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Dyscalculia and Relationship with Mental Perception of Students in the Sixth Grade Primary Students from their Teacher Point of View

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ABSTRACT

The current research aims to identify the dyscalculia for the sixth-grade primary students. As well as, the mental perception of the sixth-grade primary students, and the nature and direction of the correlation between dyscalculia and mental perception among the sixth-grade primary students. The research sample consisted of (240) male and female students from the sixth students, distributed among eight schools from the education of first Rusafa schools. Moreover, to verify the research objectives, two scales were prepared, one for dyscalculia and the other for mental perception, and testing the psychological characteristics, under which the two scales became ready for application and in their final form. The items for both of the dyscalculia and mental perception scale reached (24) items, and the researchers used the Statistical Package for Social Sciences (SPSS) to analyze the study results. Finally, the results indicated that the sixth-grade primary students in the General Directorate of the education of first Rusafa had no dyscalculia and no deficiency in mental perception, as well as there was a positive correlation between dyscalculia and mental perception, and the researchers presented a set of recommendations and proposals.

Keywords
Dyslexia, Dyscalculia, Mental Perception, Students, Sixth-grade Primary, Teachers.

Introduction

With the increase in technological development and scientific progress in various fields of life, countries become more interested in education in all its stages and researching their problems and overcoming their difficulties. Mathematics has been considered one of the subjects for students in general education stages and the need for it in daily life increases with the increase of technological and scientific progress and it is indispensable at school or anywhere else as one of the necessary fields of knowledge for many fields of social, industrial and economic life, etc. Dyscalculia is called a math deficit, which is a specific type of learning difficulty that includes an inherent difficulty in comprehending mathematical calculations and is close to dyslexia, it includes difficulty in understanding numbers, learning how to multiply them, and learning mathematical theories, although there is no specific scope for the difficulty of learning. Dyscalculia is one of the most common types of academic difficulties among learners, especially in basic education stages. One of the most prevalent of these is the difficulties in learning mathematics represented in the difficulty of solving the mathematical problem and dealing with mathematical concepts (Waqad, 2013: 67). However, The current research problem is determined by answering the following questions, what is the dyscalculia level for the sixth-grade primary students? What is the mental perception level of students? As well as, is there a correlation between dyscalculia and mental perception among sixth-grade primary students? The importance of the current research is determined by dyscalculia is linked to many other learning difficulties such as dysgraphia, dyslexia, and the difficulty of naming things. Measuring the dyscalculia of the students, and the mental perception in the fields of visual perception and auditory perception among these students. Besides, this research and its results may give clear indications to those responsible for preparing curricula at the Ministry of Education. On the other hand, the main research objectives include detecting the dyscalculia and the mental perception of the sixth-grade primary students. As well as, is the nature of the correlation between dyscalculia and mental perception among sixth-grade primary students?

Research Hypotheses, Limits, Terms Definitions

In order to verify research objectives, the following Null hypotheses have been formulated, as there is no statistically significant difference at the significance level of (0.05) between the assumption average and the arithmetic mean for

