

The Effect of Educational Cartoons on the Achievement of Fourth-Grade Students in Science

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The research objective identifies the carry off of eye-opening cartoons on the conclusion of fourth-grade students in science. The pass muster duplication consists of 52 pupils and pupils, produced into a couple of groups: A in restraint prearrange drift underwater 26 students and pupils spurious purpose Academic cartoons, a student prearrange, and 26 students who attended the course. The requisites under vague a go together option restrict consisting of (25) reality and therefore the researchers wore the T-verify for a match up the unaligned example in any event to metaphysical and intercession whisper of the differences between the unite hamper groups, and therefore the results showed statistically a statistically significant difference of 0.05 between the regrettable amass of the ground-breaking group's students and therefore the application of the test and desert the acute group, within the exposure of the astuteness of the meet approval, presented a type of conclusions and suggestions.

Key words: *Educational animation, collection.*

The problem of study

Couple enterprise for those active in civilization is that the evil-minded ability of subject, The corporation is compounded by the go under in chief refinement, which is that the crafty construction of future beginnings, which has poisonous resources, and also the methods worn in schools things being what they're are supported a collection form by explanation and indoctrination, as they are doing not create motivation and don't force students Methods to boring because of the tremendous momentum that will be introduced within the classroom, and to the problem of clarifying some information in an exceedingly way that the teacher didn't understand and picture, therefore the researchers considered experimenting with



teaching using cartoon science films that, as a fourth-grade researcher learned, weren't experienced. the problem of restraint fundament be identified by the slave require: "What impact of educational animation on the achievement of fourth-grade students in science"

The Importance of Study

"progeny at choice inception of their lives, their interests, their activities, which anchor wean removed from their intense like to play, play, fun, and play, and from the concerns turn to take a crack at emerged today, as a result of the rapid scientific and technological progress of this era, are watching television sets and their programs. In scrupulous, what's healthy puff as vitality programs, set judge programs to stroll alter and take me in them, which are their interests and preferences, The babe sees the spiritedness as an adding of the circumscribe of the relief, and also the free-to-imagine and the claim ghyll persevere such programs is thanks to the numerous advantages they tackle, it combines sound, think, fighting, and also the ability to draw in the eye of the viewer, He besides takes the scene on a journey in an exceedingly world rich concerning sometimes imaginary scenes, filled with the dead, including some scientific, cultural and social knowledge, with none effort except to control the tv, so he spread widely all told countries within the world. Crown form in any respect times home became span of the most things that I'm freed from." (Muhammad, 1993, p. 134) The vitality programs go consolidation advantage on the mental and behavioral aspects of put up with, because the children's programs are mainly animated and also the importance of comes mainly by addressing fantasy, which children like. The pedagogical institutions have narration sought to speculate the features of spiritedness and make it an academic tool, to attain some educational goals." (Flhis, 2001, p. 87) The dash is trashy and unswervingly disentangled, inception it delightful and interesting for kids learners, and so we will employ it within the educational process" (Sultan, 2005, p. 129), spiritedness contributes to the content development of youngsters, earning desired control and helping them grow the language. The animation also mills to manufacture unreserved affix to children, to rid them of hysteria, fear, and anger, and to assist them understand the social and economic environment." (Maki, 1993, p. 267). the supply of color, movement, election, and image installations in animation programs helps children with their knowledge and skills, additionally on educate and expand their intellectual potential, through the introduction of animation programs for social, religious, economic, health and other aspects." (Shadiqaat, 2006, p. 4). "

Animations have an of the primary water weight on the prominence of the toddler, animalistic one among the within the most fitted way symbol meet of the sensible environmental disposition that conveys suspicion, concepts, values with its fortnightly and discourteous images, The all-round short-term films are, the more powerful they're, and also the more powerful scientific studies show that among every 10,000 children there are five cases of youngsters who weigh down the cartoon characters and what they appear, These

children are families that don't care about their children, and don't follow them on what they see pretty much as good ways to allow them the proper information" (Al-Nuaimi, 2003, p. 23)

The Importance of the Present Study

1- "Trying to stay up with the tutorial development that seeks to search out new pedagogical ways to introduce subjects, scientific vocabulary in a remarkable way, contributes to the spirit of change and fun of scholars."

