



*The Relationship Between Linguistic Intelligence and Student s'  
Achievement in English for Fourth Preparatory Students*

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الذكاء اللغوي وعلاقته بالتحصيل في مادة اللغة الانكليزية لطلبة الصف الرابع  
الاعدادي

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## **Abstract:**

*Mental and linguistic activity, as shown by Gardner, a scientist, is one of the multiple types of intelligence and consists of seven types of intelligence. It is measured by the cognitive performance of the individual who is responsible for acquiring and developing language. Many advanced linguistic studies agreed that it includes factors responsible for sounds, semantics and organization. Therefore, the importance of the current research was determined by measuring the linguistic intelligence while studying English and its relationship to achievement (getting high marks).*

*To achieve the objectives of this research a test of linguistic intelligence was conducted after determining its areas and the number of its items. In its initial form, the test includes 67 items for the total of three areas as identified by experts and multiple-choice formula. Then the psychometric characteristics of the test are verified, and paragraphs are determined through honesty, consistency, distinction, and difficulty.*

*The test, in its final version, was applied to the students of the third-grade intermediate in First Karkh Directorate of Education. Those students were chosen deliberately for their cooperation to accomplish the current research.*

*The researcher adopted the final degree of achievement for the academic year 2018-2019 for English to know its relationship with linguistic intelligence. The researcher has concluded a high correlation relationship between both linguistic intelligence and the degree of achievement (getting high marks). This explains the distinction of some of them in English without the other subjects and this is consistent with Gardner's theory of seven types of intelligence adopted by the researcher.*

## **المخلص:**

يعد النشاط العقلي اللغوي واحدا من الذكاءات المتعددة التي وضحها العالم كاردر في الذكاء الذي يتكون من سبع ذكاءات كما يراها ويقاس من خلال الاداء المعرفي للفرد الذي يعد هو المسؤول عن اكتساب اللغة وتطويرها واتفقت العديد من الدراسات اللغوية المتقدمة على انها تضم العوامل المسؤولة عن الاصوات والدلالة والتنظيم لذا تحددت اهمية البحث الحالي بقياس الذكاء اللغوي لمادة اللغة الانكليزية وعلاقته بالتحصيل. ولتحقيق الهدف من البحث تم بناء اختبار للذكاء اللغوي بعد تحديد مجالاته وبلغت عدد الفقرات للاختبار بصورته الاولى ٦٧ فقرة لمجموع مجالاته الثلاث وكما حددها الخبراء وبصيغة الاختيار من متعدد ومن ثم تم التحقق من الخصائص السايكومترية للاختبار والفقرات التي تحدد من خلال كلا من الصدق والثبات والتميز والصعوبة. طبق الاختبار بصورته النهائية على طلبة الصف الرابع الاعدايي من تربية الكرخ الاولى التي اختيرت بطريقة قصدية لتعاونهم لانجاز البحث الحالي. اعتمد الباحث درجة التحصيل النهائية للعام الدراسي ٢٠١٨---٢٠١٩ لمادة اللغة الانكليزية لمعرفة علاقتها بالذكاء اللغوي وتوصل الباحث الى وجود علاقة ارتباطية عالية بين كلا من الذكاء اللغوي ودرجة التحصيل وهذا يفسر تميز البعض منهم باللغة الانكليزية دون المواد الاخرى وهذا يتفق مع نظرية كاردر للذكاءات السبع والتي اعتمدها الباحث.

## **Chapter one**

### **The Problem and Its Significance**

The mental-linguistic activity is one of the most important activities of the human mind, which is measured through the cognitive performance of the individual, which is responsible for the acquisition and development of language in the individual, which is one of the capabilities that represent the focus of attention for educators due to its social, educational and political necessity. The unity of language creates a kind of unity of national feeling. As it is associated with a long and complex series of intellectual and emotional ties (Shatnawy, 1992, p. 300), which is the important means for studying all academic subjects during the period of education, as it represents the key to all other disciplines (Samak, 1961, p. 748) due to the participation of many mental factors together. To form mental-linguistic activity. Many advanced linguistic studies, with their different approaches, agreed that they include the factors responsible for sounds, semantics, and organization, i.e. the study of the single sentence and methods (Al-Obeidi, 2000, p. 45). (Cho Misky, 1963, p. 65) Therefore, the mental mechanisms responsible for it must be in a specific case and an appropriate situation, especially in the childhood stage, as it has importance in the life of the individual because it does not constitute the main aspect that characterizes man only, but rather it is the factor that The various intellectual and other activities of

