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Effectiveness of the use of three entrances to teach mathematical correlations in the acquisition of concepts among students in the fifth grade of mathematics

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Astract

The present research aims to identify the effectiveness of using three approaches to teach mathematical correlations in the acquisition of concepts among students in the fifth grade of mathematics.

A sample of fifth grade pupils from the Rabat school in Al-Rusafa II was taken. The experimental group reached 35 students and 32 students. The two research groups were rewarded with a set of variables (age, previous collection of mathematics, Concepts).

(18) a concept in light of which re-test the acquisition of mathematical concepts of the previous topics, where each concept of the concept of mathematical concepts of the subjects of the seventh and eighth (regular fractures, operations on fractions) The student is considered to have acquired the concept if he answered the three questions, and if one of them failed, he considered the concept of acquisition to be (0,1) and the numerical characteristics in the preparation of the test of the coefficient of difficulty, Sessile, validity and reliability of the test.

After applying experiment on the research sample and applying the test, the results were subjected to statistical analysis, using the percentage equation and T-test. The results showed that the experimental group was superior to the control group in their acquisition of mathematical concepts. In light of the results, the most important of which is the adoption of the teaching of the entrances of mathematical associations in other subjects and stages of study.

Efectividad del uso de tres entradas para enseñar correlaciones matemáticas en la adquisición de conceptos entre estudiantes en el quinto grado de matemáticas.

Resumen

La presente investigación tiene como objetivo identificar la efectividad del uso de tres enfoques para enseñar las correlaciones matemáticas en la adquisición de conceptos entre estudiantes en el quinto grado de matemáticas.
Se tomó una muestra de alumnos de quinto grado de la escuela Rabat en Al-Rusafa II. El grupo experimental alcanzó a 35 alumnos y 32 alumnos. Los dos grupos de investigación fueron recompensados con un conjunto de variables (edad, colección previa de matemáticas, conceptos).
(18) un concepto a la luz del cual se vuelve a probar la adquisición de conceptos matemáticos de los temas anteriores, donde cada concepto del concepto de conceptos matemáticos de las asignaturas del séptimo y octavo (fracturas regulares, operaciones en fracciones) El estudiante es Se consideró que había adquirido el concepto si respondía a las tres preguntas, y si una de ellas fallaba, consideraba que el concepto de adquisición era (0,1) y las características numéricas en la preparación de la prueba del coeficiente de dificultad, Sessile , validez y fiabilidad de la prueba.
Después de aplicar el experimento en la muestra de investigación y aplicar la prueba, los resultados se sometieron a un análisis estadístico, utilizando la ecuación de porcentaje y la prueba de la T. Los resultados mostraron que el grupo experimental fue superior al grupo de control en su adquisición de conceptos matemáticos. A la luz de los resultados, el más importante de ellos es la adopción de la enseñanza de las entradas de las asociaciones matemáticas en otras materias y etapas de estudio.

The problem of research: Mathematical concepts are considered the main building blocks for the construction of the components of mathematical knowledge, which is the basis in the construction of meanings, skills, theories and solving mathematical problems. These concepts are interrelated based on the relationships that connect the basic concepts with the sub concepts. Studies: (Al-Azzawi, 1999) and (Karkhi, 2007) and (Bayati, 2010).

However, if we follow the mathematical concepts in all the different stages of the study, we find that there is a significant decline in mathematical concepts as in the study of the primary stage (Shawi, 2005) and (Haider, 2012) and the middle stage (Jumaili, 2005) , (Khazraji, 2013) and a preparatory and university study (Samah, 2012).

As the primary stage is the basis in building the basic mathematical concepts that will depend on the construction of the most complex concepts in the interrelationships to form the integrated mathematical systems in the future of the learner, so must take into account several things:

- Teaching concepts in proportion to the nature of the concept of sports and student preparations.
- Identify common misconceptions and find treatments for them at the student.
- Introducing modern teaching entries in accordance with the modern sports standards set by NCTM (1989).
- Employing mathematical concepts in positions in different fields of mathematics, life, and other sciences.
- Training students to deal with mathematical concepts mentally.