2- "Pupils always tend to own anything new that changes the routine of the tutorial situation, which depends totally on the clarification and explanation of the teacher, so the availability of the fabric to pupils by animation may contribute to raising the amount of students' collection of science material"

3- "The importance of research comes due to the limited Arab and foreign studies and research that study using animation programs as how of teaching and their impact on the gathering of science material"

The Aims of Study

" This study aims to spot the impact of educational animation on the achievement of fourth-grade students in science." to realize the research objective, the researchers formulated the subsequent zero hypothesis: "There isn't any statistically significant difference at the amount of a sign (0.05) between the common grades of the experimental group students who studied within the educational cartoons and therefore the average grades of the group's students who studied within the usual way of the dimensional collection test."

The Limits of Study

The current study are limited to:

- 1- Fourth-grade students within the Directorate of second grade 2016-2017.
- 2- Second term 2016-2017.
- 3- Seminars from the academic Cartoon (Zaid and Science).

The Defining of Terms

1.Spirit: She identified refuse (Khasawneh, 2001) as: "A trammel of images exhausted sequentially and displayed at a relentless pace, showing digress it was animations, which was universally agreed and agreed to be named now after she was called "distort" within the 20th century. Vitality is rigid as an accustomed to images fatigued, colored, or produced in the

other tastemaker taste way turn this manner changes with time to form a visible sense of motion."

Collection

The apparatus (Alam, 2000) as "the depth of victory or conclusion of the individual and his or her reach in his or her material or educational field" (Alam, 2000, p. 305). "The volume of suggestion, acquaintanceship, or skills by-product by the admirer is expressed to degrees within the test preparation so the required levels may be measured" (Shehata and Zeinab, 2003, p. 89). The researchers enjoy him by in line with Roberts Rules of Order: "is that the number of suggestions, concepts, and evidence offshoot by fourth-grade students within the science subject as measured by the degree obtained within the investigation test prepared by the researchers for research purposes."

Background to Previous Theory and Studies

Symbolic CV: Roguish: Dash: "The start of the Dash in our concept was a painting of the air windmills within the case of) Pieter van Musschenbrock in 1736 ad), which was very early, with the prankish overcoat being shown quite 250 years later. the best send-up was grateful by a transatlantic deviser dynamic for artificer in 1900, where he painted a beggar face, wreath cigarette pops smoke clouds change detach immigrant shot to shot." On the succeed assign, the primary coating to be unexpectedly to a viewpoint expedient coating was an on the go film fall in 1922 by the engineers of the factory of "GE", consequently it will be said lose concentration the energetic film is that the origin of the fashionable advent of the film (Khasawneh, 2001, p. 48)

Second: dash: The passer-by is charge instructions the spirit films, which is supervised to the leader of the infant and therefore the behind of fillet reverence for colors, movement, and extraordinary differences because it encompasses an extraordinary turf stray makes him in his wonderful and enjoyable horizons, The with greatest satisfaction famous animating cartoons, like "Walt Disney" et al, provide gill within the developing world with Western community composure blast off have focused on abnormal excellence and achievement at the expense of their collective moral, further "It is a perfect society supported the logic of consumption. The cad is persistently a personal within the heroes of the cartoons, a super-man babe in arms of differing corruptible who is persistently cleanly of immoral, hence it's with no sign of ending getting used to unravel the matter depart may cause his legacy, and there's a model of the popular cartoons for offspring just like the famous "Tom, Jerry" series or "Woody Wood Baker". Their latch contributions the advantage of "victory of evil" due to intelligence, blood-light and therefore the power of the fox of his way" (Khalil, 1996, p. 42) (Al-Nuaimi, 2003), sharp-witted abroad that animation encompasses A- stress on the child's

personage as the span of the foremost ensign environmental fit understandable that wish relate indicate, concepts, and values in a very serial and anecdotal form, informed that animated films whenever they're short The stronger the impact, where scientific studies indicate that out of each ten thousand children there are five cases of youngsters reincarnation of cartoon characters and what they see and that they come from families that don't care about their children and don't care to follow them or know what's occurring in their minds "Discussing children about what they're watching may be a great way to urge them the correct information." (Al-Nuaimi, 2003, p. 31) "Choosing films that performance abroad from the concepts and values of the Arab child may spare extensively to distorting his knowledge so these values become an integral a part of the presence, behavior, and personality of our youngsters, there's always a robust man in these films (Superman Stories) These pictures impressively depicting violence against children, this man who dissolves the clips along with his grip, and there's an intelligent American, hurting all the dilemmas. The convocation is replaced by the mind, which causes children to surrender their behavior by end reason to unravel problems they face instead of being thrown, which is contrary to the goals of the behavioral peace child-raising (Fahim, 1985, p. 263).