the scores of the sixth grade primary students in the dyscalculia scale. Besides, there is no statistically significant difference at the significance level of (0.05) between the assumption average and the arithmetic mean for the scores of the sixth grade primary students in the mental perception scale. Finally, there is no statistically significant correlation at the significance level of (0.05) between the arithmetic mean for the scores of the sixth grade primary students in the dyscalculia scale and the arithmetic mean for the scores of the sixth grade primary students in the mental perception scale. Research limits include the spatial limits, which are the Day primary schools belonging to the Directorate of Education, the first Rusafa, while the Temporal limits refer to the academic year (2018-2019). Additionally, the human limits that are the grade primary students and mathematics teachers in the General Directorate of education for the first Rusafa. Objectivity limits refer to dyscalculia, mental perception, the sixth primary book of the Ministry of Education, Republic of Iraq. Dyscalculia defined as "the deficit to perform the basic mathematical operations of addition and subtraction, multiplication and division, and the resulting problems in studying fractions and algebra, and engineering (Lerner, 2000: 79). Else, (Jadoua, 2003;89) states that students are unable to properly deal with numbers, operations, and mathematical laws, or their logical order in the sequence of numbers. As the procedural definition of dyscalculia means the score that a sixth-grade primary student obtains by answering the items of the dyscalculia scale prepared for this research. However, (Mansour, 1996: 98) defined mental perception as a mental - cognitive investigative activity, issued by the individual upon direct contact with a subject and interacting with it, intending to track it. Also, determining its characteristics and identity, and the category to which it belongs to form an image or model for it, and direct its behavior towards it based on it. Additionally, visual perception: discusses how the individual deals with the outside world in a visual way that aims to identify and explain external stimuli (Al-Khouli, 2002: 248). The Theoretical definition of visual perception: It is the ability to understand the visual stimuli that exist around us, including images, shapes, sizes, letters, and numbers according to cognitive and skill capabilities, while the Procedural definition: the score to which a sixth-grade primary student obtains by answering the items of the visual perception scale prepared for this research. Finally, (Smith, 1994: 281) defines the Auditory perception as the ability to give a reaction and meaning to the commands that are sent to the brain through the sense of hearing, that is, the sense of hearing is one of the media that connects the brain and the outside world. Whereas, the theoretical definition of auditory perception is the ability to understand the auditory stimuli that exist around us, including words, letters, and numbers, and to give appropriate responses to each of them. The procedural definition is the score to which a sixth-grade primary student obtains by answering the items of the audio perception scale prepared for this research.

Previous Theoretical Background and Studies

Dyscalculia comes from the Latin language, as the first word "dys" means in Latin language is bad and "Calculia" is from Latin which means counting, meaning that Dyscalculia "means counting badly, where the name "Dyscalculia" dates back to 1949. However, it is a disease may turn into partial disability, as it is difficult to acquire the skill of computational processing and computational understanding, and then the arithmetic solution. Also, Dyscalculia characterized by difficulties in understanding arithmetic symbols and directions of numbers, arranging them according to the smallest or largest and dealing with numbers, this may lead to problems in learning the facts that relate to numbers, understanding verbal issues, and steps for solving math problems. Mathematical mental disabilities were originally identified by studies of patients with specific dyscalculia because of damage to specific brain regions more common. Dyscalculia occurs in a developmental form, as learning difficulty related to genes affects the individual's abilities to remember and understand, or the facts of numbers or multiplying numbers as an example in the multiplication table. The term is usually used to refer specifically to the inability to perform calculations. Except, it has been defined by some education professionals and cognitive psychologists such as Stanislas Dehaene and

