sessions of the training program.

### **2.6.2 Auditory perception test**

It is a test prepared by Al Waqfi & Keyhani (1998) with support from the College of Princess Tharwat Al Hassan, Canadian International Development Agency (CIDA) and Community Colleges Foundation in collaboration with the Jordanian Ministry of Education.

This test aims at evaluating auditory perception skills for students with learning difficulties. Data of technicians for conducting the test have been collected from the Jordanian

children samples which covered the urban and rural areas in Jordan including age categories ranging between 7-16 years old male and female from students at the basic stages and have been used as they are. The tests enjoys acceptable degree of validity and reliability, in addition to the facts that the test has been under an exploratory study to explain the extent of its appropriateness to the targeted category, and also to ensure the clarity of instruction and appropriateness of paragraphs to the dimensions they belong to. The test consists of the following sub-tests explained in table No. (3).

Table (3)

Dimensions of the auditory perception test, number of paragraphs in each dimension and the highest degree:

Dimensions	Number of paragraphs	Highest score
Auditory perceptions	40	30
Auditory analysis	14	14
Capacity of the auditory memory (chains of words)	5	60
Reading achievement	6	45

– **Description of the test:**

The test measures an essential skill for children which auditory discrimination skill. It is a skill of developmental nature which

grows with age like other perceptual skills which grow with age. Auditory discrimination means accurate differentiation between speech sounds through comparing and balancing between their unique acoustic characteristics. Therefore, auditory discrimination is considered a prerequisite for effective learning and proper communication.

Auditory discrimination is something different from hearing acuity, as hearing acuity is limited to the description of the sensitivity of hearing sounds, while failure of auditory description can negatively affect fields in language and speech including understanding and proper pronunciation. From this point, auditory discrimination evaluation becomes of high importance as part which has its significance in the overall evaluation of children who suffer from serious problems in learning. The ability to discriminate sounds of language is considered a prerequisite in school learning especially at pre-school stage and at the first school grades.

- **Purposes of the test:**

The auditory discrimination test forms an easy application tool of evaluation. Its main purpose is to evaluate the ability of child to discriminate Arabic language sounds. Auditory discrimination is considered one of the important perceptual abilities associated with the development of language and



pronunciation of children. The test has been developed through the use of samples of Jordanian children whose ages range around sixteen. The diagnostic importance appears clearly with younger children especially at the ages in which basic language skills are formed. The purposes of the test can be summarized as follows:

- Detection of any difficulties in auditory discrimination and the pronunciation difficulties which can result from them for children who are transferred to psychiatric clinics, centers and learning resource rooms.
- Investigating developmental aspects in acquiring language in studies and research associated with linguistic development of children.
- Provision of basic diagnostic information from specialists benefit, particularly teachers who design remedial programs for language and speech difficulties for children.

- **Application instructions:**

This test is applied to each child individually. Upon the start of the test, the child should sit facing you while receiving the following instructions:

I will read for you some words, two words at each time, and I would like you to mention to me whether you have heard the

same word repeated twice or you have heard two different words.

Remember: If the two words are one repeated word say (yes) or (similar to each other) and if they are different say (no) or (they are different).

The instructions can be repeated if necessary. Upon starting implementation of the test, tell the child that you will turn his seat (you will face his back) so that he can hear you and does not see you during the test. After giving the preliminary instructions say to the child: let's try some examples of word pairs. Listen: can (pause for a second) can. Did I say the same word or two different words? If the child answered (yes) or (the same word), say: this is correct and move to the second example. If the child did not respond, explain the instructions again if necessary then move to the next example. Say let's try two other words: listen – hat (pause for a second) bat, are the two words similar or different? Follow the same procedures in the first example. The diagnosed child should not see your mouth while you read the words during the application; neither should the child see the word pairs on the test page.

You should the two words of each pair clearly and within time interval of around one second between the two words. You

should also keep a suitable level of voice intensity without changing it for the entire period of the application of all word pairs in the list.

– **Correction instructions:**

(30) Paragraphs are corrected only whose codes (f) fall in a different column in non-shaded boxes. They are the one to be calculated in the final marks (total) of the test and do not forget that the use of the all forty paragraphs in the calculation of the total marks, is wrong. The response of the child to the word pairs is either different or similar. If the response is (different) you draw a circle around the letter (f), and if the response is (similar) you draw a circle around the letter (l) and the first step in the process of correction is to collect all the circles around the letter (f) in non-shaded boxes. The highest mark is (30). Prior to the beginning of the original test, give an experimental example to make sure that the child understands the test instructions.

Example: can (pause for a while) can hat (pause for a while)  
bat

Now, dear student, are you ready?

The test consists of the following sub-tests:

### **2.6.3 Auditory discrimination test**

The auditory discrimination test is considered as an evaluation tool that aims at evaluating the ability of a child to discriminate between the sounds of letters and words of Arabic language. Auditory discrimination is considered as one of the important perceptual abilities associated with the development of language and pronunciation for children. The purpose of the test is:

- To detect the auditory discrimination difficulties and their resulting pronunciation difficulties.
- To investigate developmental aspects of acquiring language.
- To evaluate the perceptual and auditory problems for children.
- To provide diagnostic information to teachers who design treatment programs for speech and language problems.

The test consists of 40 pairs of words and is individually applied. The test has two forms and the maximum possible mark of the test is 30 degrees, as the number of paragraphs is 40 of which 30 paragraphs fall under a different column and 10 fall under a symmetric column, and only the 30

paragraphs which fall under the different column are corrected and the other 10 paragraphs which fall under the symmetric column in order to ensure an honest answer by the tested individual. The meaning of the raw mark is extracted from the standard mark and mean equivalences for each age category (Al Waqfi, & Al Keylani,1998), Appendix No. (1) Format (A).

- **Description of test:**

The test measures an essential skill for children which auditory discrimination skill. It is a skill of developmental nature which grows with age like other perceptual skills which grow with age. Auditory discrimination means accurate differentiation between speech sounds through comparing and balancing between their unique acoustic characteristics. Therefore, auditory discrimination is considered a prerequisite for effective learning and proper communication.

Auditory discrimination is something different from hearing acuity, as hearing acuity is limited to the description of the sensitivity of hearing sounds, while failure of auditory description can negatively affect fields in language and speech including understanding and proper pronunciation. From this point, auditory discrimination evaluation becomes of high importance as part which has its significance in the

overall evaluation of children who suffer from serious problems in learning. The ability to discriminate sounds of language is considered a prerequisite in school learning especially at pre-school stage and at the first school grades.

– **Reliability of the test**

Indications of the reliability of the test have been extracted by extracting the correlation between performances in each test model and other two tests which are auditory memory capacity tests (remembering words) and the sequential auditory memory capacity tests, which have been as under:

The performances between auditory discrimination test for model (0.78) and auditory memory capacity test (word chain) (0.74), and between it and the sequential auditory memory capacity test (0.82), and between auditory discrimination test for model (0.79) and auditory memory capacity test (word chain) (0.71), and between it and the sequential memory capacity test (number chains) (0.83), which is a statistical significance.

– **Stability of testing: the values of stability of testing have been calculated in two ways**

The patterns of the variable of stability of testing have been calculated according to the calculation of Pearson

correlation coefficient through implementation of the testing and re-testing on the exploratory sample after two weeks from the first application. According to the calculation of Pearson correlation coefficient, it has been found that the stability of testing amounted to (0.84) and these values are considered acceptable for the purposes of the study.

#### **2.6.4 Auditory analysis skills testing**

The auditory analysis skills testing measures the ability of analyzing sound patterns to their partial components, and identifying the sound pattern that results from omitting certain part of the original pattern, and diagnosing aspects of shortcoming in this skill, and what can result from it regarding weakness in the school performance, the success in reading, spelling and dictation skills for children who are transferred to learning resource rooms in the school. This test also evaluates the level of readiness to learn to read and the associated skills such as spelling and dictation for beginners and at their first stages of school learning. The test provides significant diagnostic information from which teachers benefit in designing remedial and training programs regarding training on auditory analysis skills for the sounds of language and discrimination between letters and the sounds associated with them.