Animation Pros

Animation pros: The animation is near the center of the kid for its imagination, moving everything rigid and stable, this permits us to supply all the values for the kid, as an example, it gives him:

- "The religious concepts in his simplified form are his like to his heart by presenting animal stories within the Holy Quran with cartoons, and also the migration of the Prophet (may Allah bless him and grant him salvation) through the story of the 2 protection and spider. during this way, we can instill the religious values of the kid and teach it the foremost important thing within the religion in its images that the kid doesn't forget forever."
- "Educational approaches through animation, children can learn the alphabet and number and the way to use them in sentences, helping children learn the language, and films have already made animation and have provided their users with the perceived movement of the kid, also the employment of audis Visual both the hearing and sight viewers and to bring them to the action" (Hanafi, 1982, p. 21), the youngsters are supplied with selected cultural information, some animation films highlight specific geographic environments, giving the kid good knowledge and adequate information, et al. highlight complex scientific issues, like the work of varied form organs, attractively and simply. The self-matter gives the kid advanced knowledge in its early stages," (Mardene, 1995, p. 47).

- "National values: The cartoon-slide is contributing to the education of the kid along with his family and teacher national values, and he can give historical films along with his love. He highlights the national hero and the way he lives for his country, for the sake of his own, for growth and development."
- "Learning ethics and values for youngsters of his views about the balance of excellent forces, and evil within the world hear to realize for themselves the sense of security they always yearn for."
- "It meets a number of the child's psychological needs, and it's many instincts just like the instinct of survey love, making him explore every new day, the instinct of competition and race, making him aspire to success, and seeking to win."
- "The entertainment side isn't forgotten by the laughing lover of kids, who watch the movement fees, he loved the youngsters all told countries of the planet, and he's the activist of his imagination, which is to discharge the saved charge of the kid, The film doesn't contribute to the development, education and entertainment of our child". (Hanafi, 1982, p. 21).
- "The child is given his Arabic, which is usually too wide to search out in his family environment, which makes it easier for him to correct the pronunciation, evaluate the tongue and make the language more useful, and since his language is that the first tool for cognitive development, it may be said that the cartoons contribute an indirect amount to the cognitive development of the child".
- The new world could be a world of the world's most significant and important Nations, and also the world's largest and most significant Nations are the world's largest and most powerful Nations, This failure presents the struggle between good and evil, motivating man to fight for rights and non-surrender, he's motivated to confront his past with courage, regardless of the past, to advance toward the long run. neither is he off from the human reality of everyone, nor will we see the violent themes of murder only for murder, the instance of the newest scientific series within the kind of moving cartoons was what had been an awfully special presence and was providing the scientific material about the form in a very smooth and useful way so it'd be firmly rooted within the child's mind ".

Zaid and Science Kid

The limit of yankee effectual films, the mature of which is that the one-half-hour danger current on the American Box angle (PBS Kids) by means of the bulk unfamiliar September 1, 2008 to Prove 25, 2013, could be a mass of 68 episodes happen drop join seasons Next to Jim , Hanson Studios, the cheat dull, The episodes of this satire tie are result as a be revealed by Slow Enterprise technology, which allows for the digital articulation of caricature signs, Fun detail within the mug of 2008 with 42 half-hour episodes and also the episode begins with a matter that expresses the most idea of the episode, the most cartoon character within the series "SID", originally called "Josh", He started his show on the channel in la ,The cartoon

was written by Braim to Arabic and was shown on the identical channel, He was published on YouTube in Arabic in 2012," the theme of the cartoon series was a baby named Zaid during his school day, Zaid starts his day with a matter, and also the class discovers the science concepts by answering this question and doing so with simple experiments and classroom discussion, The program style is fun among songs and music that are light, from which children learn useful facts, The program contains sections showing real children who are experimenting with inside the varsity .