Brian Butterworth as the primary inability to visualize numbers as abstract concepts that this research considers to be the primary skill upon which other mathematical abilities are built (Bell, 1987: 43). The Dyscalculia elements include the dysfunction of the central nervous system, Disturbances in psychological processes and irregular growth, the clear contrast between potential and achievement, mental retardation, and cultural, economic or social deprivation (Lerner, 2000: 10). The Dyscalculia causes may be attributed to weak or previous poor preparation in mathematics, and the clear failure to perceive spatial relationships. As well as, not being able to count a series of things pictured by referring to them, and the difficulties in reading and understanding mathematical problems. As well as, the apparent lack of selection and use of appropriate strategies in solving math problems, and mathematics anxiety, which represents an obstacle to students and which may lead to negative attitudes towards mathematics (Al-Zayat, 1989: 463). (Rourke, 1993) indicated that the best signals for identifying students with learning difficulties in mathematics through the most common mistakes among them, which can be classified as visual description errors by reading mathematical problems that contain decimal marks such as not knowing their location. Errors in the spatial organization by switching the numbers contained in one column, such as switching two numbers to replace each other and not knowing the correct direction of the process. In addition, procedural errors appear in performing mathematical operations such as addition, subtraction, multiplication, and division to other operations, and failure to modify the educational self-position and appears when the math problem contains two or more operations. Finally, the Judgment and reasoning appear in the inability to judge the validity of error of some operations, and the inability to infer and sound conclusion, and memory by not being able to remember mathematical terms and failures to remember basic numerical facts (Rourke, 1993: 219). Perception is one of the mental processes that help the individual to know what is going on around him and helps him to satisfy his basic and secondary needs, and through it, he avoids mistakes that could reduce the chances of his stability and growth. (Freud et al., 1980: 123). Furthermore, the perception is how an organism adapts to the environment in which it lives, and without feeling, it is not possible to realize the world around us, where these sensations that reach through different senses are translated into certain meanings. It causes the individual to respond to it in a certain way and behaves in a specific manner consistent with these meanings. The feeling is a process of receiving stimuli that are located on one of the senses (Al-Slaiti, 2008: 150). It is well known that cognitive processes usually begin first with sensory processes, then perception comes second of the cognitive processes (Jadaan, 2011: 13), where there are similar basic stages agreed upon in perception. First, it consists of the vague perception stage, which is the initial knowledge of what exists in an individual's environment, secondly the stage of realizing what is in the sensory and visual field. In addition to the stage of specialization in perception, as the perceptive individual is fully aware of what he or she wants to perceive with specific awareness after excluding secondary stimuli from the field of their awareness. Fourth: the stage of determining and understanding the meaning of what is perceived. In this stage, visual perceptions are understood in the form of objective things, and perception occurs because of alerting to a set of perceptions associated with a member of the sensing member. In light of the foregoing, perception is a thinking process related to the individual's knowledge structures and influenced by his various abilities and tendencies (Al-Hawaiji and Muhammad, 2015: 24). Specialists in the field of the visual study indicated that visual perception is a dominant perception of other forms of perception, in addition to that most of the information that the individual gets from his outside world, comes through visual perception, as the percentage of this information is from the total information balance of the individual from (70 -90%) (Parapachkov, 1990: 73). In this regard, Bruner studies (1973) confirmed that what the individual sees is more than what he receives, and other scientists pointed out the functional specialization of the visual cortex, in order to ensure the occurrence of vision where there are four groups of cells. The first is the group of kinetic cells and the second is the group of color cells, while the

third and fourth are the cells of the shape. In addition to this functional exploitation of the four cell groups, there is a mixture of the signals of small and large cells. For this reason, and in order to produce a single visual image, all groups communicate their signals to one controlling group that works to unify, synthesize and integrate information, and formation one image of it. As there is no effect in it to divide the work between the different groups, and this may lead to the integration of the visual image, then perception the visual world and understanding it at the same time. Visual perception is a complex process of receiving, merging and analyzing visual stimuli using mental kinetic activities, and eye movement skills simultaneously, kinetic processes conditioned by the ability to distinguish between light and dark, and the ability to see small things (Bryan, 1972: 192). The phonemic language system determines the process of auditory perception, as it includes coding of its independent elements in complex forms. The human language uses a whole system of phonemic symbols, and based on these symbols it builds its semantic elements of words, as the distinction of sounds for words needs to distinguish the essential signs of the spoken voice and exclude the secondary and non-essential signs to distinguish them (Harber, 1980: 322). (Al-Rousan, 1994) indicated that auditory perception is a complex process resulting from the reception, integration, and analysis of visual stimuli by mental kinetic activities, and kinetic processes are conditioned by the ability to distinguish between light and darkness, the ability to see the little things and the eye movement skills required to work both eyes simultaneously (Al-Rousan, 1994: 23). The sense of hearing is one of the media that connects the brain with the outside world and in the event of a defect in the auditory perception. This leads to the hearing of children with disabilities in the perception of melodies and sounds that are completely different from what the ordinary child hears and of course, this leads to a wrong understanding of these sounds. From this, it is clear to us in this field that the individual may have problems understanding what he hears, and therefore his responses to stimuli may be delayed and may occur in a manner that is not commensurate with the subject of the stimulus (Abdel Hadi et al., 2000: 215-216).