The test consists of 14 words and is individually applied, and the highest mark is 14 and the lowest is (zero) and the meaning of the raw mark is extracted from the “T” standard mark corresponding to each age category (Al Waqfi, & Al Keylani, 1998), appendix No. (1)Format (B).

– **Description of the test**

Auditory analysis skills test consists of simple or compound words. If a certain part is omitted from them, it will remain a part forming a word having a known meaning, as the examiner will pronounce the word to the child and ask the child to utter the remaining part after omitting a certain part mentioned by the examiner to the child. It is taken into consideration upon selection that a part remains forming a word having a meaning upon omission of part at the beginning or in the middle or at the end of the word.

– **Purposes of the test**

The test was used to measure the following:

- Evaluation of auditory analysis skill, and diagnosis of aspects of defect in this skill and school performance weakness which can result from the same, especially in reading, spelling and dictation skills for children who visit



of are transferred to psychiatric clinic or centers or learning resource rooms in the school.

- Evaluating the level of readiness to learn and the other skills associated with it such as spelling and dictation for beginners at the first stages of their school learning.
- Investigating important developmental aspects of the school learning, especially regarding cognitive and linguistic development in studies and research related to children development.
- Providing diagnostic information of special significance from which specialists and teachers benefit in designing remedial and training programs, especially regarding training on auditory analysis skills for language sounds and discrimination between letters and sounds associated with the same.

- **Application instructions:**

This test is applied when you are sitting beside the child in a manner he does not see your face during your pronunciation of test words. Begin the test with two examples for the child to identify through them what is expected from him such as saying to him: I would like you to repeat the word which I will say, listen: Bethlehem, pause for a while until the child

responds, then say: now repeat it again but without pronouncing (Bethlehem). If the response of the child is correct, move to the explanatory example (b), but if the child errs in the example (a) try to explain to him. If the matter requires more than simple explanation, stop testing, and do not give any hint with your lips and make your pronunciation clear, do not stress the pronunciation on sections, put tick in blank space in front of the paragraph, but if it is wrong, write in blank space the same as the child pronounces it.

– **Correction instructions:**

The answer by the student is considered correct if he pronounces the remaining audio section (the word) after omitting the part which the examiner asks him to omit, and the answer is considered wrong if the child fails to identify the remaining part.

The examiner gives one point for each correct answer. The total mark in the test will be the total points achieved on the correct answer. The lowest mark is zero and the highest mark is 14.

Prior to the beginning of the original test, give an experimental example to make sure student understands the test instructions.

Example: say: Abdullah: now say it again without pronouncing (Abdu): Allah.

Say: Byaitlehem: now say it again without pronouncing (Byait): Lehem.

Are you ready now dear student?

– **Reliability of the test**

Indications of the reliability of the test have been extracted in two ways as under:

- The first method: in terms of differences between average performance and average age and the correlation coefficient between average marks and average age for age categories amounted to (0.85).
- The second method: using correlation relationship between performance on testing and the performance on the physical visual integration and visual physical analysis (0.87) and with visual analysis test (0.78) and both are of statistical significance.

– **Stability of testing**

To ensure stability of testing, the method of test and re-test have been verified by implementing the test and re-applying it after two weeks on a group outside the study sample which consists of 20 male and female students, and then

calculating a stability coefficient of re-testing between their estimates both times on the tools of the study as a whole and it amounted to (0.89). The stability coefficient has also been calculated through internal consistency according to Cronbach's alpha equation and it amounted to (0.89).

### **2.6.5 Testing of auditory memory capacity (word chains)**

The test measures the ability of child to remember words each of which consists of one audio section and arranged in a graded series in length. The test consists of fifteen series of words with the first series beginning with two words and ending with six words distributed into five levels. The test helps in identifying the existence of shortcoming in aspects of information processing in the immediate auditory memory, as the auditory memory has a long-term ability in the effectiveness of learning, which is the basis of acquiring language and the basis for the development of communication skills and social interaction. Therefore, the evaluation of the auditory memory is of a special importance in identifying the extent of the readiness of the child to learn and identifying any aspects of shortcoming that a child can suffer from in his cognitive, psychological and social development. The auditory memory spreads disorders in attention focus and listening or in discriminating sounds or storing them. The test is used as a comprehensive evaluation

program to identify special difficulties suffered by a child who is transferred to a resource room. The test can also provide useful information to those concerned with studying the processes of remembering and cognitive and linguistic development for children.

The test is individually applied and the highest mark is 60 and the lowest is (zero). The meaning of raw mark is extracted from the standard "T" mark corresponding to each age category (Al Waqfi & Al Keylani, 1998), appendix No. (1)Format(C).

**- Description of the test:**

Auditory memory is a multiple dimension cognitive ability which begins its function since birth and continues in the ordinary person throughout his life. It is of a developmental nature taken by differentiation with age and this differentiation is clearer at childhood stage. It is also multidimensional as it depends on a number of overlapping processes in the fields of attention, listening, auditory discrimination, information storage and retrieval of the same upon responding to acoustic stimuli. The test measures the ability of child to remember words each of which consists of one sound section arranged in a gradual series in length. The test consists of (15) series of words ranging between two to six

words in one series. They have been arranged at five levels each of which contains three chains beginning with the first level which consists of three chains each of which consisting of two words and ending with the fifth level which consists of three chains each of which consists of six words.

Words have been selected in chains so that each of them consists of one sound section and that all are common names in the child's language.

– **The purposes of the test:**

Auditory memory test is used to identify the child's ability in remembering a series of words which are gradual in length, any number of words from which one series is formed. This helps in identifying whether there is a defect in a basic aspect of information processing in the field of immediate auditory memory. This ability has long term effects on the effectiveness of learning, as it is the basis for acquiring language and for developing communication skills and social interaction, particularly at childhood stage.

Based on this point, evaluation of auditory memory is of special importance in identifying the extent of child's readiness to learning and identifying any aspects of defect that a child can suffer from in the cognitive, psychological and social development.

Auditory memory capacity test is considered one of the means of diagnosing such disorders which their symptoms are restricted to a certain age group but its significance is clearer and more effective at the basic school learning stages (from the first grade until the end of the tenth grade). Therefore, the test has been rationed to Jordanian children ate age groups of (5.6 – 16.5) years which is corresponding to basic education grades.

The purposes for which the test is used can be summarized as under:

- Evaluating the level of auditory memory for children who suffer from learning difficulties and who are doubted to be suffering from failure in the auditory memory.
- The test is used as part of a series of tests or an overall evaluation program to identify difficulties which a child suffers from in a resource room or special educational center or psychiatric clinic.
- Test of auditory memory capacity can be one of the components of evaluating the mental ability and readiness to learn. It is known that some of IQ metrics ad some measures of readiness to school learning include an auditory memory test.

- Auditory memory capacity test can provide useful information to researchers who are interested in studying remembering processes and aspects associated with cognitive and linguistic development of children.

- **Application instructions:**

The test is individually applied on each child. You should follow the following instructions upon applying the test:

- Make sure that the child sits facing you and ask him to look at anything else other than your face, then say: I will read for you some words and I would like you to repeat them after I finish reading them, let's try one or two examples, listen: "bird – door".
- Wait until the child responds, if he repeats the two words in any order even if his pronunciation is completely accurate, move on to the first paragraph of the first level. But if he does not repeat the two words, provide him with a second example in the same manner of the first example, say: "Listen: rose – wind".
- If the child fails to repeat the two words stated in the example, continue giving the child other examples from you until he understands the required task, and then begin providing the test. You should not use paragraphs



stated in the test or their words in the examples you give to children during the process of training, and that the words should be of one sound section.

- Present the paragraph at each level as per their order in the test, and move on to another level without presentation or delay. Move on to another level of the child answers any of the paragraphs of the level correctly.
- Stop from giving the test if the child fails to answer correctly from all paragraphs of the level.
- The answer is considered correct if the child repeats all the words stated in the paragraph regardless of their order. Try also to cut your voice after reading each word, i. e., avoid having any connection between the sound of each word and the following word.
- Prior to the presentation of the paragraph, ensure that the child is paying all his attention to you and that he is not busy with any other things.
- Do not try to repeat any chains if the child asks you to repeat them, but move on to the following series along with commitment to the previous instructions.