Several studies, such as Al-Azzawi, 1995, Al-Hayali, 2004, and Al-Rubaie (2005), and a group of teachers, confirmed that the highest rates of learning difficulties were between 10-13 years. (1), the existence of difficulties and low in the achievement of students in the subject of fractures and decimal fractions, due to the most important reasons:

- Lack of understanding of fractures because of the high abstraction.
- Not to use appropriate teaching methods for this material.
- Do not link material to life to form a scientific material of a meaningful and useful life.
- There is no overall view of the subject of fractions and linking their branches to logical relationships convincing.
- There is no focus on entering the subject of fractions in scientific and human subjects.

Therefore, the researcher decided to adopt the subject of mathematical interdependence and to make it an introduction to the teaching of this mathematics through the adoption of three entrances to interdependence: linking mathematics to the branches of mathematics, linking mathematics with other sciences, linking mathematics to different fields of life.

Therefore, the problem of research in the question "What is the effectiveness of the use of three entrances to teach mathematical connections in the acquisition of concepts among students in the fifth grade of primary mathematics"

The importance of research: Mathematics is the pillar of life, which is the organization of the present day. Without numbers and mathematical evidence, we can not solve the problems of our daily lives. There are timing, wage rates, tenders, discounts, claims, jobs, stocks, taxes, . In the absence of these mathematical data we have to face confusion and chaos. Thus, mathematics became the companion of man, and his assistant since the beginning of his existence on the surface of the earth, where he invented the science of arithmetic and followed by the science of algebra, and then measurements and forms in geometry, and the science of trigonometry, when he wanted to determine the location of the high mountains and stars, Mathematical knowledge emerged when man felt the need for it (Amin, 2001, p. 169)

Hence the need to link school mathematics to students' applications in life so that what they teach has meaning and value.

Mathematical correlations point to the idea that learner's at all educational levels must realize that mathematics is a useful tool, through its laws, logical and organizational methods, and its activities in all its branches, in the service of other sciences and in the service of diverse life activities, as well as in the service of each other. There are interlinkages between mathematical concepts in different subjects. There are also correlations between mathematical laws and their uses in physics, for example, in cartography and in business administration in industry and commerce, in fixed and mobile telephone communications, in surface, sea and space transport, in processing and analyzing data on Political, social and economic decisions, medical treatments, pharmaceutical dosages, population and environmental planning, etc. (NCTM, 1989) suggests that mathematics curricula must include interconnectivity (eg, NCTM, 1989) So as to enable students to gain the ability to view mathematics as a whole, to explore problems and to describe outcomes using mathematical, numerical, sensory, algebraic or mathematical models, and to employ mathematical ideas to broaden their understanding of other mathematical ideas, Which appear in other subjects such as art, music, psychology, science, commercial materials and appreciation of the role of mathematics in our culture and society (NCTM, 1989)

Baroody (1997) notes that the teaching of fractions in the early years of students is often very far from their perception, knowledge and utility, so they do not provide students with a good conceptual basis for future understanding of fractures and operations on fractions (Badawi, 2007, 247)
(444, 2007). Education should emphasize the meaning of fracture before introducing abstract rules and develop concepts that are meaningful to pupils when students represent fractions in different contexts to develop their experiences. Through these experiences, students learn to see fractions as useful and useful.
So it may be necessary to adopt the entrances to help students to understand the meaning of the fractions and the implications of the best learning through the use of the guidance of global standards that emphasize the linking of mathematics in an integrated system with life and other sciences and branches of mathematics and especially in the primary stage.
The importance of research is highlighted by the following points:
1. Adopting studies on the teaching of mathematical concepts with difficulties facing the primary stage.
2. Adopting new sports entrances according to international standards.
3. The adoption of mathematical interdependence (interdependence in the fields of multi-mathematics - life - other sciences) for the elementary stage so that students have a cognitive and mental structures that enable them to employ mathematics properly.
The purpose of the research: The present research aims to identify the effectiveness of using three approaches to teach mathematical correlations in the acquisition of concepts among students in the fifth grade in mathematics.
Research Hypotheses: The research hypothesis highlights the following hypothesis:
1) There is no statistically significant difference at the level of significance (0.05) between the two percentages of the experimental group who studied according to the entrances of the mathematical associations (life - other sciences - branches of mathematics) and the students of the control group who studied according to the usual entries His students have a fifth grade in mathematics.
2) There is no statistically significant difference at the level of significance (0.05) among the average students of the experimental group who studied according to the entrances of mathematical associations (branches of mathematics, other sciences, life) and students of the control group who studied according to the usual entries of the book Fifth grade students in mathematics.
Search limits:
1. The experience is subject to students of the fifth grade for the academic year 2017-2018.