Research Methodology and Procedures

The researchers followed the descriptive research methodology, and the following is a detailed presentation of these procedures. As the research community consists of sixth-grade primary students / General Directorate of Education for the first Rusafa for the academic year (2018 - 2019), where the current research community was carried out according to a task facilitation letters for the General Directorate of Educational Planning, Department of Statistics. (Task facilitation letter from the Open Educational College to the General Directorate of Education for the First Rusafa / No. 24 / M / 4804 dated 26/12/2018, task Facilitation Letter from the General Directorate of Rusafa Education First / Preparation and Training / Research and Studies / No. 2945 dated 30/12/ 2018) as shown in Table 1.

Table 1. The research community of the sixth-grade primary students / Rusafa Education for the first academic year (2018-2019)

Stage	Number of students	Number of female students	Total
sixth grade	15254	15260	30514

The research sample was chosen from the sixth-grade primary students / Education of first Rusafa in a random method and for separate areas of this directorate. The number of the sample individuals reached (240) male and female students from the sixth-grade primary students as shown in Table 2.

Table 2. The research sample for the sixth-grade primary students / Directorate of Education, the first Rusafa for the academic year (2018-2019)

Seq.	School name	Number of students	Number of female students	Total
1	Al Yosur	30	.....	30
2	Port Said	30	.....	30
3	Aisha	30	30	60
4	Al Ibtihal	30	30	60
5	Umm Salamah	.....	30	30
6	Amna Bint Wahab	.....	30	30
Total		120	120	240

In order to prepare the research tools, the scales for previous studies and research that dealt with dyscalculia and mental perception. Below is a description of the preparation of the dyscalculia and mental perception for the sixth grade primary students by following the following steps. These two scales aim to know the extent of detection dyscalculia and mental perception for the sixth-grade primary students, taking into account the achievement of objectivity, inclusiveness, validity, and reliability. According to the literature reviews, previous studies and mathematics books for several stages, the researchers formulated the two-scale items. As the items number of the dyscalculia scale reached (24) items, and the items number of the mental perception scale (24) items by (12) items for visual perception and (12) items for auditory perception, the two scales included negative items to validate the responder response. Furthermore, the instructions for the two scales have been applied, and they included giving an idea of the objective of both scales, and how to answer the items of the two scales. Each of the two-scale items has been giving four alternatives for answering which are (always apply, sometimes apply, rarely apply, does not apply), accordingly, the items of the two scales are negative, and the following grades are given, respectively (1, 3, 2, 4), so that the range of the two scales degrees is (24-96). However, the scale is valid when it can measure the trait to be measured (Al-Zobaie et al., 1981: 39). The two scales were presented to a group of specialists in the field of mathematics (Prof. Osama Hamid Hassan / Open Educational College et al.,). It was agreed by the arbitrators to retain all the two-scale items, as each item obtained an agreement percentage greater than (87%) of the arbitrator's opinion and the introduction of the amendments referred to by the arbitrators. Thus, the items number of the dyscalculia scale reached (24) items, while the items of the mental perception scale reached (24) items as well, and the two tests are ready to be applied to the pilot sample. In order to ensure clarity of the two-scale items and its instructions and to determine the appropriate time to answer the items. Moreover, the two scales were applied by a mathematics teacher to a sample of the sixth-grade primary students in the Al-Aquli Primary School, affiliated to the Directorate of Education, Baghdad / first Rusafa, on Monday (18/2/2019), whose number is (28) pupils. The clarity of the two items was confirmed, and the time taken to answer the two scales was calculated. Additionally, the two scales were applied by mathematics teachers on a second pilot sample consisting of (200) male and female students from the sixth-grade primary students in Primary Schools of (Mays, Al-Ghassasnah, Bisan) of the Baghdad Education Directorate / first Rusafa on Wednesday (20/2/2019). After correcting the two scales with its four alternatives (always apply, sometimes apply, rarely apply, does not apply), the researchers arranged the forms in descending order, then two groups of students' were identified, the first group represents the highest (27%) of scores of the two scales and is the highest group. While the second group represents the lowest (27%) of scores of the two scales, which is the lowest group, and thus the number of students in each group is (54) male and female students, then the following statistical studies were performed on the highest and lowest groups:

The Discrimination Power of the Two-scale Items

The arithmetic mean and the standard deviation were calculated for each group separately and for each item of the scale, and the researchers used the T-test for two independent samples between the two groups to find the discrimination power of the scale items. In addition, the calculated T-test value that ranged between (3.85 - 24.20) was an indication to distinguish each item by comparing it with the tabulated value of (1.96) at the significance level of (0.05) and degree of freedom (106), it was observed that all items are distinct as shown in Table 3.