- Put a circle around the mark which is corresponding to the paragraph in case it is correctly answered, and do not put any sign around the mark which is corresponding to the paragraph which its answer is wrong.

#### Correction instructions:

The answer given by the child in each series of words is considered correct if he repeats the words of the series regardless of their order. The answer is considered wrong if he adds to it or omits from it any word. There is a number in front of each series on the test paper indicating the points deserved for the correct answer.

It is noticed that the number of points specified for each series equals the number of the series words. When the child gives a correct answer for one of the series, put a circle around the number which indicates the number of the points specified for such series.

The total mark of the test is the number of the points obtained by the child for giving correct answers to all series – (the lowest marks = zero, the highest marks = 60).

Prior to beginning the application of the original test, give the child an experimental example to make sure that the child understands the instructions of the test.

Example: 1 ..... bird, door.

Example: 2 ..... rose, wind.

Are you ready now dear student?

- **Reliability of the test:**

Indications of the reliability of the test have been extracted in two ways:

- The first method: in terms of differences between average performance and average age and the correlation coefficient between average marks and average of age categories amounted to (0.86), which is a high value and is of statistical significance.
- The second method: by extracting the correlation relationship between the performance on the test (auditory memory capacity for words) and the performance on two tests which are: the sequential auditory memory (remembering numbers) and auditory discrimination. The correlation coefficients in their modified forms amounted to the following: between the auditory memory (remembering words) and the sequential auditory memory of numbers (0.89)

and between the auditory memory capacity (remembering words) and auditory discrimination of the model (A) (0.87), and between the auditory memory capacity (remembering words) and the auditory discrimination of the model (B) (0.88), and they are of medium value statistical significance.

– **Stability of testing: the values of stability of testing have been calculated in two ways:**

- Half partition on an individual-pair basis because:
  - It is characterized by simplicity and objectivity.
  - It emphasizes the effect of coincidence and the effect of fluctuation of attention and memory.

According to stability in half partition it was (0.66). The correction was made according to Sbierman - Brown equation and the stability coefficient was (0.80) which is a high and significant stability coefficient.

- Using Cronbach's alpha ( $\alpha$ ) equation as an internal consistency coefficient, as its value of the modified form in the total sample amounted to (0.84).

– **Test application procedures:**

The researcher, in collaboration with the women teachers who teach in the resource rooms in which students participating in the study sample study, applied the auditory

perception test after being trained on conducting the test and how to calculate the marks on each of the test dimensions. The time for applying the test ranged between 15-25 minutes and in an individual manner.

– **Method of correcting the test:**

After conducting the two processes of reliability and stability for the whole test and the following sub-tests: auditory discrimination, auditory analysis, auditory memory capacity and sequential auditory memory, all marks obtained by the student are collected for each dimension separately and then marks of the dimensions are compiled to make together the total marks of the test .

**2.6.6 Achievement test in reading:**

Regarding building of this test, its paragraphs have been derived from the basic skills diagnosis measurement in Arabic language prepared by Al Waqfi (2003) which includes a number of paragraphs related to the evaluation of reading and writing skills. The test has indications of reliability and standards of stability in the Jordanian environment. Some of its paragraphs have been used for the purposes of front end and dimensional evaluation in this study. This test aims at measuring students achievement in reading based on the

objectives which have been identified for the development of the educational program. See Appendix No. (2)

– **Content of the test**

This test consists of six questions in reading and the student is asked to answer all questions raised in the test. The marks are divided according to the number of responses required from the student. The test is built to measure the extent of meeting the following educational objectives in reading by students:

- The student reads some alphabets.
- The student reads a section consisting of two letters (a consonant + a vowel).
- The student reads a word consisting of a vowel between two letters.
- The student reads a word consisting of letters which give meaning.
- The student reads useful meaningful sentence.
- The student reads a text consisting of a number sentences and paragraphs.

From here we notice that the objectives are distributed into five levels which are the level of the letter (10 letters), the level

of the section (10 sections), and the level of the word which consists of three letters with a vowel letter being in the middle (10 words), the level of the word (10 words), the level of the sentence (5 sentences) and the level of the text (two paragraphs).

Paragraphs which are considered as the previous objectives have been set in a sequential manner according to the difficulty.

– **Reliability of the test**

After the researcher has derived the paragraphs of the test from the basic skills diagnosis measurement in Arabic language prepared by Al Waqfi (2003), the reliability of the content has been verified by presenting the educational objectives of the program and the paragraphs of the test to a committee of specialists. They were asked to express their opinion on the extent to which the paragraphs stated in the test represent the proposed educational objectives and the extent of clarity of language drafting and its appropriateness to students at the basic second, third and fourth grades.

– **Stability of the test:**

To ensure stability of the achievement test, reading test has been applied and the correlation coefficient extracted as

well as the level of significance of the tests. The value of stability amounted to (0.90) which is a reasonable value for the purposes of the study.

– **Correction of the test:**

The test consists of six questions and each of the first, second and third questions has 5 marks, the lowest mark is (zero) and the highest is 5 marks, and each of the fourth, fifth and sixth questions has 10 marks, the lowest mark is (zero) and the highest is 10 marks.

**2.7 Study variables:**

– **Independent variables include:**

- Training program.
- Gender which is of categories; male and female.
- Age which is of three levels: 7 years, 8 years and 9 years.

– **Dependent variables:**

Auditory perception which has three levels:

- Auditory discrimination: the ability of the individual to distinguish various sounds included in speech and to distinguish between letters which are similarly pronounced.



- Auditory analysis skills: the analysis of a spoken word into single voices which form it, and this skill is considered one of the important skills in learning to read and spell.
- Auditory memory capacity: the storage of auditory data as per their chronological sequence

## **2.8 Study procedures**

- Identifying the objectives of the study by detecting the effectiveness of the training program to develop auditory perception for students with learning difficulties in Jordan.
- Preparing study tools in their preliminary form and then ensuring their reliability and stability.
- Implementation of the training program on the sample individuals and then applying study tools.
- Conducting statistical processes on the study tools in order to answer its questions.
- Discussing results of the study and coming out with a number of recommendations in the light of the same.

## **Chapter III**

### **Results of the study**

### 3. Results of the study

This chapter includes a presentation of the results of the study that aimed at identifying the effect of the training program on the development of auditory perception. The results have been presented through answering the following study questions as under:

#### 3.1 The first question: are there any significant differences in the auditory perception between the experimental group and the controlling group attributed to the impact of the training program?

To answer this question, arithmetic means and standard deviations have been extracted for auditory perception skills as per the group variable. To explain statistical differences between arithmetic means, "T" test has been used as explained in the below table.

Table (4)

The post (T) test, the arithmetic means and standard deviation according to the variable of group on the auditory perception skills

	Group	N	Mean	Std. Deviation	T	Df	Sig. (2-tailed)
Post	Experimental	60	29.33	.774	3.388	118	<b>.001</b>

	Group	N	Mean	Std. Deviation	T	Df	Sig. (2-tailed)
discrimination	Control	60	27.50	4.119			
Post analysis	Experimental	60	2.73	2.342	5.518	118	<b>.000</b>
	Control	60	.88	1.121			
Post memory	Experimental	60	18.82	7.103	2.881	118	<b>.005</b>
	Control	60	15.88	3.425			
Post achievement	Experimental	60	28.48	9.909	10.89 1	118	<b>.000</b>
	Control	60	10.62	7.956			
Post total	Experimental	60	79.37	15.983	9.450	118	<b>.000</b>
	Control	60	54.88	12.136			

It appears from table (4) that there are differences of statistical significance ( $\alpha \leq 0.05$ ) attributed to the effect of the group on all sub-skills and in the overall marks and the differences were in favor of the experimental group.

### **3.2 The second question: are there any significant differences in the auditory perception skills in the experimental groups attributed to the effect of age?**

To answer this question, arithmetic means and standard deviations for auditory perception skills have been extracted from the experimental group as per age variable. The below table explains the same.