2. Mathematics book for the fifth grade of the seventh and eighth consecutive grades (regular fractures - operations on fractions).
3. Teaching according to three entries to teach mathematical connections (linking the branches of mathematics, linking the other sciences, linking in life).
4. Acquisition of the concept is subject to three areas (definition - discriminating - application) concept.

Terminology:

First: Mathematical correlations

Al-Suwaidi (2004) defines it as "the standard that transfers mathematics from scattered pieces and by linking mathematics with other subjects and the real world" (Al-Suwadi, 2004, p. 24).

Al-Meleiji and Salama (2006): "The connection between the mathematical idea and other ideas to build an integrated mathematical structure, in which students can connect mathematical ideas with one another, increases their understanding and the information becomes more profound and lasting." (Al-Miliji and Salama, 2006, p. 102)

Khadr (2007): "Linking the experience gained from the activity of the student with practical life experiences and other materials to extract the educational experiences from the theoretical framework to the field of practical applications." (Khadr, 2007: 6)

Sidawi (2012): "Students' ability to recognize the usefulness and usefulness of mathematics and its interrelationship through the use of its laws and logical and organizational methods, and its activities in all branches and disciplines, in the service of other sciences and in the service of various life activities, , 2012, 12)

Second Entrance:

(Trick): Behavioral input "Level of learner before learning begins" (Trick, 2008, 104)

Theoretical Definition: The Introduction of Mathematical Relationship: The possibility of presenting and defining mathematical knowledge according to the mathematical connections of learners so that they can understand the correlations within the levels of mathematical knowledge and the correlations between different fields of mathematics as well as the interrelationship between mathematics and other sciences, correlations and spheres of life Already about mathematics and its usefulness.

Mathematical definition: The introduction of mathematical concepts for the fifth grade students by the mathematics teacher by linking the mathematical concepts of life, linking them to other sciences, and linking them to different branches of mathematics.

Second: Acquire the mathematical concept

Reigeluth (1997) defines it as "the process by which the learner is assisted by collecting examples that indicate a concept or by classifying it in such a way as to enable him to arrive at concepts that are intended to be automated." (Reigeluth, 1997: 18)

Badawi, 2003: "It is the student's ability to recognize the concept and to mention the characteristics of the concept and the use of the concept in mathematical positions." (Badawi, 2003: 64)

(Al-Wondawi, 2007): "A mental process towards a group of stimuli is presented to the learner in a particular educational situation and has a mental picture of these stimuli that can be called and disseminated in new educational situations." (Al-Wondawi, 2007: 26)

(Al-Kubaisi, 2008) as a classification process that shows that the student has understood the concept consciously in the sense of his ability to classify what is belonging and not belonging. "(Kubaisi, 2008: 8)

The procedural definition is the ability of students in the fifth grade to define the concept and distinguish the characteristics of the concept and the application of the concept in the new mathematical positions of the mathematical topics of the seventh and eighth (the concept of fractions and normal operations on fractions) measured by the degree of students in the test of the acquisition of mathematical concepts three levels of each concept (Definition, distinction, application) prepared for this purpose.

Theoretical Background:

Mathematical Interrelations: Mathematics as a link to students' need to create links between subjects and different mathematical fields within mathematics, as well as to build links between mathematics and other fields of study and between mathematics and everyday life situations. The ability to explore, identify, develop and expand the interconnectivity of subjects within mathematics and other fields of study and attitudes Life improves student understanding of mathematics and how it relates to everyday situations. The correlations help students broaden their perspective, to look at mathematics as a whole rather than as an isolated group of subjects and to recognize all rather than treat them as a separate set of subjects and to recognize their relevance and usefulness both inside and outside the school.

Understanding mathematics means the ability to employ mathematical knowledge flexibly and to form the interrelationships between mathematical ideas. These associations are built in by the learner and can be applied appropriately and in different contexts.