Table 3. T-test value of the two groups for the dyscalculia scale

Seq.	Highest group		Lowest group		T-value	Seq.	Highest group		Lowest group		T-value
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	
1	3.375	1.134	1.375	0.646	8.00	13	2.416	1.212	1.083	0.408	5.44
2	3.958	0.204	1.583	0.775	24.20	14	2.916	1.176	1.291	0.550	6.57
3	3.708	0.690	2.666	1.239	3.85	15	2.500	1.142	1.041	0,204	4.93
4	4.000	0.500	2.000	1.251	8.30	16	3.333	0.868	1.875	0.448	8.67
5	3.250	1.113	1.500	0.510	7.95	17	3.875	0.337	1.666	0.761	13.98
6	3.791	0.414	1.416	0.653	18.28	18	3.291	1.082	1.583	0.829	6.54
7	3.750	0.675	1.958	0.954	10.58	19	3.708	0.750	1.708	0.750	9.85
8	2.291	1.276	1.125	0.337	4.66	20	3.958	0.204	2.541	0.658	10.81
9	3.416	0.928	1.791	0.588	7.77	21	3.791	0.721	1.958	0.358	12.30
10	3.000	0.834	1.680	0.800	5.97	22	3.333	1.090	1.291	0.550	8.72
11	3.500	0.884	2.000	0.932	5.79	23	3.791	0.414	1.208	0.588	18.99
12	3.583	0.583	1.628	0.875	9.77	24	3.125	1.075	1.500	0.589	6.94

This method provides a reliable and standard criterion in finding the relation between the individual's scores for each item and the overall degree of the scale and this is done through the correlation coefficient as each item runs in the same path in which the scale is entirely running (Issawi, 1985: 51). To verify the validity of the scale items, the researchers relied on calculating the item validity on the Pearson correlation coefficient between the degree of each item and the overall degree of the scale and by a statistical function. As it is considered an indication of the validity of the scale construction (Anastasi, 1976: 154), where the correlation coefficient was ranged between (0.353 - 0.808) for the dyscalculia scale. Furthermore, the researcher relied on the (Ebel) criterion to accept the item whose correlation coefficient with the overall degree of the scale exceeds (0.19) (Al-Zobaie et al., 1981: 126) as shown in Table 4.

Table 4. Item relation with the overall degree of the dyscalculia Scale

Item seq.	The correlation coefficient of dyscalculia	Item seq.	The correlation coefficient of dyscalculia	Item seq.	The correlation coefficient of dyscalculia	Item seq.	The correlation coefficient of dyscalculia
1	0.641	7	0.745	13	0.767	19	0.662
2	0.593	8	0.808	14	0.714	20	0.738
3	0.570	9	0.785	15	0.716	21	0.704
4	0.673	10	0.746	16	0.663	22	0.713
5	0.784	11	0.679	17	0.740	23	0.739
6	0.745	12	0.697	18	0.706	24	0.353

The arithmetic mean and the standard deviation were calculated for each group separately and for each item of the scale, and the researchers used the T-test for two independent samples between the two groups to find the discrimination power of the scale items. The calculated T-test value that

ranged between (2.28 - 15.37) was an indication to distinguish each item by comparing it with the tabulated value of (1.96) at the significance level of (0.05) and degree of freedom (106), it was observed that all items are distinct as shown in Table 5.