Table (5)

Arithmetic means and standard deviations for auditory perception skills of the experimental group as per age variable

	Age	N	Arithmetic Mean	Std. Deviation
Post discrimination	7	19	29.05	.911
	8	20	29.25	.786
	9	21	29.67	.483
	Total	60	29.33	.774
Post analysis	7	19	2.32	1.493
	8	20	2.65	2.368
	9	21	3.19	2.909
	Total	60	2.73	2.342
Post memory	7	19	18.11	4.841
	8	20	19.35	9.928
	9	21	18.95	5.775
	Total	60	18.82	7.103
Post achievement	7	19	25.74	9.683
	8	20	25.30	8.670
	9	21	34.00	9.198
	Total	60	28.48	9.909
Post total	7	19	75.21	12.809
	8	20	76.55	18.118
	9	21	85.81	15.039
	Total	60	79.37	15.983

Table (5) shows apparent correlation in the arithmetic means and standard deviations for auditory perception skills for the experimental group due to the differences in the categories of age variable. To explain the significance of statistical differences between arithmetic means, unilateral contrast analysis has been used as per table (6).

Table (6)

Unilateral contrast analysis of the effect of age on the auditory perception for the experimental group

		Sum of Squares	Df	Mean Square	F	Sig.
Post discrimination	Between Groups	3.969	2	1.985	3.607	<b>.034</b>
	Within Groups	31.364	57	.550		
	Total	35.333	59			
Post analysis	Between Groups	7.840	2	3.920	.707	.497
	Within Groups	315.893	57	5.542		
	Total	323.733	59			
Post memory	Between Groups	15.691	2	7.846	.151	.860
	Within Groups	2961.292	57	51.952		
	Total	2976.983	59			
Post achievement	Between Groups	985.099	2	492.550	5.839	<b>.005</b>
	Within Groups	4807.884	57	84.349		
	Total	5792.983	59			
B*	Between Groups	1358.587	2	679.294	2.824	.068
	Within Groups	13713.346	57	240.585		
	Total	15071.933	59			

\*B is the regression coefficient that represents the independent contributions of each independent variable to the prediction of the dependent variable.

It appears from table (6) that there are differences of statistical significance at the level of significance ( $\alpha \leq 0.05$ ) attributed to age in discrimination and achievement. To explain the pair statistical significant differences between arithmetic means, dimensional comparisons are used in a verbal manner as stated in table (7), while there appear no differences of statistical significance in the remaining skills and in the total marks.

Table (7)

Post Ad hoc Tests

Age Multiple Comparisons

Scheffe

Dependent Variable	Age (I)	Age (J)	Mean Difference (I-J)	Std. Error	Sig.
Post discrimination	7	8	-.20	.238	.710
		9	<b>-.61(*)</b>	.235	<b>.040</b>
	8	7	.20	.238	.710
		9	-.42	.232	.208
	9	7	<b>.61(*)</b>	.235	<b>.040</b>
		8	.42	.232	.208
Post	7	8	.44	2.942	.989

Dependent Variable	Age (I)	Age (J)	Mean Difference (I-J)	Std. Error	Sig.
achievement		9	<b>-8.26(*)</b>	2.908	<b>.023</b>
	8	7	-.44	2.942	.989
		9	<b>-8.70(*)</b>	2.870	<b>.014</b>
	9	7	<b>8.26(*)</b>	2.908	<b>.023</b>
		8	<b>8.70(*)</b>	2.870	<b>.014</b>

\* The mean difference is significant at the .05 level

It appears from table (7) as under:

- Existence of differences of statistical significance ( $\alpha \leq 0.05$ ) between the age groups 7 and 9, and the differences have been in favor of the age category 9 in discrimination.
- Existence of differences of statistical significance ( $\alpha \leq 0.05$ ) between the age group 9 on the one hand and age groups 7 and 8 on the other hand, and the differences have been in favor of the age category 9 in achievement.

**3.3 The third question: are there any significant differences in the auditory perception skills in the experimental groups attributed to the effect of gender?**



To answer this question, arithmetic means and standard deviations for auditory perception skills have been extracted for the experimental group as per gender variable. To explain statistical differences between arithmetic means, “T” test has been used. The below table explains the same.

Table (8)

Arithmetic means and standard deviations and “T” test for the experimental group as per gender variable effect on the auditory perception skills

	Gender	N	Mean	Std. Deviation	T	Df	Sig. (2-tailed)
Post discrimination	Male	25	29.24	.879	-.787	58	.434
	Female	35	29.40	.695			
Post analysis	Male	25	2.80	2.887	.185	58	.854
	Female	35	2.69	1.906			
Post memory	Male	25	20.80	9.552	1.866	58	.067
	Female	35	17.40	4.265			
Post achievement	Male	25	26.96	10.949	-1.007	58	.318
	Female	35	29.57	9.102			
B	Male	25	79.80	20.021	.176	58	.861
	Female	35	79.06	12.654			

It appears from table (8) that there are no differences of statistical significance ( $\alpha \leq 0.05$ ) attributed to the effect of gender in all sub-skills and the total marks.

## **Chapter IV**

### **Discussion of results and recommendations**

## **4. Discussion of results and recommendations**

The study aims at building a training program for the development of auditory perception skills and explaining its effect on reading achievement for students with learning difficulties in Jordan. This chapter discusses the results this study has concluded to, and it also includes some recommendations in the light of the achieved results.

### **4.1 Discussion of results**

**4.1.1** Discussion of results related to the first question: *are there any significant differences in the auditory perception between the experimental group and the controlling group attributed to the impact of the training program?*

Results on this question have revealed the existence of differences of statistical significance at the significance level of ( $\alpha \leq 0.05$ ) attributed to the effect of the program in all skills and in the overall marks as the differences have been in favor of the experimental group on which the training program has been implemented.

The previous result coincides with the results of the study conducted by Dietrich (1994) as the results have revealed the existence of improvement in the skill of decoding and

comprehension reading for the individuals of the experimental group which received training.

Al Riasti (1991) also conducted a study that showed the existence of differences of statistical significance between the marks of the sample children prior to and after the implementation of the program in favor of the experimental group to which the program has been applied.

Botros (2008) also conducted a study that confirmed the effectiveness of the training program in acquiring behavioral skills positively reflected on the development of cognitive aspects.

Gonzalez & Espinel (2002) conducted a study that revealed the effectiveness of the training program in the improvement of speech perception and verbal working memory, naming speed and reading by using the program.

Al Smadi (2007) carried out a study that confirmed the existence of differences of statistical significance in the marks achieved on the measurement of the total memory and on all its dimensions between the two groups: the experimental group and the controlling group for the category with learning difficulties a matter which confirms the effectiveness of the program.

The researcher attributes that to the following:

- Teaching the training program supported by various activities, training sessions and educational aids considered as a new method of teaching, has increased interaction with the contents of the program a matter which has led to the development of auditory perception skills.

- The program included a number of activities and training skills related to auditory memory, as students have been trained on them within small groups, through presenting a series of verbal letters and words. The program begins from difficult to easy level of education of the child; thereafter the child is trained on repeating the series and using the repetition until he/she is able to recall the same accurately. Therefore, the child has developed the ability to discriminating sounds from which words are formed, as well as the ability to match sounds with written words. All of which is done in a training environment that included interesting elements that contributed to the improvement of educational environment, a matter which led to the increase of students' motivation towards learning, therefore positively reflected on the auditory memory skills.

- The training program included a number of remedial exercises which contributed to the development of auditory memory such as:

- Helping the child to develop listening skills for sentences increasing in length gradually.
- Listening to a text presented by the teacher to the child verbally, and then answering certain questions without being seen by the child.
- Development of skill of listening to the text to reach the main idea.

- Training of individual of the experimental group on auditory memory skills to identify the sounds of letters and discriminate them, has led to the increase of their ability to identify speech sounds of others, and then development of their ability to perceive and understand such speech (receptive language). It has also led to the improvement of their pronunciation of letter sounds.

**4.1.2** Discussion of results related to the second question: *are there any significant differences in the auditory perception skills in the experimental groups attributed to the effect of age?*

Results related to this question have revealed the existence of differences of statistical significance at the level of

significance ( $\alpha \leq 0.05$ ) in the auditory perception skills in the experimental group attributed to the effect of age as the differences have been in favor of the age group of 9 years.

The previous result coincides with the conclusions of a study conducted by Cherry & Kruger (1983) which indicated that the performance of children at the age category of 8 years has significantly been better than the performance of children at the age category of 7 years in listening skills.