Students will engage in building connections to build their own understanding so that students in primary school can:

- Assessment and use of mathematics in their daily lives.
- Explore and distinguish, and use relationships between different subjects in mathematics.
- Linking different representations of concepts or procedure to each other.
- Link conceptual knowledge and procedural knowledge.
- Consider mathematics as a whole rather than a set of separate mathematical subjects.
- Know similar and similar concepts and procedures that are dealt with in a coherent way in mathematics.
- Understand the relationships between different sports topics.
- Employment of mathematics in the field of other subjects, and in their daily lives.
- Exploring problems and describing results using mathematical models: graphical, numerical, sensory, algebraic, verbal, or representations.
- Employing mathematical ideas to broaden their understanding of other mathematical ideas.
- Employ mathematical thinking and mathematical models to solve problems that appear in other subjects such as art, music, psychology, science, and commercial materials.
- Assess the role of mathematics in our culture and society. (Badawi, 2007, 554-555)

I'm a sports tycoon:

First: linking mathematics to life:

Mathematics is the language of the age, where it contributes to all areas of life that push the individual and society to progress and prosperity. Mathematics has dominated the world and is of strategic importance to countries at all levels. However, many students do not like mathematics and are accused of drought and difficulty. They see importance in their study or use of it and its symbols, and the linking of mathematics and its fields and branches of life, the definition of the student the importance of their uses and impact in The life of individuals, and their role in the advancement of nations, and in this regard (Asay, 2005, p. 1): -

1. The student uses the account when buying from the market, collecting its grades, calculating the percentage of its marks.
2. Mathematics mainly helps in the making and programming of computers.

mathematics and its fields and branches of life, the definition of the student the importance of their uses and impact in The life of individuals, and their role in the advancement of nations, and in this regard (Asay, 2005, p. 1): -

1. The student uses the account when buying from the market, collecting its grades, calculating the percentage of its marks.

2. Mathematics mainly helps in the making and programming of computers.

3 - It is also used in trade and inheritance, and the calculation of Zakat and profits, and the individual needs to determine the times of prayer that vary according to time and place, as well as to know the direction of the Qibla from one country to another.

4 - Astronomy helps to know the zodiac, the movement of the sun, and the spring and autumn, and night and day, and movements of the moon and calculating, eclipses and eclipses, and stars fixed and moving.

5. Trigonometry contributes to the measurement of large areas and long distances, in indirect ways such as measuring the height of a mountain, the distance between two mountains, the width of a river or the height of a tree.

6 - helps the individual to organize his ideas, and make him solve his own problems, and feel distinct, mathematics

Promote positive behavioral aspects in our lives.

7. Mathematics is the basis for future planning, population study, economy and security.

And on the importance of mathematics and its applications in life (Awad, 2005, p. 1):

1 - The science of algebra helps to know the inheritance, known as the science of statutes, where the solution of inheritance issues is known only in mathematics.

2 - Astronomy helps to know the exact accounts and religious matters of worship and others, where he encouraged caliph's translators and scientists to interest in astronomy and allocated large amounts of money to care.

3 - Engineering contributes to the life of society, by knowing the size, space, calculation of quantities and so on. It is an important science that studies size and space. It is a branch of mathematics that deals with point, line, surface and space.

Second, linking mathematics with other sciences: Al-Amin (2001, pp. 169-175) pointed out that mathematics is necessary to understand the other branches of knowledge. All rely on mathematics in one way or another. There is no science or