Table 5. T-test value of the two groups for the mental perception scale

Seq.	Highest group		Lowest group		T-value	Seq.	Highest group		Lowest group		T-value
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	
1	3.593	0.659	2.259	1.048	7.94	13	3.555	0.663	2.037	0.776	10.93
2	3.259	0.872	1.796	4.635	2.28	14	3.481	0.693	1.851	0.656	12.55
3	3.444	0.663	1.814	3.652	3.22	15	3.444	0.571	1.925	0.696	12.40
4	3.518	0.574	1.870	4.865	2.74	16	3.629	0.592	2.018	0.812	11.78
5	3.444	0.691	1.722	0.596	13.86	17	3.537	0.665	2.055	1.497	6.64
6	3.500	0.636	1.685	1.527	8.06	18	3.462	0.573	1.814	0.646	14.02
7	3.629	0.559	1.907	0.916	11.79	19	3.537	0.745	1.666	0.549	14,89
8	3.518	0.770	2.111	0.833	10.37	20	3.500	0.770	1.777	0.571	13.20
9	3.481	0.606	1.925	0.797	11.42	21	3.314	0.820	1.796	0.594	11.01
10	3.611	0.656	1.944	0.833	11.55	22	3.629	0.708	2.203	1.509	6.28
11	3.648	0.587	1.833	0.574	4.77	23	3.518	0.693	1.962	0.613	12.35
12	3.685	0.507	2.000	0.626	15.37	24	3.703	0.460	2.092	2.823	4.13

To verify the validity of the scale items, the two researchers relied on calculating the item validity on the Pearson correlation coefficient, so all the items were statistically significant at the level of significance (0.05). Furthermore, the correlation coefficient was ranged between (0.555 - 0.789) for the mental perception scale, as the researcher relied on the (Ebel) criterion to accept the item whose correlation coefficient with the overall degree of the scale exceeds (0.19) (Al-Zobaie et al., 1981) as shown in Table 6.

Table 6. Item relation with the overall degree of the mental perception scale

Item seq.	A correlation coefficient of mental perception	Item seq.	A correlation coefficient of mental perception	Item seq.	A correlation coefficient of mental perception	Item seq.	A correlation coefficient of mental perception
1	0.555	7	0.674	13	0.678	19	0.783
2	0.638	8	0.582	14	0.696	20	0.696
3	0.747	9	0.673	15	0.722	21	0.694
4	0.746	10	0.683	16	0.716	22	0.690
5	0.751	11	0.731	17	0.752	23	0.725
6	0.789	12	0.730	18	0.772	24	0.750

Reliability is expressed in a quantitative form, called the reliability coefficient, whose value ranges from zero to one, and whenever the value of the reliability coefficient for the scale increases, this indicates that the scale has high reliability and vice versa (Al-Shayeb, 2009: 102). To calculate the reliability of the two scales, the researcher used Cronbach's Alpha coefficient, and this method depends on the consistency of the individual's performance from one item to another. It indicates the strength of the connections between the items in the scale, and the Cronbach's Alpha coefficient provides us with a good estimate of reliability in most situations (Naunnelly, 1978: 320). The two scales of dyscalculia and mental perception in their final form after these procedures to apply them on the research sample, and each scale consists of (24) items. Its four alternatives (always apply, sometimes apply, rarely apply, does not apply) and their degrees (1, 2, 3, 4), the highest degree for a single scale reached (4) and the lowest degree (1) with assumption average of (60) degrees, thus the two scales are ready to apply. The researchers applied the two scales in their final form on the basic sample of (240) male and female students from the sixth-grade primary students. As six teachers answered the items of the two scales in six schools affiliated to the General Directorate of Education in the first Rusafa in

Baghdad city for the period from Sunday 10/3/2019 to Thursday 14/3/2019.

Presenting and Interpreting the Results

The first hypothesis: There is no statistically significant difference at the significance level of (0.05) between the assumption average and the arithmetic mean for the scores of the sixth grade primary students in the dyscalculia scale. In order to detect the dyscalculia for sixth-grade primary students, the researchers applied the dyscalculia scale on the research sample. As the results showed that the arithmetic mean of the sample scores was (67.96), compared to the assumption average (60) and using the T-test for one sample. It was found that the calculated T value of (12.02) is greater than the tabulated value of (1.96), which indicates that there is a difference of statistical significance at the significance level of (0.05) with a degree of freedom (239). In addition, the difference is in favor of the arithmetic mean, accordingly the first hypothesis was rejected as shown in Table 7.