The previous result also agree with the conclusions of a study conducted by Al Riasti (1991) which revealed the existence of differences of statistical significance between the marks of children at ages of time of 4-5 and 5-6 years in favor of elder children.

The researcher attributes the previous result to the fact that children at higher age categories were more committed to the application of activities and training sessions of the program; therefore, the differences have been in favor of them in this field. The training program with the large number of words, sentences and activities, has led to the increase of language outcome of children in general and especially the children at the age of 9 years; it helped them to understand the speech of others (receptive language) and use this input in improving their language output (expressive language).



The program was mainly designed to help the development of children's awareness as to sounds, words and sentences by listening to improve their receptive language skills. At the same time, the children were asked to repeat words and sentences and to give examples of words and sentences during the program that helped them improve their expressive language skills.

On the other hand, it can be said that students at age categories of 9 years have a mental ability associated directly with auditory and visual sensory aspects, and the ability to transform information into a number of mental images to facilitate its retrieval. Therefore, the age category of 9 years due to its precision and interest on executing the activities of the program and its training sessions accurately, were better in performance than the younger age group, therefore the differences were in their favor.

**4.1.3** Discussion of results related to the third question: *are there any significant differences in the auditory perception skills in the experimental groups attributed to the effect of gender?*

Results related to this question revealed the non-existence of differences of statistical significance at the level of ( $\alpha \leq 0.05$ )

in the auditory perception skills in the experimental group attributed to gender.

The previous result coincides with the conclusions of a study conducted by Othman (2001) which revealed the non-existence of differences of statistical significance at the level of ( $\alpha \leq 0.05$ ) in the skill of reading between male and female with learning difficulties. At the same time the result differs with the conclusions of a study conducted by Al Riasti (1991) which showed the existence of differences of statistical significance in favor of female students over male students in the skill of reading.

On the other hand, the result of the current study does not coincide with the conclusions of a study conducted by Al Smadi (2007) that revealed non-existence of differences of statistical significance attributed to gender variable neither on the memory measurement nor on its dimensions.

The difference in results may be attributed to the training program itself as well as to the procedures taken in applying it. The activities and training sessions were implemented on students under the same conditions and terms. The researcher was precise on eliminating all effects associated with the surrounding environment of the training program that might have an effect on the potentials or method of

application. The researcher has also been precise on providing equal training opportunities to all students of the experimental group in both individual and group training; this could have resulted in different or more accurate results.

## **4.2 Recommendations**

In light of the results concluded to by the study, the researcher recommends the following:

- As the program had a positive influence on students with auditory perception problems, we recommend that the program should either be adopted by the ministry of education in Jordan, the special education centers or even in the Arabic speaking countirs.
- The program is not language dependent because what was beneficial is the implementation of the activities and the training sessions that were given to the students. The program can be improved, adopted by special education centers and then it can be translated to different languages after being tested in different situations to prove its efficiency.
- Students who do the bachelors' degree in special education in Jordan spend 4 years at the university with only three months of practical experience. We recommend that they spend more time in special education centers and

resource rooms; they should be familiar with implementing the most efficient training programs bearing in mind that their primary goal is to help the challenged students get better education.

- Organizing training sessions for teachers of special education and resource rooms on how to develop auditory perception skills for children with learning difficulties and evaluate them for students with learning difficulties.

- Even though Jordan is not advanced in the field special education, it is considered the best in the field within the Middle East region. We receive children with special education needs from all the neighboring countries which add up to the responsibility of both the governmental and the private sectors to pay more attention to special education.

- through the investigation, the researcher found out that almost every primary school has some cases of students who need the help of special education. In a lot of these cases neither the school nor the parents know that the child can benefit and considerably improve if he receives help from a special education teacher or trainer. We recommend that every primary school has a teacher specialized in special education.

- Through conducting the present work, the researcher recognized that success in special education mainly depends on the personal experience of the teacher. We recommend that the ministry of education organize a monthly conference for special education in which teachers and trainer share their experience with each other and with the government. Such conferences would be the best occasions to improve, adopt and formalize efficient training programs to be distributed among the resource rooms and special education centers.
- More research using the same training program with different age groups would be recommended to validate the program and give it more credibility.
- Conducting further research on means and methods of developing auditory perception skills is a necessity.
- More research can also be conducted to investigate the reasons behind the auditory perception impairment and try to reach to some preventive measures that would help avoid or help reduce the severity of the disability.
- As mentioned in chapter 1, in some cases and when possible, an educational plan should be developed for each student to get the best result. This plan should be as the

remedial program which is built on the hypothesis of the diagnosis consisting

- The modern education theories and approaches of normal education try to give less time and minor role to the teacher. Special education, on the other hand, needs a patient, dedicated teacher because improvement of students with special education needs is usually slow and requires a lot of patience and dedication. We recommend that the moral value be stressed and enhanced in the minds of the staff members who work in special education.

- In this time of high technology dominating in almost every aspect of our life, the effect of the smart technology on the disability of the challenged children should be investigated thoroughly. A lot of sociologists say that the excessive use of smart phones and tablets as well as laptops and personal computers has a negative effect on our kids.

- The training program used in the present investigation is a traditional one in which cards, cassettes, cassette players were the tools and equipment used in most cases. If we admit that our kids today are so much dependent or in some cases addicted to the smart technology, then we should think of employing this technology in special education programs in a

controlled way that would have a positive effect on the children with special education needs.

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## Appendixes

### Appendix No. (1)

#### Auditory discrimination test

##### (Format A)

Name :	Date:
Date of birth:	Gender: M/F
Directorate:	School:
Class:	Tester's name:

Similar	Different	Examples
S	D	Example A: Kān – Kān
S	D	Example B: Bāt – Hāt

similar	Different	
---------	-----------	--

S	D	Tam – Dam.1
S	D	Bwr– Dwr .2
S	D	Jār – Jār .3
S	D	Qaz – Khaz .4
S	D	Tawr –Tūr .5
S	D	Shāb – Shāb .6
S	D	Yawm – Yam .7
S	D	Lawa – Rawa .8
S	D	Kal – Tal .9
S	D	Khwf – Khwdh .10
S	D	Tyb – Tīb.11
S	D	Bayt – Bayt .12
S	D	Sakhr – Sakhr .13
S	D	Saghīr – Sa’īr .14
S	D	Fyrākh –Farāgh .15
S	D	Kayf – Hayf .16
S	D	Shīd – Jīd .17

S	D	Khaukh– Khaukh .18
S	D	ṭīn – Tīn .19
S	D	zal – ṣal .20
S	D	Mahr – Nahr .21
S	D	dhād – Zād.22
S	D	Syn – San .23
S	D	Qarḍ – QWrḍ.24
S	D	Zāl – Dāl .25
S	D	dhāl – Thāb .26
S	D	ṣyl –ṭyl .27
S	D	Jysr – Jysr .28
S	D	Shajr – Shajr .29
S	D	Nadhīr – Naṣīr .30
S	D	Nām – Nāl .31
S	D	ghaym– ghayb .32
S	D	ḥaḍ – ḥaṣ .33
S	D	ṭawq – ṭawq .34

S	D	Khāl – Khāl .35	
S	D	Fāz – Fās .36	
S	D	Byḍ– Byd .37	
S	D	Hūt –Hūt.38	
S	D	Jathā –Jafā .39	
S	D	Shawq – Shawk .40	
Students score:	Highest score:	Descriptive assessment:	Percentage:

**(Auditory discrimination test)**

اختبار التمييز السمعي (نموذج أ)

الاسم:

التاريخ:

تاريخ الولادة:

المدرسة:

المديرية:

الصف:

الفاحص:

العمر:

