

AWARENESS OF NANOTECHNOLOGY AMONG STUDENTS OF THE COLLEGE OF BASIC EDUCATION AT THE UNIVERSITY OF DIYALA

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Summary of the Research

Aim to search Present Identify on me "Awareness with technology nano I have students College of Basic Education at the University of Diyala" adopted researcher curriculum descriptive Analytical, the study associative, and to achieve Goals search Lost It was completed Preparation Scale Awareness with technology nano, and be the society From students (College Education the basic–Department of Science) for the year school (2021-2022) and the adult their number (161) Student female student, so did researcher apply a tool the study on them distance making sure From honesty and constancy, Done Use packet stats (SPSS), to analyze the data and extract the results, and the search results showed the following: -

- That students Division Sciences in Education the basic no they own Awareness with technology Nano.

Keywords: awareness, nanotechnology

Has It Been Completed Explanation Results and Provided Researcher Number from Conclusions and Recommendations and Suggestions?

Research Problem

The problem of the research stems from the fact that the students of the College of Basic Education, the Department of Science, have a weakness in the awareness of nanotechnology, as they were directed to an exploratory questionnaire to determine the extent of awareness of nanotechnology, and it was found that:

that (93%) From the sample no they own Awareness with technology nano gesticulate Regard out from concepts and the (98%) Not They have looking at technology nano

and this indicates to me presence problem reality in consciousness students with technology nano.

Importance Search

The importance of the current research lies in the following

- 1-stand up on me awareness and its components (cognitive and skill and sentimental) with technology nano I have students the University.
- 2-Presents imagine about science technology nano and its applications life.
- 3-Response for recommendations conferences and research and studies in area technology nano related by education.

Goals Search

Aim to search present to me:

- Recognition bezel consciousness students college of basic education in university Diyala with technology nano.

Border Search

confined search present on me:

- 1.Students university Diyala in college education the basic/division sciences stage the fourth.
2. General school 2021-2022 the study morning.

Determine Terminology

Awareness

know her:

- (Son Perspective,1979): that consciousness the thing is aware the talk awareness and oh understand it and save it he is conscious and so-and-so don't know from so-and-so Which I understand and save. (Son Perspective,4876:1979)
- the definition procedural: amount the facts and principles and generalizations that owns it students stage the fourth (a sample search) in area technology nano.

Nanotechnology

Know her:

(military,2017):as technology advanced that get up on me study and understand science nano and ability on me produce materials nanoparticles, and re ranking atoms constituent to her and control in its structure interior. (military,686:2017)

the definition procedural: technology age the talk that aims control in behavior subject and its installation on me level atoms and molecules and production materials finite in small which may be within vocabulary materials scientific for sections community search.

Awareness with Technology Nano

Know her:

(dervish,2017): that it is Bezel Familiarity with acquaintances and information the public related with technology nano and the list on me innovations technology. (dervish,2017: 207)

the definition procedural: and he amount the facts and concepts and activities and motivation for students a sample search with technology nano and measured degree that they get on her for scale Awareness with technology nano and who I made it researcher.

Theoretical Background and Previous Studies

First: Awareness

And that Awareness he is result operations mentality and feeling Complicated, Thinking loneliness no alone form Awareness, there intuition and sensations and imagination and feelings and conscience and will And there principles and values and systems Social and accidents life, and this is the mixture massive From Ingredients Awareness, Works on me Toward Complex very and contribute All component in the rate of Different From person to me else, Than Makes for every person something like From Awareness Differs About consciousness others. (virgin,10:2000)

Secondly: Technology Nano Nanotechnology

Technology nano she technology new Derivative From nanometer, and the word nano Nano is originally Greek and means dwarf, and this means that one nanometer is equal to one billionth part of one meter, and scientists and engineers deal with matter in this scale at a very precise level, that is, the level of atoms and molecules, not only to build nanoscale devices, but to create new materials with assemblies The arrangements and features are innovative and not found in the natural. (Salama, 17:2009)

Importance Technology Nano

1-that its Technique Working on me integration Science and technology Where Started her job from the ingredients the basic for the material (atoms and molecules) Than Makes its effect wide and big, it includes all fields Sciences and technology.

2-that its Technique not expensive and talk comparison with techniques used Currently, and revenue Economic High Extremely.

3-that Development and search in area technology nano will work on me changing Many From practices traditional in design and production Products and goods consumerism and electronic, and devices Computer, and technology the information and communication and technology vitality, and energy, and others From fields life. (safety,37:2009)

Properties Technology Nano

Change Properties Materials Nanoparticles When be by size nano has It was completed Determine some this is Properties Of which: -

1-Properties magnetism: Energy magnet Depends depending entirely on me Scale dimensions grains Subject the factory of which and the smaller size granules and increased space surface increased Energy magnet and intensity.

2-Properties physical: like hardness and strength for the material she is increase when the level nano Example on me that Labs Power and hardness tubes carbon Nanoparticles Reaches sometimes (1210) Newton/M² what equivalent to five double Matter steel.

3-Feature electrical: for material Nanoparticles Ability on me Connecting the current electric tubes carbon Nanoparticles own Property Farida Where able Electrons from Sir through it Without Presence Which Resistance So used in industry devices sensors the minute and slides e she is self-Technique High.