Table 7. The calculated and tabulated T value for the scores of sixth-grade primary students in the dyscalculia scale

Individuals Number of the sample	Mean		Standard deviation	Lowest response	Highest response	T value		Significance level
	Assumption	Arithmetic				Calculated	Tabulated	
240	60	67.96	16.70	28	96	12.02	1.96	0.05

The second hypothesis represents there is no statistically significant difference at the significance level of (0.05) between the assumption average and the arithmetic mean for the scores of the sixth grade primary students in the mental perception scale. In order to detect the mental perception for sixth-grade primary students, the researchers applied the mental perception scale to the research sample. As the results showed that the arithmetic means for scores of the sixth grade primary students in the mental perception scale of (67.93), compared to the assumption average of the test (60) and by using the T-test for one sample. It was found that the calculated T value of (12.49) is greater than the tabulated value of (1.96), which indicates that there is a difference of statistical significance at the significance level of (0.05) and with a degree of freedom (239). Besides, the difference is in favor of the arithmetic mean, accordingly the first hypothesis was rejected as shown in Table 8.

Table 8. The calculated and tabulated T value for the scores of sixth-grade primary students in the mental perception scale

Individuals Number of the sample	Mean		Standard deviation	Lowest response	Highest response	T value		Significance level
	Assumption	Arithmetic				Calculated	Tabulated	
240	60	67.93	16. 04	30	96	12.49	1.96	0.05

The third hypothesis: There is no statistically significant correlation at the significance level f (0.05) between the arithmetic mean for the scores of sixth-grade primary students in the dyscalculia scale and the arithmetic mean for the scores of students in the mental perception scale. To identify the nature of the relationship between dyscalculia and the mental perception of sixth-grade primary students, the researchers extracted the Pearson correlation coefficient between the dyscalculia and mental perception and its value was (0.80), moreover, the researcher used the T-test to identify the significance of the correlation coefficient, its value reached (20.56) as shown in Table 9.

Table 9. The correlation coefficient value between the dyscalculia and the mental perception of the sixth-grade primary students

Individuals Number of the sample	Correlation coefficient	T value		Significance level
		Calculated	Tabulated	
240	0.80	20.56	1.96	0.05

The results related to the first hypothesis showed that the research sample represented by the sixth-grade primary students in the General Directorate of Education for the first Rusafa have no dyscalculia. The reason for this is due to the nature of the academic curricula for the grades in the primary stages and this result was consistent with a study of (Al-Bayati, 2014). Furthermore, the results related to the second hypothesis showed that the research sample represented by the sixth-grade primary students in the Education Directorate of the first Rusafa have no deficiency in visual and auditory perception. This is due to the nature of the teaching aids used of the teaching classes in the primary stages as well as the various teaching methods used in primary schools and this result is consistent with a study of (Mansourieh, 2017). Finally, The results related to the third hypothesis showed that there is a positive correlation between dyscalculia and visual and auditory perception and that any deficiency in visual and auditory perception leads to students' exposure to dyscalculia.

Conclusions, Recommendations, and Suggestions

1. Sixth-grade primary students in the General Directorate of Education for the first Rusafa do not have dyscalculia from their teachers' point of view.
2. Sixth-grade primary students in the General Directorate of Education for the first Rusafa have no visual and auditory perception from their teacher's point of view.
3. The use of modern teaching methods, techniques and teaching aids that help to overcome the dyscalculia.
4. Providing special therapeutic educational services and appropriate workshops that include training mental processes in which students suffer from deficiencies.
5. Identifying students with dyscalculia by specialized committees early on.
6. Conducting a study dealing with dyscalculia with other mental functions.
7. Conducting a study dealing with the detection of students who suffer from dyscalculia for a society greater than the covered one by the researcher in his study.

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