الجنس: ذكر \_\_\_\_\_ أنثى \_\_\_\_\_

متماثلة	مختلفة	امثلة
ل	ف	مثال أ : كان – كان
ل	ف	مثال ب: هات – بات

متمائل	مختلف	
ل	فا	1. دَمٌ - تَمٌ
ل	فا	2. دُرٌّ - بُرٌّ
ل	فا	3. جَارٌ - جَارٌ
ل	فا	4. خَزٌّ - قَرٌّ
ل	فا	5. طَوْرٌ - طَوْرٌ
ل	فا	6. شَابٌ - شَابٌ
ل	فا	7. يَمٌ - يَوْمٌ
ل	فا	8. رَوَى - أَوَى
ل	فا	9. تَلٌّ - كَلٌّ
ل	فا	10. خُذٌ - خُفٌّ
ل	فا	11. طَيِّبٌ - طَبٌ
ل	فا	12. بَيْتٌ - بَيْتٌ
ل	فا	13. صَخْرٌ - صَخْرٌ
ل	فا	14. سَعِيرٌ - صَعِيرٌ
ل	فا	15. فَرَاخٌ - فَرَاخٌ
ل	فا	16. حَيْفٌ - كَيْفٌ
ل	فا	17. جَيْدٌ - شَيْدٌ
ل	فا	18. حَوْخٌ - حَوْخٌ
ل	فا	19. تَيْنٌ - طَيْنٌ
ل	فا	20. ظَلٌّ - زَلٌّ

ل	فا	21. نَهْرٌ - مَهْرٌ
ل	فا	22. زَادٌ - ذَادٌ
ل	فا	23. سُنٌّ - سُنٌّ
ل	فا	24. قَرِطٌ - قَرَضٌ
ل	فا	25. دَالٌ - ذَالٌ
ل	فا	26. ثَابٌ - ذَالٌ
ل	فا	27. طَلٌّ - ظَلٌّ
ل	فا	28. جِسْرٌ - جِسْرٌ
ل	فا	29. شَجْرٌ - شَجْرٌ
ل	فا	30. نَظِيرٌ - نَذِيرٌ
ل	فا	31. نَالٌ - نَامٌ
ل	فا	32. غَيْبٌ - غَيْمٌ
ل	فا	33. حَظٌّ - حَضٌّ
ل	فا	34. طَوْقٌ - طَوْقٌ
ل	فا	35. خَالٌ - خَالٌ
ل	فا	36. فَاسٌ - فَازٌ
ل	فا	37. بَيْذٌ - بَيْضٌ
ل	فا	38. حُوتٌ - حُوتٌ
ل	فا	39. جَفَاٌ - جَنَا
ل	فا	40. شَوَكٌ - شَوْقٌ

## Auditory analysis test

### (Format B)

Name :	Date:
Date of birth:	Gender: M/F
Directorate:	School:
Class:	Tester's name:
1. Jamāl: now say it againg without pronouncing the sound (Ja): Māl	8.Sadaf now say it againg without pronouncing the sound (Da):Saf
2. Sw' āl: now say it againg without pronouncing the sound (Sw'): āl	9.Jawādwn: now say it againg without pronouncing the sound (Dwn):Jawā
3.Anāshīd: now say it againg without pronouncing the sound (Shīd):Anā	10.Abāna now say it againg without pronouncing the sound (Na):Abā
4.Safarjal now say it againg without pronouncing the sound (Safar):Jal	11. Ywrīdw: now say it againg without pronouncing the sound (Dw):Ywrīdw
5.Sāhyr: now say it againg without	12.Na'ām: now say it againg

pronouncing the sound (Sa):Hyr	without pronouncing the sound
6.Mwnādy now say it againg	(‘):Nām
without pronouncing the sound	13.Hwbūr: now say it againg
(Mw):Nādy	without pronouncing the sound
7.Bwrtwqāl: now say it againg	(Bū)Hwr
without pronouncing the sound	14. ‘āqyl: now say it againg without
(Bwr):Twqāl	pronouncing the sound (Qy) ‘āl

### (Auditory analysis test)

#### اختبار مهارات التحليل السمعي

اليوم الشهر السنة

الاسم: الجنس: ذكر انثى تاريخ الولادة  
المدرسة: الصف: تاريخ الاختبار:  
المديرية: الفاحص: العمر:

8. صدف الآن قلها ثانية دون ان تلفظ (د):صف	1. جمال: الآن قلها ثانية دون ان تلفظ (ج): مال
9. جواد: الآن قلها ثانية دون ان تلفظ (دُن):جوا	2. سؤال: الآن قلها ثانية دون ان تلفظ (س):أل
10. أبان الآن قلها ثانية دون ان تلفظ (ن):أبي	3. أناشيد: الآن قلها ثانية دون ان تلفظ (شيد):أنا



11. يُرِيدُ: الآن قلها ثانية دون ان تلفظ (دُ): يُرِي	4. سفرجل: الآن قلها ثانية دون ان تلفظ (سفر): جل
12. نعام: الان قلها ثانية دون ان تلفظ(ع): نام	5. ساهر: الان قلها ثانية دون ان تلفظ(سا): هر
13. حُبُور: الان قلها ثانية دون ان تلفظ(بُ): حُور	6. منادي الان قلها ثانية دون ان تلفظ (م): نادي
14. عاقل: الان قلها ثانية دون ان تلفظ(ق): عال	7. برتقال: الان قلها ثانية دون ان تلفظ(بر): تقال

## Auditory memory capacity testing (word chains)

(Format C)

### Word chains

Example 1: ṭayr , Bāb			
Example 2: Ward , Rīḥ			
Level 1	Khayl - ‘ayn .	2	paragraph 1
	Akh - Shahr.	2	paragraph2
	Khwbz - Qwtn.	2	Paragraph3
Level 2	Mylḥ- Nasr-Yawm	3	Paragraph1
	Rīm - Kahf - ‘ūd .	3	Paragraph2
	Khayṭ - Qyṭ - Jad .	3	Paragraph3
Level 3	Qamḥ - Baṭ - Layl – Sūr .	4	Paragraph1
	‘am – Bīr - ‘aql – Qersh .	4	Paragraph2
	Namyl – Jawz – Khāl - Qalb .	4	Paragraph3

Level 4	Fajr –ḥūt – Thalj – Bynt – Dār .	5	Paragraph1
	Shawk – Yad – Ka'k - 'Īd - R's .	5	Paragraph2
	Balaḥ - Būq - 'wkht – Jār – Zayt .	5	Paragraph3
Level 5	Fūl - F's – Jīm - Naḥl - Laḥm -	6	Paragraph1
	'wshyb .	6	Paragraph2
	'anf - ṭīn –Sakhr- Khawkh - Dīk –	6	Paragraph3
	Lawḥ .		
	Baḥr -ṣūf –Bwrj – Wajh –Thūm -		
	Taḥt .		
Highest score:		Highest score:60	

اختبار سعة الذاكرة السمعية

(Auditory memory capacity test)

( سلاسل الكلمات )

مثال : 1..... طير ، باب
مثال : 2..... ورد ريح

2	عين	خيل	فقرة 1	المستوى الأول
2	شهر	أخ	فقرة 2	
2	قطن	خبز	فقرة 3	
3	يوم	نسر	ملح	المستوى الثاني
3	عود	كهف	ريم	
3	جد	قط	خيوط	
4	سور	ليل	بط	المستوى الثالث
4	قرش	عقل	ببر	
4	قلب	خال	جوز	

5	فجر حوت ثلج بنت دار.....	فقرة 1	المستوى الرابع
5	شوك يد كعك عيد رأس.....	فقرة 2	
5	بلح بوق أخت جار زيت.....	فقرة 3	
6	فول فأس جيم نحل لحم عشب.....	فقرة 1	المستوى الخامس
6	أنف طين صخر خوخ ديك لوح.....	فقرة 2	
6	بحر صوف برج وجه ثوم تحت.....	فقرة 3	
العلامة الكلية:		العلامة القصوى: 60	

## Appendix (2)

### Achievement test in reading

Name: \_\_\_\_\_ gender: \_\_\_\_\_ class: \_\_\_\_\_ school: \_\_\_\_\_

---

Question 1: read the following letters:

5 scores

Sīn	ṣād	rā'	tā'	'ayn	Shīn	fā'	Alif	jīm	Dāl
-----	-----	-----	-----	------	------	-----	------	-----	-----

Question 2: read the following syllables:

5 scores

Tū	Khū	Sā	Mī	Dā	Jī	Fā	ṣā	šū	Bā
----	-----	----	----	----	----	----	----	----	----

Question 3: read the following words:

5 scores

Šām	Qām	R's	Nām	Kūb
Ramā	'īd	Kwtwb	Labn	Thaman

Question 4: read the following words:

10 scores

'asal	Rāshyd	ṣaghīr	'ālam	Shādy
'āmyr	Qara'	Alwrdsn	Aldars	Alwaṭan

Question 5: read the following sentences

10 scores

1	ḡahaba Alawladw llā Almdrasat.
2	Tasharw Al'wmw 'ala Raḡat ṡyflyha .
3	'wḡwbw Waṡany Al'wrdsn
4	Irbyd Madīnatwn Jamīlah.
5	Yaḡmy Aljwndī ḡwdwd Alwaṡan.