the child are built on it upon its progression (Al-Shammaa, 1955, p. 9) (Vancent, 1985, p. 238). The importance of the current research is summarized in dealing with linguistic intelligence and its relationship to the level of success of the student in the subject of the English language, which is responsible for the development of his mental activity at this stage, through providing him with the largest number of linguistic vocabulary, and developing his linguistic ability and organizing it.

### **Aim of the Research**

The current research aims to identify the relationship of linguistic intelligence with the students' achievement level in the English language subject

### **Research hypothesis**

1- There is a correlation between the total scores of the students on the linguistic intelligence test and the students' achievement in the English language subject according to gender and specialization.

### **Limitation of the Research**

The current research was limited to the students of the fourth preparatory students in both branches, and of both genders, in the first schools of Baghdad / Karkh.

## **Definition of terms**

The following is a definition of the most important terms mentioned in the current research

### **Linguistic intelligence**

The term of linguistic intelligence was confined to the psychologist "Gardener" 1983, as he defines it as the ability to use words, understand them, and realize their meaning, the system of words and their relationship with each other, and the rules of speech, reading, and speaking.

## **The second chapter is the theoretical background**

Linguistic intelligence , theoretical background

The creativity of the individual in life does not depend only on the amount of intelligence with which he was born, which is measured through intelligence tests, but also depends on what he was born with of mental talents of the kind whose impact appears in useful aspects of mental activity, and this means that he must have a field He excels in the areas of daily life (Mahmoud, 1985, p. 179).

The scientific organization of mental and cognitive abilities, in particular, was directly subject to the development of the statistical classification of mental activity (Khairallah, 1981, p.

63), so the classification appeared in the simplest form with the general factor and the specific factor, and thus the two factor theory of Spearman appeared, which is the pioneering step in using The method of factor analysis to detect intelligence and different mental abilities, and it appeared as a result of the research carried out by Spearman in 1904, which is summarized in that every mental process includes two factors, a general factor and symbolized by (G), as this factor must participate in all mental operations and activity , Linguistic is one of them and a special factor, and it is denoted by the symbol (S).

In this way, Spearman believes that the general factor is the basis of all mental processes, but it does not participate to the same extent in all processes, rather the percentage of its association with one of these mental processes differs from that of other processes (Vernon, 1965, p.137) (Jalal, 2001, p. 90) as well as different The proportion of its presence from one person to another, as people differ in their mental abilities, and Spearman reached this factor to measure the correlation coefficients between the different mental processes as revealed by the tests, as if the correlation coefficients are due to the presence of the common factor between the mental processes (Sheikh, 1982, p. 86) (Rageh 1976, p . 405-411). Thus, Spearman added to this factor a significant factor specific to each process, and the reason for its existence is relatively due to the complete lack of connection between any two processes due to the

presence of a factor specific to each process. It has and shares with it a second factor called the collective or sectarian factor (Khairallah and Zaidan, 1996, p . 25-26), and then there are groups of mental abilities, and each group has its own factor and is linked to each other by the general factor.

Spearman's promise (the private worker) is an educated worker, as it differs from one activity to another in the same individual, and its value varies from one individual to another.

Later the factor theory of Thorndike came into existence, who is considered the owner of the physiological theory in explaining intelligence, which instructed intelligence to the proportion of the complexity of the individual's neural connections. He distinguished between three types of intelligence: abstract intelligence, mechanical intelligence, and social intelligence.

Thorndike denied the general factor that is involved with all mental processes, and replaced it with qualitative forms of intelligence that depend on the aggregation of mental processes that are similar in their functions and require capabilities in distinct groups.

Thorndike was not given the importance of training, as he assumed that there is no effect of training on mental abilities and that the study materials that are taught in school have no effect on the mental activity of the individual if there is no correlation between

the stimulus and the response, and he explained the process of storing knowledge and experiences and the ability to retrieve them with the extent and strength of the associations that occur Between them, that is, between a specific stimulus and a specific response, in order to be used in appropriate situations (Al-Sheikh, 1982, pp. 100-103).