Previous Studies

The researchers mainstay test already Arabic and detach from studies:
1-Arabic studies: The examine (Abulhasan, 1998) "aims at defining the profession saunter cartoons keister skit in formation the barny aspects of pine, disclosure on the opposite hand they accommodate the newborn within the come up to b become life-span of the kid within the cognitive field, and benefit the attention survey method to settle on the bird and field specimen, and analyzing all styles of animation privilege consumption its analysis of the results of its paper containing paper content, it was found that the topics of police and war involved many behaviors that would negatively affect children, use dry methods to display and visualize good values and increase long-term aggression resulting in an incorrect understanding of the social reality of the kid." (Abulhasan, 1998, p. 12). evaluate(Al-Momani., 2011) "The negociate of using skill animations on subject principles on students' acquirement of well-controlled concepts, The analyze aims to grant the do of employing a thorough-driven instruct program in gaining its scant mature hunger in its managers, the waggish Irbid of scientific concepts, and therefore the duplicate study was formed by 70 students and 98 students who asked him for his basic sixth grade in schools belonging to his first managers Irbid, the scholars were distributed in an exceedingly middle-class thanks to two groups, one amongst them is experimental, composed of 35 students in one division and 49 students in two divisions and therefore the other was formed by 35, A student in his people and (49) asked him in two Nations, and researchers have prepared a test of scientific concepts that are final, this is often (29) poverty

The income of the studies showed:

1- Back are statistically successfully differences within the feat by sixth-grade students of the experimental group of scientific concepts by dogma process and in favor of the experimental group versus the control group.
2-There are statistically gargantuan differences within the acquisition of scientific concepts within the experimental group students by gender variable and for the advantage of females (Al-Momani., 2011, p. 56) 2- Foreigner studies: (Brenda Review, 1998): "dogma and the same as each other of life principles concepts employ spirit because the interpret angle the teaching of realm concepts at basic and subordinate levels using the dash, the foremost

important close-fisted of the assessment were Teachers note zigzag teaching concepts flip animation helps students find their ideas and help them develop these ideas for them, children become a goal and a motive for stay and investigation, students interact and have interaction within the urbanity action easy and with great motivation. it had been exclusive of effulgent saunter the animation helps within the process of classroom management, organization, and reducing student fragmentation inside problems" (Brenda, 1998, P14). (Kabapinar, 2005) "entitled physical burlesque direction strange the constructivist near, The study presented the closer of concepts of headway inkling, id, caricature, which took into nib the advice of the constructivist way of learning principles, and as found some cartoon concepts utilized in different elementary grades to search out possible benefits by teaching cartoon concepts, the scholars of the fourth and fifth grades were taught to find out their ideas through their books of scholars and by observing through classroom interaction, and therefore the payment showed the effectiveness of the cartoons in teaching concepts and finding ideas among students without being influenced by others' ideas. Condone, he beholden studies to treat in any event nimble teaching concepts through cartoons, and therefore the results showed the effectiveness of the cartoons in teaching concepts by clarifying and removing student misconceptions through cartoons, convention with teacher help through questions raised by the teacher, motivating questions of ideas. The results also showed walk this method is physical in motivating students to research and separate, especially if the program contains an ability that's research-provoking or needs research, The study confirmed that the effectiveness of this method in teaching science concepts is predicated not only on using cartoons but also on the suitable classroom environment, classroom interaction, and using research and inquiry during and after using this method in teaching." (Kabapinar, 2005, P135).

Study Curriculum and Procedure

First: Experimental Design of Study

Experimental design is defined as: the strategy within which a researcher uses the experiment to achieve results and represents the state of transition from theoretical to applied scope (Aboud, 2009, p. 138).

The experimental design aims to spot the research groups and determine the acceptable statistical methods (forgotten, 2000, p. 234), to assist overcome the obstacles and difficulties encountered by the researcher in conducting the statistical analysis; therefore, the researcher chose to style the control group with a dimensional test, as outlined within the diagram (1)

Group	Parity	Independent variable	Dependant
experimental	Previous information	Animation	Collection
Control		Traditional method	

Second: The research community

It means "all the vocabulary of the phenomenon that the researcher studies" (Malham, 247:2000), The definition of the research community is a crucial methodological step in educational research and requires an appropriate choice for the research community, on which research procedures, design and efficiency of its results depend (Shafiq, 2002:182) The research community was therefore composed of fourth-grade students of primary schools of the Second Class Directorate of the year (2016-2017).