Read the following text loudly

10 scores

### Waṡany Aljamīl

'wḡwbw Waṡany Al'wrdsn ḡwbw 'azīmā, Fhwa Mawṡen Alābā  
WaAlajdād , Wa Arḡw Alkhyrāt Wa Alny'am Alkathīrah .

'wḡwbw 'alama Byladī Ywrafryf w 'ālīyan Fī Alsamā' , Mwzayanan  
Bynjmatyhy Allamy'ah , Wa Zahyīan Byalwanyhyh : Alaswād , Wa  
Alabyaş , Wa Alakhşar , Wa Alaḡmar .

Wa Fī Al'wṡlah Adhhabw Ma' ' Wsraty Fī Ryḡlatyn Mwmt'y'ah  
Nwshāhyd Fīha Jamāl Bylādanā Alghālīyah , Fatzdādw Maḡabatan  
Lahā , Wa Naltaqyṡw Alşwar Altydhkārīyah Lyāthāryha Altarīkhīyah  
Alkhālydah Fī Albtrā' Alwardīyah , Wa Fī Jarash , Wa Fī Alkarak ,  
Wa Fī 'jlūn .

ḡafyza Allah Bylādanā Al'azīzah , Wa ḡamāhā myn Kwly Shar ,  
Fanḡnw Fīha A'yzā' Wa Bewḡdatynā Aqwyā' .

بسم الله الرحمن الرحيم

الاختبار التحصيلي في القراءة (reading achievement test)

الاسم : الجنس: الصف : المدرسة :

السؤال الاول : اقرأ الحروف التالية : ( 5 ) علامات

س	ص	ر	ت	ع
ش	ف	أ	ج	د

السؤال الثاني : اقرأ المقاطع التالية : ( 5 ) علامات

تو	خو	سا	دا	مي
جي	فا	صا	شو	با

السؤال الثالث : اقرأ الكلمات التالية : ( 5 ) علامات

صام	قام	عيد	نام	عامر
كوب	باب	جاد	ثوم	صامد

السؤال الرابع : اقرأ الكلمات التالية : ( 10 ) علامات

عسل	راشد	صغير	عالم	الوطن
قرأ	الاردن	الدرس	شادي	صبور

السؤال الخامس : اقرأ الجمل التالية

( 10 ) علامات

- 1- ذهب الاولاد الى المدرسة
- 2- تسهر الام على راحة طفلها
- 3- احب وطني الاردن
- 4- اربد مدينة جميلة
- 5- يحمي الجندي حدود الوطن .

السؤال السادس: اقرأ النص التالي بصوت مسموع :

( 10 ) علامات

وَطَنِي الْجَمِيلُ

أَحِبُّ وَطَنِي الْأُرْدُنَّ حُبًّا عَظِيمًا ، فَهُوَ مَوْطِنُ الْأَبَاءِ وَالْأَجْدَادِ ، وَأَرْضُ الْخَيْرَاتِ وَالنَّعْمِ الْكَثِيرَةِ .

أَحِبُّ عِلْمَ بِلَادِي يُرْفَرِفُ عَالِيًّا فِي السَّمَاءِ ، مُزَيَّنًا بِنَجْمَتِهِ اللَّامِعَةِ ، وَزَاهِيًّا بِالْوَانِهِ : الْأَسْوَدِ ،

وَالْأَبْيَضِ ، وَالْأَخْضَرَ ، وَالْأَحْمَرَ .

وَفِي الْعُطْلَةِ أَذْهَبُ مَعَ أُسْرَتِي فِي رِحْلَةٍ مُمْتَعَةٍ نُشَاهِدُ فِيهَا جَمَالَ بِلَادِنَا الْغَالِيَةِ ، فَتَزْدَادُ مَحَبَّةً لَهَا ،

وَنَلْتَقِطُ الصُّورَ التَّنْذَرِيَّةَ لِإِثَارِهَا التَّارِيخِيَّةِ الْخَالِدَةِ فِي الْبَتْرَاءِ الْمَدِينَةِ الْوَرْدِيَّةِ ، وَفِي جَرَشَ ، وَفِي

الكَرَّاكِ ، وَفِي عَجْلُونَ . حَفِظَ اللَّهُ بِلَادِنَا الْعَزِيْزَةَ ، وَحَمَاهَا مِنْ كُلِّ شَرٍّ ، فَحَنُّ فِيهَا أَعْرَاءٌ وَيُوحِدَتْنَا

أَقْوِيَاءُ

### Appendix No. (3)

(A program prepared to improve the auditory perception)

البرنامج المعد لتنمية الإدراك السمعي للطلبة ذوي صعوبات التعلم

(auditory discrimination activities) نشاط التمييز السمعي

أولاً : أن يميز الطالب سماعياً بين مجموعة من الكلمات بعضها متماثلة والأخرى مختلفة وبمستوى دقة 80% عندما يطلب منه ذلك .

الكلمة	مختلف	متماثل
1- كان - كان		
2- موز - جوز		
3- جامع - جامد		
4- راسم - قاسم		
5- زيت - بيت		
6- باص - باص		
7- خروف - خروب		
8- رائد - قائد		
9- تين - طين		
10- ثوب - ثور		
11- قطة - بطة		
12- كلب - قلب		
13- لعب - تعب		
14- سيف - سيف		



15-	نحلة - نحلة	
16-	بيت - بيت	
17-	سور - صور	
18-	حديقة - حديقة	
19-	ضل - ظل	
20-	سفير - صفير	
21-	صخر - صخر	
22-	شوك - شوك	
23-	جفا - جثا	
24-	فاس - فاز	
25-	هدى - هذى	
26-	هدف - هتف	
27-	ريش - ريش	
28-	جرس - جرس	
29-	فاس - راس	
30-	قال - مال	

ثانياً:

ان يميز الطالب بين مجموعة من الأصوات المختلفة ، مثل ( صوت هاتف ، صوت جرس ، صوت كلب ، جرس ، صافرة ، سيارة) بعد سماعها عندما يطلب منه ذلك وبمستوى دقة 80% .

ثالثاً : أن يميز الطالب سماعياً بين الأصوات العاليه والأصوات المنخفضه (صوت طائره في السماء ، صوت سياره على الارض ) عندما يطلب منه ذلك وبمستوى دقة 80% .

رابعاً: أن يميز الطالب بين الأصوات البعيدة والأصوات القريبة الأصوات مثلا ( جرس ، صافرة ، هاتف ، طائرة ... ) عندما يطلب منه ذلك وبمستوى دقة 80 % .

خامساً : أن يربط الطالب بين صوت الشيء وصورته عندما يطلب منه ذلك بمستوى إتقان 80 % .

مثلا ( صورة حصان وصوت ، صورة قط وصوته ، صورة سيارة وصوته .... )

سادساً : أن يستجيب الطالب للأصوات المختلفة من خلال النشاط الحركي ( صوت صافرة = جلوس ، صوت جرس = وقوف ).

سابعاً : أن يربط الطالب بين صوت الشيء ونموذجه عندما يطلب منه المعلم ذلك وبمستوى دقة 80% .

( صوت حصان ونموذجه ، صوت قط ونموذجه ، صوت سيارة ونموذجه .... )

ثامناً: أن يميز الطالب بين مجموعتين من الحروف تتكون كل مجموعة من حرفين متشابهين في الصوت

تاسعاً: أن يميز الطالب سماعيا بين مجموعتين من المقاطع، تتكون كل مجموعة من مقطعين متشابهين في الصوت ومجموعة اخرى مختلفتين في الصوت (سا،سا) (سو،سي) عندما يطلب منه المعلم ذلك وبمستوى دقة بنسبة 80%.