specialization except mathematics, We can not ignore the importance of mathematics and its relationship with science, education and research as follows:
1. Physics: If we examine a physics book, we find that every theory or law takes a mathematical form, and every physical step in which mathematical questions and calculations exist. Standard units and quantitative energy laws can be understood and applied by mathematics.
Chemistry: In chemistry, we find chemical union and compounds, governed by mathematical laws, and the nature of the structure, whether volumetric or weight, determined by the laws of proportion and the study of chemical equations and partial and atomic weight,
3 - Biology: The study of biological phenomenon in biology branches does not take place without treatments and mathematical analysis
4 - Engineering: The engineering also contains a preview and measurement of the land, and the estimate and tenders and cost, wages and budgets .. All these processes are mathematical applications vital,
5 - Agriculture: Agriculture depends heavily on mathematics, as there are several forms of this science which needs direct applications of mathematics, such as land area, the rate of precipitation, yield of the crop, labor cost, average production per land, high profit rate, net profit, These things depend on mathematics,
6 - Medicine: In medical specialization, the diagnosis and treatment of patients must follow some mathematical considerations such as: fever and blood pressure, and the pulse rate can be determined and addressed by mathematics, as well as in the preparation of drugs and mixtures determined by mathematical ratios,
7. Economics: In economics, mathematics uses several images in terms of production and consumption, selling and buying, trade and distribution, supply and demand, inflation and falling prices, price control, the use of funds, the devaluation and appreciation of the currency, All forms of statistics from tables, graphs, arithmetical averages, proportion and proportion,
8. Psychology: In order for the individual to study psychology must have knowledge and knowledge of sports statistics, because statistical analysis is the only reliable way to study the phenomena of social and psychological,
9. Logic: Mathematics is the only area of knowledge in which logic can be applied. Logic also quotes engineering rules, 10. Geography: Geography is the scientific and mathematical description of the earth and the universe in which

we live. The dimensions of the earth, its location, the formation of days, nights, eclipses, eclipses, longitudes, latitude, distances, altitude and temperature. The student of geography must be familiar with drawing and understanding
And readers of mathematics.
Second, linking math to mathematics: Badawi (2003, p. 312) believes that the skill of mathematical interdependence has sub-skills: the ability to understand the interconnections between mathematics branches: the connections within the mathematical subjects taught by the student in each correlative such as geometry, measurement, numbers, On them, and others.
Previous studies:
The study was conducted in Iraq. The study was conducted in Iraq and aimed at the impact of using the strategy of teaching the skills of processing mathematical information in communication and mathematical interdependence and developing the processing of mathematical information among the third grade students. The results showed the superiority of the experimental group on the control group. (Support, 2012)
Jassim Study, 2013: The study was conducted in Iraq and aims to identify the skills of communication and mathematical interdependence and its relation to high level thinking among fifth grade students. The results showed that there was a statistically significant difference between the mean and the arithmetic mean of the fifth grade students in the mathematics correlation test in favor of the satisfying average.
Study of speech, 2013: The study was conducted in Egypt and aims to identify the effectiveness of a proposed training program based on electronic mental maps in the development of mathematical associations and visual thinking among students and teachers Mathematics Division. The results showed that the students of the experimental group were superior to the students in the control group Test the mathematical bonding in each skill except the skill of linking mathematics subjects to each other And the absence of a direct correlation between the scores of the students of the experimental group in the test of mathematical bonding and the test of visual thinking. (khatab, 2013).
Abd al-majeed study 2013The study was conducted in Egypt and aims to identify the effect of the use of the strategy of mathematical correlations and some of the visual teaching strategies on the levels of information processing and self evaluation of the types of mathematical knowledge written in the first grade pupils. The results showed

the superiority of the first experimental group on the control group in the test of the levels of processing of mathematical information and the scale of the mathematical knowledge patterns written for the first experimental group studied according to the strategy of mathematical correlations. (Abdel Meguid, 2013)

omar study 2013: The study was conducted in Saudi Arabia and aims to identify the knowledge of the effect of using the virtual mathematics lab in developing the mathematical bonding skills of fourth grade pupils in Makkah city. The results showed that there were statistically significant differences in the level of mathematical correlation skills due to the use of the virtual mathematics laboratory (Omar, 2013)

Akkili study, 2015: The study was conducted in Iraq and aimed at identifying the effectiveness of the use of multiple intelligence strategies in the mathematical interdependence of second grade students. The results showed the superiority of the experimental group on the control group in each of the three mathematical interdependencies (linking mathematics, linking mathematics with other sciences, and linking mathematics to life).

Al-Ta'i Study, 2016: The study was conducted in Iraq and aims to identify the building of a program based on the mathematical associations and its impact on the achievement of students of the first grade and their culture. The results showed the superiority of the experimental group on the control group in the achievement test and the mathematical culture scale. (Al-Tai, 2016)

Search procedures:-

First: Experimental Design: The researcher used the design of the partially defined equal groups, which includes the experimental group in which mathematics is taught according to the correlations, and the control group in which the mathematics is taught in the usual way.