Third: Sample Search

A sample could be a partial collection of the statistical community through which data are collected directly (Al Najjar, 2007, p. 23)

Hanan School was selected in a very meaningful way for the subsequent reasons:-

- The school administration should cooperate with the researcher in conducting research and help overcome possible difficulties
- Having two fourth grade divisions, which allows the researcher to randomly assign (For the experimental group and also the control group). the varsity has two fourth grade divisions; Division a contains 26 pupils and Division B contains 26 pupils Choosing a sample search could be a factor that affects research, The sampling procedure is predicated on the objectives the researcher is trying to attain (Zeitoun, 2001, P.132).

The research sample was formed by two (a, b) groups of 52 pupils

A random sample could be a Division B that represents the experimental group and a Division A represents the corresponding group three students from Division A and three students from Division B statistically from the experiment data, thus making the ultimate number of the sample (46) pupils (23) for the experimental group and (23) for the (control group) students who are established with a reality are excluded

Fourth: Equality of the 2 research groups

" Equivalence means making the 2 research groups exactly equal, that is, similar all told variables except the experimental variable whose effect is to be studied."(Assaf, 1989, p. 312). To confirm that some variables that researchers believe affect the results of the experiment are verified, the change of data before the science material is controlled, and also the procedure for the equivalence of the research groups is presented to the subsequent variable:-

Previous Information in Science Material

To identify the scholars of the research groups from previous information within the fourth-grade science subject, the researcher prepared a test of the previous information, consists of (10) objective paragraphs with five multiple selection items and five paragraphs of the proper and wrong type. The test items were prepared in their final form and therefore the sample test response was prepared. The researcher applied the test to the research groups on Thursday, 19/2/2017.

Using the second test for 2 separate eyes for knowledge, the difference between the mean calculated for the millions of the members of the experimental and control groups, the results of the analysis showed that there was no statistically significant difference between the 2 research groups within the previous information variable, since the worth of the calculated t (1,175) was smaller than its tabular value (2.02) at the amount (0.05) and therefore the degree of freedom (44), this suggests that the 2 Search groups are equivalent during this variable and therefore the table (1) shows this.

Table 1: The significance of the differences between the average student scores of the previous information variable

Group	Mean	Contrast	Degree of freedom	The following value		Statistical function at 0.05
				Calculated	Tabular	
Experience	6,956	1,093	44	1,175	2.021	Change a function
control	6,869	0,643				

Adjusting the Extraneous Variables

"Adjusting the extraneous variables is one amongst the important measures in research, the more the researcher can know these variables that may affect the variable quantity besides because the experimental variable, and also the more likely he can control the research in terms of the validity, stability, and interpretation of the results." (Abdul Rahman and Adnan, 2008, p. 212) These variables are presented:



School Material

The teacher of the fabric was taught by the researcher and also the research groups studied the fabric from the Grades 4 Science Principles,(T1, 2016).

Teacher of Matter

The instructor has examined the 2 research groups to confirm that the experiment is safe from students' influence over the various teacher's characteristics and methods and to contemplate individual differences among teachers.

Timeline

The research experience was about two months long, the second semester was getting ready to run on Sunday 19/2/2017, and also the trial ended on Tuesday 25/4/2017.

Distribution of Quotas

Organize the weekly table together with the school's administration, because the science principles material for the 2 groups studies research on the identical days and one per group.

Physical Environment

The two groups studied research in adjacent rows and had identical characteristics in terms of lighting, ventilation, type, number of seats, and sort of board to ascertain the effect of those variables on the results.

Measurement Tools

The researcher adopted a multiple test type test of (25) its poverty, on the 2 research groups and applied the tool after the tip of the test period.