عاشراً : ان يميز الطالب سماعيا بين مجموعة من الكلمات تضم كل مجموعة كلمتين احدهما متشابهتين والاخرى مختلفتين (كان، كان)،(رأس،فاس) عندما يطلب منه ذلك وبمستوى دقة 80%.

الحادي عشر : أن يذكر الطالب الحرف المشترك بين مجموعة من الكلمات ( سمك، واسع ،جرس) عندما يستمع إليها من المسجل وبمستوى دقة 80%.

### (auditory analysis activities) نشاط التحليل السمعي

أولاً : أن يحلل الطالب سمعيا مجموعة من الكلمات إلى حروفها بعد سماعها مباشرة وبمستوى دقة 80% .

المستوى	رقم الفقرة	الفقرات	العلامة
الأول	1	قلم	3
	2	نام	3
الثاني	3	ساهر	4

4	أرنب	4	
5	جرافة	5	الثالث
5	جوافة	6	
6	احتباس	7	الرابع
6	برتقال	8	
7	اسماعيل	9	الخامس
7	الاميرة	10	
مجموع العلامات 50			
علامة الطالب : _____			

ثانيا : أن يركب الطالب كلمة من مجموعة حروف بعد سماعها مباشرة وبمستوى دقة 80% .

العلامة	الكلمة	الحروف	رقم الفقرة	المستوى
3		ج ل س	1	الأول
3		ن ج ح	2	
4		ج م ي ل	3	الثاني
4		أ ر ن ب	4	
5		ف ر ا ش ة ت ف ا ح ة	5	الثالث

5			6	
6		أن اش ي د	7	الرابع
6		ب ر ت ق ال	8	
36		مجموع العلامات		

علامة الطالب : \_\_\_\_\_

ثالثاً : أن يقرأ الطالب كلمة بعد حذف أحد حروفها عندما يطلب منه المعلم ذلك وبمستوى دقة 80% .

المتبقى	الحذف	الكلمة	المتبقى	الحذف	الكلمة
	سا	8- سامر		ماء	1- أسماء
	عبد	9- عبدالله		طا	2- طاولة
	ق	10- طارق		ان	3- وجدان
	ت	11-جودت		حد	4- حديقة
	ن	12- الحصن		بر	5- برنقال
	د	13- تدمر		د	6- تدمر
	ا	14- عالم		اس	7- اسلام

مجموع العلامات : 28

علامة الطالب : \_\_\_\_\_

رابعا : أن يكمل الطالب الجزء المتبقى من كلمة ناقصة بعد سماعها مباشرة وبمستوى دقة 80% .

الكلمة	المقطع	المتبقى	الكلمة	الحذف	المتبقى
1- جلس	جل	س	8- غالب	غا	لب
2- حسب	حس	ب	9- أرقام	أر	قام
3- أميرة	أمي	رة	10- ايمان	اي	مان
4- بقرة	بق	رة	11- طلاب	طلا	ب
5- علم	عل	م	12- جمال	جم	ال
6- برتقال	برت	قال	13- ثعلب	ثع	لب
7- حسام	ح	سام	14- كتاب	كتا	ب
مجموع العلامات: 28					
علامة الطالب : _____					

خامسا : أن يمزج الطالب مجموعة من الأصوات المختلفة لتشكيل كلمة بعد سماعها مباشرة وبمستوى دقة 80% .

الحروف	الكلمة
ع - ص - ف - و - ر	
ب - ق - ر - ة	
ش - ب - ا - ك	

	ع-م-ا-ر-ة
	ح-ا-س-و-ب
	ا-ل-م-ع-ل-م
	ا-ل-ط-ا-ل-ب
	ح-ق-ي-ب-ة
	ط-ب-ي-ب
	ج-م-ل

مجموع العلامات: 50

علامة الطالب: \_\_\_\_\_

## السمعية الذاكرة (auditory memory)

اولا:

ان يتذكر الطالب مجموعة من الاصوات بعد سماعها مباشرة

(سيارة اسعاف ، صوت عصافير ، نباح كلب ، بكاء طفل ، طرق باب) وبمستوى دقة 80%.

ثانيا :

ان يقدر الطالب مجموعة من الأصوات بعد سماعها مباشرة وبمستوى دقة 80% .

مثلا ( صوت سيارة إسعاف ، صوت مواء قطّة ، صوت جرس ..... )

ثالثا : ان يتذكر الطالب مجموعة من الحروف بعد سماعها مباشرة وبمستوى دقة 80%.

المستوى	رقم الفقرة	الفقرات	العلامة
الاول	1	س م	2
	2	ري	2
الثاني	3	ف ح ش	3
	4	ك ب ه	3
الثالث	5	ع ت ح د	4
	6	ز م ض خ	4
الرابع	7	ك ط ب ج ق	5
	8	د ع و ش غ	5
خامس	9	ال ج س ت ض	6
	10	ر ن ي ث ط م	6
		مجموع العلامات	40

علامة الطالب: \_\_\_\_\_

رابعاً: ان يتذكر الطالب سلسلة من المقاطع بعد سماعها وبمستوى دقة 80%.

المقاطع
ما عوزو سا قا ثو رو
بو طوظا نو ري في ضو
دا كو تا هو لا
سي جو غي صا يا فا

خامساً :

ان يتذكر الطالب مجموعة من الكلمات بعد سماعها مباشرة (سلاسل الكلمات ) وبمستوى دقة 80%.

العلامة	الفقرات	رقم الفقرة	المستوى
2	ورد برد	1	الاول
2	اب قدم	2	
2	عامر جلس	3	
3	زيت بيض قلم	4	الثاني
3	اسئلة دفتر صبي	5	
3	توت طائرة غرفة	6	
4	جدول صف هرة طيب	7	الثالث
4	بحر طين صخر انف	8	
4	امل ديك كرة ثوب	9	
5	نمل موز برج قلب خاتم	10	الرابع
5	سامي قمح صاروخ بيت ليل	11	
5	كلب صوف وجه دار غزال	12	



60	مجموع العلامات	
	علامة الطالب _____	

سادساً:

ان يتذكر الطالب مجموعة من الجمل عندما يطلب منه ذلك وبمستوى دقة 80%.

العلامة	الفقرات	رقم الفقرة	المستوى
3	عمان عاصمة الاردن	1	الاول
3	احب وطني الاردن	2	
4	انصت عند سماع القرآن	3	الثاني
4	الجنة تحت اقدام الامهات	4	
5	شاهدت بشرى الاولاد في الساحة.	5	الثالث
5	البتراء من عجائب الدنيا السبع.	6	
6	يقوم الطلاب بحل الواجبات والانشطة الدراسية	7	الرابع
6	صاد الصياد سمكة كبيرة من البحر	8	
7	يحافظ رجال الامن العام على امن الوطن	9	الخامس
7	فتح المسلمون مكة المكرمة في السنة الثامنة	10	
50	مجموع العلامات		

علامة الطالب: \_\_\_\_\_

سابعاً : ان يعيد الطالب سرد احداث قصة بعد سماعها وبمستوى دقة 80%.

#### الطالبة النشيطة

سحر طالبة نشيطة ، تحافظ على صحتها جيداً، وذلك بتنظيم وقتها فهي تتناول وجبات الطعام في اوقات منتظمة، تحدد ساعات الدراسة، وتمارس هواياتها في وقت الفراغ، فهي تحب الرسم والرياضة ، وتنام مبكرة حتى تستيقظ نشيطة وتتمتع بصحة جيدة.

علامة الطالب : \_\_\_\_\_

ثامنا : ان يذكر الطالب الحرف المشترك بين مجموعة من الكلمات بعد سماعها مباشرة وبمستوى دقة 80% .

العلامة	الفقرات	رقم الفقرة	المستوى
2	قلم قوس	1	الاول
2	درس جلس	2	
3	زيت تين تمر	3	الثاني
3	اسئلة اب ارنب	4	
4	جدول جبل جوافة لجين	5	الثالث
4	جرس صاروخ دار رامي	6	
5	ورد موز لوز كوب هدوء	7	الرابع
5	كلب ليل لبن بلح سفرجل	8	
مجموع العلامات : 28			
علامة الطالب : _____			