Then came the theory of sectarian factors or primary factors "Thurstone" 1931, which is a middle theory between Thorndike's theory and Spearman's theory, as mental activity in it is not considered a product of a large number of factors as it is called Thorndike's theory, and it is not considered a product of a general factor that enters into all mental processes, but rather it explains coefficients The link that exists between the different processes on the basis of a primary factor that enters into these processes, and does not enter into others, and this factor connects them and gives them a psychological unit and a functional unit that distinguishes them from other mental processes, so this theory is called the theory of primary factors and considers the linguistic factor as one of the existing factors. In tests that include understanding of the language and the factor of fluency in the use of words, and it is found in the processes that require the individual to think of separate words and the factor of rationality that is found in the processes that require the individual to discover a rule or principle



that combines a number of letters in addition to the spatial factor and deaf memory that appear In the ability to memorize (Thurstone, 1964, p.65-6) (Mahmoud, 1979, p. 194).

As a result of the research carried out by Thurston in 1941, which analyzed a global overlapping analysis of the tests, through which he concluded that the most closely related abilities are the ability to linguistic expression, the ability to verbal fluency, the numerical, spatial, remembrance, and inferential abilities. And the most closely related to practical life (Al-Sayed, 2000, p. 266)

Thurston noticed that there is a common measure between all primary mental abilities, which he called the ability of mental abilities, and thus he referred to the general factor (Moawad, 1981, p. 343-244) (Mahmoud, 1979, p. 99).

One of the theories concerned with the description and variation of people in the content of intelligence, i.e. the capabilities that underlie intelligent behavior, is the theory of "Gardner" Gardener, 1983, called it the theory of multiple intelligence. According to the American Educational Research Association, the theory of human nature <http://wikimedia foundation/hatml>, since the work of "Kardner" began as a doctor and then became interested in evolutionary psychology, and after noticing the shortcomings of intelligence tests, especially children's tests in the early seventies,

and the degree of intelligence of the individual in giving them a perception of the individual's ability In his performance of some work and his creativity in it, as well as the general factor that does not give a clear conception of the mental activity of the individual ([www.cottlondon.com](http://www.cottlondon.com)).

As a result of the many researches he carried out, in which he focused on the creative achievements of human beings, he concluded that the intelligence of the individual is represented by a group of intelligences derived from the performing intelligence, which are

- 1- verbal or linguistic intelligences
- 2- spatial intelligence (bodily kinesthesia)
- 3- musical intelligence Musical)
- 4- Spatral intelligence
- 5- Logical Mathematical
- 6- Interpersonal intelligence
- 7- Self-intelligence mail ([www.pz.harvarded hot](http://www.pz.harvarded hot)).

And that each type of intelligence is determined by a specific area in the brain that is specialized, and he presented evidence of the existence of these intelligences. It should be noted that people often excel in one of these jobs, but they do not have distinction in the remaining the six rest (Al-Baily, 1997, p. 136), in addition to that what intelligence tests measure or the degree of intelligence do not give a clear picture of the individual's ability or creativity,

as well as the results of studying the history of life The individual, as it indicates the presence of ability in him by nature (<http://smit-him>).

Cardner's theory explains intelligence on two basis. The first is the genetic and biological basis, and the second is the environmental basis, culture and education, as he was aware of the importance of developing education strategies within the classroom. These talents, in addition to that he adopted the strategy of individual education and confirmed it (<http://www.Gardener.html>).

Cardner introduced a concept called crystallized experience, which is the ability to interact between the individual and a field of life, and this crystallization is built on the basis of training with the ability, practice, and nature of the individual. In one of these fields, and in which he worked on developing his ability through training and practice, Cardner noticed that people often excel in specific elements such as (literature, problems).

A self-idea must be formed on the basis of the experiences of the individual.