Table (1) Experimental Design

The dependent variable	Independent variable		set
Acquire concepts	Introduction to Mathematical Interconnection	Group parity	Test a
	The usual book entry		Exact b

Second: Selection of the community and sample of the study:

The current research community represents all fifth grade primary school students in Baghdad. The sample of the research was selected from the primary school in Al-Rusafa / Al-Thani, where the number of sample was (67) students in the experimental group (A) (35) students and in the control group (C) (32).

Third: Control procedures:

Prior to applying the experiment, the results of the experiment were evaluated as follows:

1 - The internal safety of the design experiment: Some variables that are believed to have an effect on the dependent variable were determined: (age of time, previous achievement in mathematics, variance of intelligence test, acquisition of concepts) Students Equivalent (2)

Table (2) Equivalence of Variables (Age - Math - Intelligence) subjects and stages of study.

Statistical significance at (0.05) degree freedom 65	T value		standard deviation	SMA	total	no	set	Variable equivalence
	table	compute						
Not statistically significant	2.00	0.736	5.32	123.94	4338	35	test	age
			5.38	123.5	3952	32	exact	
Not statistically significant	2.00	0.95	12.92	65.02	2276	35	test	Previous achievement in mathematics
			12.37	65.21	2087	32	exact	
Not statistically significant	2.00	0.054	3.48	21.97	769	35	test	Intelligence (L) Daniels, 1986
			4.39	20.06	642	32	exact	

2 - The external safety of design Experience: The adoption of some variables that are believed to affect the external safety of the experiment is:

- Instructor: The experimental and control groups were taught by the teacher of the article after he was provided with the teaching plans that belong to the teaching entrances.

- Experience: Teaching in two similar rooms after agreement and cooperation with the school administration.
- Scientific material: The same scientific material was submitted to the two groups.
* Zineh Abbas Mahmood, teacher of Rabat School, has 10 years of service
- Distribution of quotas: Four sessions were adopted in one week, taking into consideration the hours of lessons in terms of convergence, including the first lecture and the second.
-Testing the test: Test by gaining mathematical concepts to test the two sets of experience.
- Maturation: The same period of experience for both groups so the factor of maturity has no effect.

From the above it is clear that the experimental groups are equivalent in terms of internal and external safety of the variables that may affect the experiment.

Fourth: Research requirements:

1. Course material: The subject of the course was determined for two semesters (regular fractions and operations on fractions). Annex (3)

2 - Preparation of Behavioral Goals: Behavioral objectives were determined according to Bloom's classification (knowledge - assimilation - application). These objectives were presented to a group of experts to verify their coverage of the educational content and the correctness of its formulation. In the light of these views, some of them were modified. Behavioral objectives reached 53 behavior objectives, distributed according to the main concepts, (11) behavioral targets for the knowledge level, (18) behavioral targets for the level of comprehension, and (24) (3).

3 - Preparation of teaching plans:

The experimental group has been prepared for the experimental group to show the mathematical subject according to the entrances of the mathematical connection (branches of mathematics - other sciences - life) and the control group to show the mathematical subject according to the entrance of the normal sports book within the scientific material specified for the classes (fractions, The number of plans prepared (22) plan, and the rate of (5) plans per week and study (45) minutes. Appendix (4) The models of these plans were presented to a group of experts in mathematics and the methods of teaching them and teachers of the material, to take advantage of their views and suggestions, and have made the necessary adjustments.