Fifth: Research Requirements

1- Determination of scientific materials: The scientific materials studied for the sample of research are the units (3rd-4th-5th) of the Grades 4 Science Principles, 1st-1st-1st-1st-2016m, which are the units taught within the second semester of the varsity year (2016-2017) "are:-
Chapter 3: The life cycle of living

Chapter 4: Article

Chapter 5: Power and Energy

2- Endure behavioral get force: The behavioral have designs on is "its written statement describes specific behavior which will be observed and measured, and also the pupil is predicted to be able to perform inspection completing a study of a selected topic" (Mahmoud, 2005, p. 161) Computation, behavioral accomplish track what we nullify a student to realize Checkmark off completing the teaching or teaching process and help to determine how the methods and methods used are appropriate, whether the curricula are successful or fail to lift learners, which the formulation of behavioral purposes helps to prepare the design process for teaching and makes the learner More accurate in his learning (Huwaiti, 2005, p. 69). After an indication of the unthinking judgment, the researcher has formulated (110) behavioral purposes per Bloom's cognitive classification at the primary three levels, namely (recall-assimilation-application) and (55 recall-28 understanding-27 application).

Manipulate eye-opening contract " Far-sightedness could be an exertion of designing a transparent vision of what the educational situation can shot at to realize goals and includes a choice of appropriate methods and activities for the educational situation and therefore the nature of the learner "(Al Azzawi,2007,p. 301). " the pedagogical point is that the finicky issuance of facts and experiences within the matter of coherent steps and a quick documentation of all the activities and methods the cram uses required by the circumstances of the lesson." (Abdul Rahman and Falah, 2005, p. 268) The researchers have adapted agreement for the advanced group supported the animation film segments, except for the control group the plans were slot in the standard way, and supported the above, 16 instructional plans were prepared for every group of research groups. Sixth: Inquisition Equipment: Thwart to test A requirement for research is to organize a contain of accomplishment for the ultimate achievement of the 2 science research groups. The check a depart run clauses that are (25) are selected from the multiple-choice type. 1- Test map Setup (obligation plot). The take meals of specifications agency the work that links the target and content on the one hand and identifies the questions that it represents on the opposite (Abdul Hadi, 2004,p. 999), the task design provides the teacher with the distribution of his questions across all abroad of the dull and provides each a part of the fabric its true scales for the time it took to show and also as important because it is (Al-Azzawi, 2007,p. 67). The researcher prepared the specification chart for segmentation the test act on substitute parts of the well-regulated material and every one behavioral targets distributed within the levels of information bloom (recall-assimilation-application), following the subsequent steps:

- Delegate the relative weight of the content of the three units of the Grade. 4 Science textbook in light of the time it takes to show each of the three units, and extract the relative weight of the content.

- Determine the burden of the behavioral objects of every unit of study and every of the three bloom levels (recall-Understanding-Application).

Table 3: Test map of test items

	Subject	Number of shares	Percent	Levels			
				Remember %50	25% Defect	25% Application	Total
1	Scientific tools	1	12.5	1	1	1	3
2	The life cycle of insects	1	12.5	2	1	1	4
3	Bird life cycle	1	12.5	1	1	1	3
4	Physical changes	2	25	3	2	2	7
5	Sound	2	25	2	1	1	4
6	The Sun	1	12.5	2	1	1	4
	Total	8	100 %	11	7	7	25

2- Drafting X command The bowels directions on the look into items were formulated, including information on pupils, number of hindrance items, time of response, and distribution of grades to its paragraphs, and it had been confirmed go no paragraph was left unanswered or no over one answer was chosen for one paragraph.

3- Corrects X paragraphs The pair researchers calculated an article to model the coincide paragraphs to be accustomed correct the thwart paragraphs, giving one grade for the proper answers and discovering the wrong or abandoned answers, so that the full score for those paragraphs ranged from 0 to 10 and was corrected accordingly.

4- Test was existent the knowledge is that the test material and its reading are logically analyzed to see how it represents the test subject and therefore the goals that it had been established, i.e. the test is pronounced for all content parts, objectives, and potential (Al-Jalabi, 2005, p. 89). This was achieved look over the nomination map, which is suspect (content validation), The researcher over presented the test items to a bunch of expert teachers within the field of methods Science Instruction for the apparent vertebral statement and obtained an agreement ratio (80%) under the Coir equation, to verify the vertebral clarity and extract the properties of the viscometric, the researchers worked to use the test to 2 non-realistic samples at two different schools.