Cardner counted linguistic intelligence as one of the seven types of intelligence he has, as he sees it as the ability to use language to express what is in the brain and to understand others, writing and all aspects of language ([www/ed-miverw.htm](http://www/ed-miverw.htm)) as it

allows individuals to communicate and understand the world and considers it one of the most important types of intelligence. The task that is involved in the education process is not only for the language, but only for learning another language, for example, or for all subjects, and define the components of linguistic intelligence, which is represented in understanding the meanings of words, grammar, the ability to make a word out of a sentence and vice versa, and the social context of words and sounds ([www.pz.harvard-edu.html](http://www.pz.harvard-edu.html)) and develop strategies that distinguish the individual with this type of intelligence, which is his ability to listen to stories, his participation in discussions that take place in the classroom, his ability to retell or a story, he reads and writes a lot, and he has the ability to process language (<http://www.ozemail.com>) One of the sharp criticisms directed at Kardner's theory is his identification of these seven intelligences. Some researchers believe that identifying these intelligences is related to the nature of the society in which the individual lives, and Kardner's response to this criticism was that these types of intelligences play an important role in shaping the intelligent behavior of the individual, and that they are of great importance in the areas of public life for individuals (<http://www.edgow/diyests/html>) From the above, the researcher concluded some advantages of (Kardner's) theory of multiple intelligence, which are:

- 1- It is one of the theories that help to reveal the talents of the individual.
- 2- It is consistent with the modern trend in measuring intelligence, as the researcher is not interested in knowing the degree of general intelligence as much as he gives importance to revealing his abilities and talents.
- 3- It is considered one of the theories through which it is possible to predict the future of the individual and direct him to areas related to his abilities.
- 4- Kardner's theory agrees with the modern trend in education in that the student is the focus of the educational process, and all we try to do is develop his capabilities.
- 5- She stressed on the aspect of experience and training. The experience is acquired by the individual from the environment and the training that is given to the student during the study stage.
- 6- As for linguistic intelligence in particular, Kardner's theory emphasized the existence of this type of intelligence in the individual, independent of the rest of the other types, and has no relation to the individual's general level, which is included in all the special factors, according to (Spearman), and its emphasis on the environment The linguistic individual and the importance of the training that is given to the student throughout the years of study and not denying the effects of the environment on the individual's capabilities according to what he sees (Thorndike),

and despite its agreement with the theory (Thurston) to some extent, but the research carried out by (Thurston and Thurston) that concluded the presence of a primary factor Simple and included in all the multiple factors that he called the ability of abilities, as it came back again to confirm the existence of the general factor.

7- The theory of "Kardner" agreed with the principle of dependence on language acquisition on the experience of "Vogman", who carried out many researches and linguistic studies, during which he concluded the importance of human training on language acquisition. It becomes difficult for him to learn the language after that despite the safety of the devices connected to the language (Adham, 1993, p. 245).

### **Previous studies**

#### Al-Ajili study 1999

The study aimed to build an experimental file in Arabic grammar. To achieve the goal, the researcher prepared (124) multiple-choice items with four alternatives that measure the first three levels of Bloom's classification of goals (knowledge, understanding, and application).

The test file was divided into two parts and applied to a sample of (716) male and female students who were randomly selected from primary schools. The statistical analysis was

conducted according to the traditional method to extract the difficulty coefficient, which ranged between (0-1), the discrimination coefficient, which ranged between (0-0.71), and the effectiveness of the alternatives. Accordingly, (26) items whose discrimination coefficient is less than (0.10) and their difficulty coefficient is less than (0.20) and more than 0.80, which carry ineffective alternatives, were excluded. Then the data were analyzed according to the Rasch model using the computerized program RASCAL.

The results revealed that the paragraphs analyzed by the traditional method were consistent with the Rasch model, except for one paragraph that was excluded from the file. The difficulty parameters calculated in logite unit which is ranged over a wide range of measured ability between (-3.15 - 3.38) with an average of (0.144) and standard errors that ranged between (0.104). - 0.338) (Al-Ajili, 1999).

#### Dana Study 2002

It aimed to construct a test in basic mathematical concepts for grades from the fourth to the seventh in Jordan schools. Twelve tests were built in the seven basic concepts that were identified, which are the concept of (number), (algebraic value), the concept of (ratio and proportion), the concept of (group), (the geometric

concept), the concept of (statistics) (and the concept of probability), with two tests for each Class .