4. Preparation of the concept acquisition test

1 - Definition of concepts: Analysis of the subject of fractions and normal operations on them according to mathematical concepts. Annex (2)
2 - Building the test paragraphs: In the construction of the test to acquire concepts, each concept is subject to the levels of acquisition until it is determined that the concept is acquired or not acquired. The concept measures three levels: the student 's ability to define, distinguish, 64).
Based on the above, the test of the acquisition of mathematical concepts was prepared (18) concept of each concept includes three questions so the number of paragraphs of the test (54) paragraph of the type of multiple choice by three alternatives one of them valid, and then presented to a group of arbitrators to ascertain (1) The amendment was approved in accordance with their pursuits and became the final version (5).
3. Honesty: Two kinds of truthfulness (truthfulness) were observed by presenting the test paragraphs with the instructions of the answer and the correction key on a group of specialists.
(90%). (Validation of construction or content) This honesty has been verified through the inclusion of the test for all major and sub-concepts such as the test (18) Supplementary concept (5).
4. Formulation of test instructions:
Answer and correction instructions: The test includes the student's information, number of questions, answer time and eloquence. Leave the question if the answer is not known. Avoid guessing and not choosing more than one answer.
B - The extent of clarity of the test The instructions, paragraphs and time of the answer: The test was applied to a sample of 32 students of the fifth grade primary school (victory) on (19/3/2017) The average time to answer the paragraphs is (80 minutes) Two lessons so the test section into two parts, and make sure that the instructions answer and test paragraphs of the lack of inquiry students.
5 - Statistical analysis of the test paragraphs: Analyzes the paragraphs of the statistics by applying the test on a sample survey of (100) students from the school (Ahrar) on the day (26/3/2017) and after the processing of the test papers arranged grades of students descending, and took the sample represented 27 % Of the degrees of the upper and lower group, where the following statistical analyzes were conducted:
A - Difficulty of the test paragraphs: Calculated the difficulty of the test and found that the value ranges from (0.54 - 0.77) Appendix (6), which is acceptable value for the paragraph, which is between 20-80. (Return, 1988: 297)

B - The power of excellence: calculated the distinct value of each paragraph and found that it ranges between (0.22 - 0.44) Annex (6) and this is an acceptable value according to Ray (return, 1988: 295) and therefore accept all paragraphs.
C - Effectiveness of the wrong alternatives: Calculate the effectiveness of the wrong alternatives and found that all the alternatives are negative and thus all the alternatives are effective Annex (7).
6. Stability of the test: According to the stability of the test using the equation KR-20, the stability coefficient (0.78), and see (return, 1988: 366) that the coefficient of stability is acceptable (0.65)
Based on the above, all test paragraphs have been retained and are ready to be applied to the research sample.
Fifth: Procedures for applying the experiment:
1. Method of teaching using the entrances of mathematical connections:
The experimental group was studied according to the inputs of mathematical bonding as follows:
- The mathematical concept is presented according to three entrances to the mathematical interdependence with explanation and clarification.
- Divide students into totals and ask them to think about the concept and present in three entries for similar mathematical interdependence.
- Ask the totals to display and discuss them and then choose the correct ones and circulate them on the row.
- The duty of the following concept is called for activities that include the entrances to the sport.
2. The usual teaching method using textbook entries: Adopting the context of the book and its activities.
3. The experiment was applied: The experiment was applied on the day (19/2/2017) and completed on the day (4/4/2017)
4. Test Plate Acquiring Molecule: On the day (2/4/2017 and 4/4/2017)
Sixth: Statistical Means:
1- Difficulty factor: (DN + AN) / N = difficulty paragraph
2 - The coefficient of discrimination: (DSN - ASN) / N = discriminatory force
3 - The effectiveness of the wrong alternatives: (blood DNM + ANM) / N = difficulty of the paragraph
4. Choose T-test: for two independent samples:

$$t= \frac{\overline{X}-\overline{Y}}{\sqrt{\frac{(n_x-1)S_x^{\,2}+(n_y-1)S_y^{\,2}}{n_x+n_y-2}}\sqrt{\frac{1}{n_x}+\frac{1}{n_y}}}$$

5. Percentage test: z

Seventh: Presentation and interpretation of the results:

1 - There is no statistically significant difference at the level of significance (0.05) between the two percentages of the experimental group who studied according to the entrances of the mathematical associations (life - other sciences - branches of mathematics) and students of the control group who studied according to the usual entries of the book in acquiring concepts His students have a fifth grade in mathematics.

To verify the validity of the hypothesis, correct the student's answers and calculate the total score for each student on each concept. If the student prepares the concept, if the three paragraphs of the concept answer correctly, give a single score and an unexploited concept if one or more of the three paragraphs of the concept One is given zero. After calculating the students' scores using the percentage test formula, the results showed that the students in the experimental group surpassed the control group students in acquiring the concept as shown in Table (3).