4-properties chemical: Due to have Preparation Huge from Atoms Materials Nanoparticles on me their surfaces external Where Working as stimulants react Strongly with gases toxic to be nominated Than It was to her Role Important in limit from pollution environmental. (Al-Otaibi,41:2021)

5-Properties visual: for particles Nanoparticles Ability on me changing the color it changes the color golden for material gold to me the color orange When be size particles less from (100) nm, like that Become solution gold green When say size its particles About (50) nm. (Ahmad,21:2020)

Importance Technology Nano in Education

brought about technology nano developments Scientific International fields miscellaneous Such as chemistry and physics, and the living and produces About that many From Applications that touch needs the individual, So had become From the necessary on me Institutions educational school and university keeping up and spread this Science and supply students informative the basic about him and preparation students able on me keeping up Developments and innovations Scientific and make them contributors In which an adaptation with her, and prepare technology nano From innovations Scientific that open room Whatever to think and enter in many From fields life different the changes Technology lead to to me changes social and political and economical and requires that students they own Saucepan From Knowledge and understanding and perception and appreciation and feeling by applications Technology modern, to be used to keep up the changes Scientific and technology. (blessing, Kazem,236:2021)

Previous Studies

1. Studies on Nanotechnology

A study (Neama and Kazem, 2018), where the research aims to identify the acquisition of nanotechnology concepts among chemistry students in the College of Education for Pure Sciences / Ibn Al-Haytham. The sample consisted of (100) students from the Department of Chemistry, 63% of the research community. The tool was prepared It is a test of acquiring nanotechnology concepts. The results showed a weakness in acquiring nanotechnology concepts among students at a rate of (59%) of the sample, i.e. below the average.

Research Methodology and Procedures

adopted researcher Method search descriptive Because it fits with the nature and objectives of the research. The research community consisted of (161) male and female students, and the basic research sample amounted to (121) male and female students. The researcher formulated a number of paragraphs for each field to reach the number of paragraphs (30) paragraphs. The validity of all items of the questionnaire was verified as shown in Table (1).

Schedule (1) It shows the arbitrators' opinions on the validity of the paragraphs of the nanotechnology awareness scale

Function 0.05	Ca2 . square value		Disapproves	Agrees	number of arbitrators	Number of Paragraphs	The Field
	tabular	calculated					
D	3.84	12.565	3	20	23	10	Cognitive
D		9.782	3	19	23	10	skills
D		15.695	1	21	23	10	sentimental
						30	the total

The researcher applied the questionnaire to the exploratory sample consisting of (20) male and female students to determine the clarity of the paragraphs and instructions and the time taken to answer, then analyzed the paragraphs of the questionnaire and extracted the distinction of the paragraphs as all the paragraphs are distinct and significant, and the results showed that the value of the correlation coefficients are all statistically significant at the level of significance (0.05) and score (48) to find stability Done Return Application the scale distance(15th)day From Application the first on me a sample made up From(20)Student a student Where the stability coefficient reached (0.852), which means that the scale has high stability.

The researcher applied the tool to the basic research sample of (121) male and female students in the College of Basic Education, Department of Science, and the researcher used the statistical bag (SPSS) to process data statistically and to extract results.

Presentation and Interpretation of Results

This chapter includes a presentation of the results that have been reached and their interpretation in light of the specific research objectives:

- Recognition Bezel consciousness students College Education the basic in University Diyala with technology nano.

The arithmetic means of the degrees of the students of the College of Basic Education reached (88,699) degrees, with a standard deviation of (9,845) degrees and a variance of (96,924) degrees. OneSampleT-test), as the calculated T-value amounted to (1,453) degrees, which is not statistically significant when compared with the tabular T-value of (1.98) degrees, and this indicates that students of the College of Basic Education (males and females) do not have awareness of nanotechnology and the table(2) explains:

Schedule (2) It shows the results of the one-sample t-test for the degrees of students of the College of Basic Education on the scale of awareness of nanotechnology

The meaning of the difference	Indication level	T value		Degree Freedom	hypothetical mean	variance	deviation normative	average Arithmetic	size the sample	college
		tabular	calculated							
not D statistically	0.05	1,98	1,453	120	90	96,924	9,845	88,699	121	Faculty of Basic Education

Where The arithmetic mean of the grades of the students of the College of Basic Education was (88,699), where the calculated T-value amounted to (1,453) degrees, which is not statistically significant when compared with the tabular T-value of (1,98) degree, This indicates that students of the College of Basic Education They are not aware of nanotechnology. And they may be This result is attributed to:

1. Not including university curricula and courses in the College of Basic Education with the concepts and applications of this technology.
2. Asstudents They did not study any topics related to the field of nanotechnology.
3. Not to engage in any activity related to developing awareness of nanotechnology.
4. Weakness of the scientific research sector and the allocated amounts for this technology.

The Researcher Recommends the Following

1. Adoption my ministry Education and education higher and search Scientific plan strategy to include Curriculum school facts and concepts technology nano within stages school different.

2. Enable the opportunity for students to complete their studies Undergraduate upper in one Specialties technology nano, and meet needs and requirements Market the work From Of experience and energies Humanity Specialized and qualified in technology nano.
3. Development Laboratories and centers and sources learning in Universities and configured and supply it in laboratories.
4. A necklace seminar, and conferences Scientific and educational and residence Exhibitions Scientific and visits field for centers research, and laboratories technology nano and that with a goal development Awareness Scientific I have students with technology nano and development their directions Scientific towards it.
5. Interest Institutions educational create generation Conscious scientifically From During Building Base cultural and intellectual able on me keeping up developments age.

The Researcher Suggests Procedure

- study descriptive About Relationship technology nano with variables other did not eating it search Present.
- study experimental Around Effect concepts technology nano and its applications on me variables of which (inclinations Scientific for students and motivation Toward learning...).
- state a program training Suggestion to develop Awareness of nanotechnology for students' sections Scientific (chemistry and physics and science life) in Universities Iraqi.

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