The number of paragraphs was (350) of the multiple choice type with four alternatives. The tests were applied to a sample of (2219) male and female students. After collecting the data, the objectivity of the measurement was verified using the Rascal model, and using the computerized program (Rascal). (41) items were deleted because they did not fulfill the hypotheses of the model, so the number of test items in its final form became (259) items. A horizontal tie and a vertical tie were conducted. The number of connecting items was (10) for horizontal draw, and (13) items for vertical draw. Then the researcher divided the test file into two equal parts in difficulty to build the knitted test according to the two-stage strategy, according to which each file was divided into nine levels to calculate the level of ability of the student whose performance is to be evaluated (Dana, 2002).



## **Chapter three**

### **Search procedures**

This chapter includes a presentation of the procedures adopted by the current research to achieve its objectives in terms of defining the population, selecting a representative sample for it, and preparing the test

**First:** the research community:

The current research community was determined by the students of the secondary stage / fourth grade in its scientific and literary branches / Karkh and for the academic year 2015-2016, as they numbered (710) male and female students, by (411) students, (299) students in the central schools of Karkh.

**Second:** the research sample:

The random interim method was used in selecting the research sample. Four schools affiliated to Baghdad / Karkh Education were randomly selected. From each school, one or two divisions from the fourth stage were randomly selected. From these divisions, a number of students were chosen in proportion to the required number, and in a random manner. (160) male and female students were selected, distributed in different proportions according to gender (male, female). Table (1) shows this.

Schedule (1)

Distribution of the research sample members according to gender and specialization

| Specialization | Sex  |        | Total |
|----------------|------|--------|-------|
|                | Male | Female |       |
| Scientific     | 25   | 25     | 50    |
|                | 15   | 15     | 30    |
| Literary       | 27   | 27     | 54    |
|                | 13   | 13     | 26    |
| Sum            | 80   | 80     | 160   |

**Third:** the search tool:

**First** - Theoretical foundations for building the test

Determining some of the theoretical foundations upon which the researcher relies in constructing the test is a necessity before starting the practical procedures for constructing the test Which :

1- The researcher adopted the theory of multiple intelligences, "Gardner" 1983, for linguistic intelligence, which is one of the seven intelligences that turn into a form of problem-solving and provide products of value and importance in the fields of life, as well as the researcher's adoption of the "Kardner" definition of

linguistic intelligence, and derived from it some common factors in determining linguistic intelligence.

2- The researcher also adopted Verunon's division of linguistic factors, which he considered important in the verbal learning process, which is represented in all factors that have an impact on mental-linguistic activity.

3- The researcher made multiple choice a preferred method for constructing the test

Determine the components of the linguistic intelligence test

For the purpose of defining the components of the test, all the factors that are responsible for the performance of the mental-linguistic activity should be identified. And since the "Kardner" theory is adopted in the current research, it was important for the researcher to abide by Cardner's definition of linguistic intelligence, and to benefit from it in determining the test areas, as he emphasized the ability to use words, understand them, and understand their meaning, the system of words and their relationship with each other, the rules of speech, reading, speaking, and all other language functions. All the factors that are responsible for the performance of the mental-linguistic activity are identified, and reading is excluded, as this requires a high degree of technique and technique in measurement.

For the purpose of determining the factors of linguistic intelligence, the researcher used the previous literature in this field, as the results of the research indicated that the linguistic ability has a very important impact on academic achievement (Abu Hatab, 1973, p. 1965, p: 52).

B- After the factors of linguistic intelligence were identified with their definitions, a seven-point scale was set for them for the purpose of determining the relative importance and number of paragraphs for each of the factors. They were presented to a group of experts and specialists in educational and psychological sciences and the Arabic language, as they numbered (12) experts) to see the extent to which they include the factors of intelligence. Linguistics of primary school students.

C- The weighted mean was extracted for each of the factors, according to the opinions of the arbitrators, and then the relative importance of each of the factors was extracted, as presented in Table (2).