Table (3) Percentage test for the acquisition of mathematical concepts of the two research groups:

Significance at 0.05	value z		Set exact the total of all student 32		Set test the total of all student 35		Concept Name	S
	table	compute	percentage	Acquirers	percentage	Acquirers		
Not Indicate		1.57	84%	27	97%	34	The concept of fracture	1
Not Indicate		0.89	84%	27	91%	32	Equal fractions	2
Indicate		2.36	75%	24	94%	33	Number of fractional	3
Indicate		2.29	78%	25	97%	34	Convert fraction normal to the fractional number	4
Not Indicate		1.50	75%	24	86%	30	Convert the number of fractional to break	5

Not Indicate		0.38	88%	28	91%	32	Simplification of the fracture	6
Indicate		3.11	69%	22	94%	33	Compared to two fractures equal Mqamadtha	7
Indicate		2.85	63%	20	83%	29	Compared to two fractures different Mqamadtha	8
Indicate		2.29	78%	25	97%	34	Order fracture	9
Indicate	1.96	4.10	63%	20	97%	34	The concept of the collection of fractures Mqamadtha equal	10
Indicate		4.87	53%	17	91%	32	Collect different fractions Mqamadtha	11
Indicate		3.74	66%	21	97%	34	Subtract fractions equal Mqamadtha	12
Indicate		5.18	50%	16	89%	31	Subtract fractions Mqamadtha different	13
Indicate		3.38	69%	22	97%	34	Hit the break in the integer	14
Indicate		3.98	59%	19	89%	31	Hit a broken break	15
Indicate		4.71	50%	16	83%	29	Multiplying the number of fractional break	16
Indicate		2.11	63%	20	80%	28	Integer division to break the number of	17
Indicate		3.45	63%	20	89%	31	Dividing the break on the break	18

In the above table, the results showed that the experimental group was superior to the control group by gaining 14 out of 18 concepts. Therefore, we reject the zero hypothesis and accept the alternative of the difference of evidence for most concepts.

2 - There is no statistically significant difference at the level of significance (0.05) among the average students of the experimental group who studied according to the entrances of mathematical associations (branches of mathematics, other sciences, life) and students of the control group who studied according to the usual entries of the book to acquire concepts in Fifth grade students in mathematics.

Table (4) Results of the T-test of the mean scores of the two groups in the test of the acquisition of mathematical concepts

Significance at 0.05	Value t		Free degree	standard deviation	SMA	total	no	unite	set
	Table	Compute							
Indicate	Not Indicate	5.05	65	1.28	16.42	575	35	a	test
				1.95	12.28	293	32	g	exact

The results in the previous table of the T-test tests showed that the experimental group exceeds the control group by acquiring mathematical concepts. The calculated value (5.05) is greater than the value of the T-test. Therefore, we reject the null hypothesis and accept the alternative for a statistically significant difference.

Interpretation of the results: This may be due to the fact that the subject of fractions become with us not just abstract mathematical topics, but have become linked to the reality of the student and the subjects of the study that he learns and the branches of mathematics itself thus achieved mathematical integration in teaching, so it was easy for students to memorize and apply concepts. While four of the concepts (regular fracture, equal fractions, conversion of fractional to fractional number, conversion fractional number to fracture) may converge in the percentage of acquisition, the reason may be that these concepts presented in the book in a way closer to reality and far from abstraction with a variety of examples They are ASA O The subject of fractions While we find in the subjects of fractions and operations on them, it was difficult for the control group to acquire the concept.

Eighth: Conclusions:

1- The results showed the superiority of the three entrances in the teaching of mathematics according to the mathematical correlations at the entries of the usual book in teaching in the acquisition of mathematical concepts.

2. The results showed that the experimental group gained 14 out of 18 concepts while comparing them in the other four concepts.

Ninth: Recommendations:

1 - The need to adopt three entries in the teaching of mathematics according to the mathematical correlations (life - other sciences - in the branches of mathematics) because of its importance in making learning meaningful to students.

Tenth: Proposals:

1 - Studying three entrances in the teaching of mathematics according to the mathematical correlations (life - other sciences - in the branches of mathematics) and their effect on achievement.
2 - Building a teaching program based on mathematical associations (life - other sciences - in the branches of mathematics) and its impact on the strength of sports and the development of thinking.

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