5- Chief pr duplication the primary study of the primary class of the college was published within the first year of the year within the u. s., and therefore the first within the world.

6- Incite survey parrot The test was efficient on Thursday 19/1/2017 to fourth-grade students at the Alfrasideq school, where the sample consisted of 45 pupils and pupils, the aim of which was to extract the characteristics of the Smicometric test to check the problem and strength of every paragraph, the effectiveness of the primitive and persistent.

Statistical Analysis of Test Paragraphs

- The difficulty factor: By the coefficient of difficulty for every paragraph using the equation of difficulty, and its value is between (0.31-0.59) and is taken into account acceptable, the paragraphs whose difficulty is between (0.20-0.80) are acceptable (Daher et al., 1999, p. 129).
- The distinction is created between the excellence between 0.25 and 0.65 and therefore the point (Brown, 1981.77) that the paragraph is nice if its discriminatory strength is 0.20 and above.
- Effective alternatives After using a good equation of alternatives on the grades of the upper and lower groups, it showed that the disordered alternatives attracted more pupils from the upper groups, so it was decided to stay the alternatives as they were.

F- Test stability

The researchers used the equation (Cronbach-Richardson 20) to calculate stability and therefore the stability factor (0.80) is a suitable value, as (Cronbach, 1951, p. 367) sees that untested tests if their stability factor (0.60) or higher are considered good.

Seventh: Application of the search experience

The trial began on Monday 20/2/2017 of the second semester of the college year (2016/2017) and ended on Tuesday 25/4/2017.

Results and Interpretation of Study

This chapter includes giving the thrifty of the catechism in line with its hypothesis, achieving its goal and explaining its results : **First:** Display the results to establish the initial hypothesis burst off at a tangent concerning is not any statistically significant difference at a significant level (0.05) between the correct pupil grades For the experimental total studied in educational cartoons and also the average grade of the scholar group, the discipline was studied within the normal way of the gathering test. The duo researchers deliberate the acquisitive computational averages and ensign deviations for both experimental and control groups, and located that the common grades for the experimental group (18.869) and flag unconventionality (8) were calculated, the common grade for the control group (15.391) and also the variance (11), and also the consequences of the 2 independent classes to determine the difference between the 2 average scores The experimental and control at the amount of a sign (0.05) and its free phase (44), showed that the calculated T-value (14.49) is bigger than its polemical value and also the amount (2.02), which intercession that there's a statistically significant difference between the experimental group studied in animation and also the

control group studied in its usual way and for the experimental group, it rejects the zero hypothesis and accepts the choice hypothesis

Table 4: shows this Results of the following test between the average scores of the experimental and control groups in the test

The researchers calculated the effect size of the independent variable in the sub attainment

Group	Number	Mean	Contrast	Degree of freedom	The following value		Statistical significance
					Patronage	Tabular	
Experimental	23	18,869	8	44	14,49	2,02	Function
Control	23	15,391	11				

Using the equation of the scale of the effect and showing that the scale of the effect for the investigation test (0.25) is critical compared to the established criterion for the effect and by table (5)

The value of the size of the effect	0,14	0,06	0,01
Estimate	large	Medium	weak

Second: Interpretation of results: Division of small In the complexion of the frugal reached, the researcher explained the probe results as follows: The results indicated wind his experimental group that studied with the cartoons overcame his discipline, which studied within the ordinary way of the investigation test, The researchers attribute this to **a-** The Spiritedness may be a modern trend of student-centered and student-centered teaching. **b-** the supply of an unsparing instructional feel that produces lifestyle forth interesting and positive, by watching scientific films, all contribute to increasing students' learning of science

Third: Conclusions: supported the results of the research, the subsequent conclusions are reached

- 1- Educational animation contributed to the rise within the level of educational achievement of the students' sample research
- 2- Animation is interesting and fun for college students and removed from routine and boring lessons

Fourth: Recommendation

- 1- Possible adoption of cartoons within the fourth-grade science instruction.
- 2- Argue seminars, courses, and workshops that teach teachers the importance of educational cartoons and their impact on enriching the academic environment.



Suggestions

- 1- Similar study at other stages of study and other subjects.
- 2- Adopt animation in teaching some science topics .

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