The weighted mean and the relative importance of each factor according to the opinions of experts

|              | <b>Factor name</b>                        | <b>weighted mean</b> | <b>Relative importance</b> |
|--------------|---|----------------------|----------------------------|
| <b>1.</b>    | <b>spelling</b>                           | <b>4.87</b>          | <b>26 %</b>                |
| <b>2.</b>    | <b>verbal comprehension</b>               | <b>3.50</b>          | <b>19%</b>                 |
| <b>3.</b>    | <b>Grammar</b>                            | <b>2.75</b>          | <b>15%</b>                 |
| <b>4.</b>    | <b>Perception of verbal relationships</b> | <b>2.53</b>          | <b>13 %</b>                |
| <b>5.</b>    | <b>Verbal fluency</b>                     | <b>2.42</b>          | <b>13%</b>                 |
| <b>6.</b>    | <b>verbal memory</b>                      | <b>1.50</b>          | <b>8%</b>                  |
| <b>7.</b>    | <b>verbal reasoning</b>                   | <b>1.3</b>           | <b>6%</b>                  |
| <b>total</b> |   |                      | <b>100%</b>                |

The arbitrators unanimously agreed on the validity of all the basic fields, with some modifications to the naming and wording of the definitions of some of them, which were all adopted. The definitions became clearer, and a procedural definition was put in place for each of the factors

**Secondly**, the validity of the paragraphs:

After preparing the test items amounting to (58) items, they were presented to a group of specialized experts in order to extract the apparent validity that includes the clarity of the items, and their suitability for measuring probing thinking.

The arbitrators expressed their observations and opinions on the paragraphs, and suggested amending some of them and deleting others.

**Thirdly .** Scale instructions:

Instructions for the scale have been prepared that explain to the student how to answer its paragraphs. It has been taken into account in preparing the scale instructions that they are suitable for the sample, easy to understand and clear. The purpose of the scale has been clarified, which is to identify some of the students' thinking methods for the purposes of scientific research and not for success or failure. They were asked to answer questions. All paragraphs of the scale are openly and honestly, and no paragraph is left unanswered, and the questionnaire is prepared for the purpose of the study and not for another purpose.

**Fourth -** the reconnaissance application:

The researcher applied the test on a random sample consisting of (40) male and female students from the fourth/secondary stage other than the research sample. To the researcher, the test items were clear and understandable, and the alternatives were

appropriate. As for the time taken to answer, it was between (20-60) minutes, with an average capacity of (40) minutes.

4- Statistical analysis of the items of the scale:

The process of statistical analysis of the items is an essential step in constructing any scale in order to reveal the psychometric characteristics of its items that help the measurer to test items with good characteristics, and this in turn leads to an increase in the validity and stability of the scale (Anastasi, 1982:192).

Therefore, the exclusion of poorly discriminated items and keeping the distinct items in the scale makes it more accurate and stable (Eble, 1972:390).

In order to extract the discriminatory power of the paragraphs of the probing thinking scale, the researcher applied the test, on a random sample of (210) male and female students, distributed according to the research variables, gender, academic specialization. The size of this sample is suitable for analyzing the items of the scale statistically, as Nunnally suggests that the sample size of the statistical analysis should be no less than five individuals for each item of the total items of the applied scale. (Nunnally, 1981:262).

After correcting the forms, they were subjected to statistical analysis in order to extract the discriminatory power of each item, and the correlation of each item of the scale with its total.

It should be noted that the discriminatory power of the paragraph is the ability of that paragraph to distinguish between individuals who possess the characteristic or know the answer, and those who do not possess the characteristic or do not know the correct answer for each paragraph or question of the scale or test (Imam et al., 1990: 114), (Dowine, 1976:213).

The researcher arranged the scores of the respondents, starting from the highest score and ending with the lowest score. The (27%) of the questionnaires with the highest score, which is the upper group, were sorted. In the same way, the (27%) with the lowest score, which is the lower group, were sorted. It was found that the ratio of the upper and lower (27%) of the scores represents the best ratio that can be taken, because it provides us with two groups with the maximum possible size and differentiation. One represents a small aspect of this content, and the higher the degree of correlation, the higher this indicates the homogeneity of the paragraph in its measurement of the phenomenon measured by the test (Al-Zubaie et al., 1981: 36). This distinction for each paragraph may be the basis for the overall score of the test, and this means that there is a relationship between the paragraph And the total score, called internal consistency, the researcher used Pearson correlation coefficient between each paragraph and the total score of the scale as a description that represents the



coefficient of homogeneity of the paragraph with the scale, as the specialists in psychological measurement indicated that the correlation of the paragraph with the total degree of the scale means that it measures the feature or property that is measured by the scale itself ( Ghiselli, et.al, 1981:436) and the correlation coefficients between the score of each item and the total score of the test were between (-0.24, 0.67).

It was found through the analysis that most of the paragraphs are distinguished at the level of significance (0.05), with the exception of some paragraphs. Then the test items were chosen according to the items with high discriminatory power and the items with high correlation with the total score.

The researcher deleted the items with low discriminatory power and a low correlation coefficient, and accordingly, the test items in its final form became (40) items, and thus, items with high discriminatory power and a high correlation coefficient were obtained.

#### 5- Validity of the test:

For the purpose of verifying the validity of the test, its paragraphs were presented to a group of specialized experts, to judge the validity of its paragraphs. Thus, the virtual validity of the scale is achieved.

### 1. Scale constancy:

For the purpose of finding the stability of the current test, the researcher adopted the two re-test methods, and after correcting the responses of the second application, the stability coefficient was calculated using the Pearson correlation equation (Al-Bayati, 1977: 183), so the stability coefficient reached (0.86), which is a reliable stability coefficient

## **Chapter four**

### **Presentation and discussion of results**

This chapter includes the results reached by the researcher according to his objectives, and his discussion of these results first:

The first objective:

With regard to the first objective, which is related to knowing the relationship between linguistic intelligence and achievement in the research sample, the linguistic intelligence test was applied in its final form on the research sample, reaching an average of (25.51) degrees and a standard deviation of (6.15) degrees, while the theoretical mean of the scale was (20) degrees. To find out the significance of the sample average on the test, the one-sample test was used, where the t-value was (11.47), and it was found to be a function at the level of (0.001). This means that the sample of students has a high level of linguistic intelligence. For more

information about the averages of the research sample according to its variables, they can be summarized as follows:

1- The level of total scores for the students' responses (males) on all items of the scale amounted to (26.56) degrees, with a standard deviation of (6.47) degrees.

2- The average of the total scores for the students' responses (females) on all items of the scale is (24.47) degrees, with a standard deviation of (5.66) degrees.

3- The average total score for the responses of students (scientific major) to all items of the test was (28.21) degrees, and a standard deviation of (5.67) degrees.

4- The average total score for the students' responses (literary major) to all items of the test was (22.82) degrees, and a standard deviation of (5.40) degrees.

#### Schedule (2)

It shows the mean and the standard deviation for all the sample

| variants                  | SMA   | standard deviation |
|---------------------------|-------|--------------------|
| Male                      | 26.56 | 6.47               |
| Female                    | 24.47 | 5.66               |
| Scientific specialization | 28.21 | 5.67               |
| Literary specialty        | 22.82 | 5.40               |

All the averages of the sample according to the variables (gender, academic specialization) indicate a high degree of linguistic intelligence

To find out the relationship between linguistic intelligence and the degree of achievement, Pearson's correlation coefficient was used to know the nature of the relationship between the research variables, and it was found to be equal to (0.425) degrees. This indicates a high correlation between the two variables.

Table (3) explains Correlation coefficient between linguistic intelligence and achievement

| Correlation factor | standard deviation | SMA    | variants      |
|--------------------|--------------------|--------|---------------|
| 0.425              | 6.15               | 25.51  | الذكاء اللغوي |
|                    | 22.84              | 273.47 | التحصيل       |

### **conclusions**

Through the results of the research, the researcher can conclude the following:

- 1- There is a positive and significant relationship between linguistic intelligence and performance
- 2- There are significant differences in linguistic intelligence according to the variables of gender in favor of males, and according to the variable of academic specialization - in favor of scientific specialization.

## **Proposals**

- 1- The researcher suggests conducting comparative studies in the future between the academic levels
- 2- That there be tests to measure the different types of intelligences so that the gifted are detected and cared for in private schools.
- 3- Conducting a study in which the current test is rationed on the largest possible number of students and the test is analyzed