Effect Model (SAVI) in Mental Habits of Fourth Year Middle School Students in Biology

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Model (SAVI), Habits of Mind, Fourth Grade of Middle School.

ABSTRACT
The research aims to identifymodel (SAVI) inmental habits forFourth year middle school students in biology. The researcher randomly selected Al-Tahrir Government Girls' Day Secondary School in the center of Babil Governorate, as the school contains four classes for the fourth year of middle school and includes (155) students distributed in order.(38 - 39 - 40 - 38) in four sections (A - B - C - D)AndBy random drawing, Section D represented the experimental group, which would study biology according to(SAVI model) and division (b) represents The control group will study the same material in the usual wayThe total number of female students in both groups was:After exclusion(70) Reality student (35) female students in each group,The researcher conducted equality between the students of the two research groupstoFor the following variables (chronological age calculated in months, previous information, biology grades for the third intermediate grade, and intelligence test) Auteus LinyonAnd a measure of habits of mindThe research was limited to female students in the fourth year of middle school For the year Academic(2023-2024) for the first semester and the scientific subject specified in the semesters (first - second - third - fourth - fifth) of the biology textbook and after parity between...The two groupsThe researcher prepared the application requirementsFor both groupsAfter completing the experiment, the researcher applied her research tools to...The two groupsI got data It was processed by testing (t-Test) and the results showed that the experimental group outperformed the control group according to a model(SAVI)inHabits of mind.

1. Introduction

The rapid development in the scientific and educational fields, and the large number of female students in schools, this in turn led to the relatively weak achievement of female students, and to the weak interest in the mental aspects in their various manifestations. The educational process in educational institutions focuses on recitation and indoctrination on the part of the teacher, and memorization and memorization on the part of the student. Only and not achieving the desired goals to stimulate thinking and its various skills as it discourages their thinking, and dealing with everyone on the same level and in the same way, and not taking into account individual differences between students, and the lack of use of educational means and laboratories, and the lack of diversification of activities, which led to the existence of areas of weakness and shortcomings in the students' achievement. Those who are accustomed to memorization, As the female students memorize and memorize the scientific material in order to take the tests and pass them successfully, this has led to a clear decline in the female students' achievement. The researcher found, through her interviews with a number of biology teachers in the middle and secondary stages, that education is still characterized by stagnation and that the method followed is Based on memorization and indoctrination, it takes effect in teaching the subject of biology in our schools and educational institutions on a large scale, with little use of modern educational methods and models, and the lack of interest of biology teachers in modern educational methods, methods, and models in teaching, with their weak familiarity with them, which prompts them to be interested in using the methods. Ordinary. This is what was shown by the results of the questionnaire that the researcher presented to (20) biology schools in secondary and middle schools affiliated with the General Directorate of Education in Babylon. The researcher decided to experiment with using the model (SAVI), which leads to raising the achievement of female students and helping them to think seriously in a way that enables them to confront the problems they face and work to solve them creatively, and this is what leads us to the question that

we expect to answer through the current research:

-What is the impact of the education model?SAVI (physical, auditory, visual, mental)In mental habits toFourth year middle school students?

Second: The importance of research

Teaching science has a high place in the field of modern education and the academic program for students, because it is of great importance in providing them with scientific knowledge and developing scientific thinking. Developing scientific trends and inclinations, providing them with science methods and processes, and forming appropriate scientific skills among students (values,2017:7).

There is no doubt that teaching biology receives educational attention because it has a direct relationship to human life, and the science curriculum must be characterized by innovation and keeping pace with developments, because what is taught today is not sufficient in preparing students for the future in light of the flow and development of knowledge in various fields of science, and the science curriculum faces Extraneous challenges from outside the discipline of science itself, such as the interference of technology with its ideas and tools (Hyena,2006: 149)

On the other hand, teaching methods are of great importance in implementing the academic content and achieving its goals, and good teaching methods are what contribute effectively to linking the learner with the scientific material as well as with the environment in which he lives, as the learner feels that the materials he is learning are a function in his life. It is appropriate for his mental abilities and takes into account individual differences among learners (Al-Tanawi,2009: 167. The teaching strategies are diverse in a way that suits the different types of knowledge in each subject area, and with time the teacher’s role has shifted from focusing on the content to focusing on teaching the student how to learn (Al-Khazraji,2011:226), and teaching strategies have advanced greatly due to the progress of science and knowledge and the reliance of these sciences on teaching strategies, which has brought about a change in their contribution to increasing the means of understanding between the teacher and the students. Teaching strategies play their role in bringing this understanding closer if they are used and employed, as they should be to achieve the desired goals in the best possible way (Abu Shreikh, 2008: 8).

In order to achieve the goal of teaching, a number of models appeared to serve the educational process, and with the emergence of these different teaching models, researchers and educators studied and experimented with them to determine the extent of their importance and impact on the educational process, and since one of the most important results that were reached was that each model has its own specificity, and there is no teaching model that addresses all the characteristics Education and learners successfully, No matter how broad and comprehensive the teaching model is, it cannot contain all the relationships and variables that interfere in the educational process (Al-Darij,2004: 33-34), and it seems that the factor that determines the use of a particular model over another is the educational situation, the needs and characteristics of the learners, and the nature of the content of the scientific material that is intended to be achieved by the learners (Qatami and Nayfeh).,1998:11). As Herman's study indicates (herrmman,2002(Abu Jado and Muhammad,2007:51).

Cross Habits Mentality on Behaviors Intellectual that Complete Her choice in some times To practice Thinking Active,permission She is You drive to an act productive And it becomes Self manners Fixed when Learner(Amour(2005:177).that activation Habits Mind Helps Students on to remember the information For years long And expands Their perceptions Private(Al-Otaibi: 2013: 192).

In light of the above, the importance of the research is summarized in the following points:

1- The independent variable is the education model(SAVI), which helps students develop thinking and problem solving.

2- Importance variable Subordinate Habits Mind where I confirmed Many from Studies Importance Her education And its evaluation And discuss it with the pupils And thinking In which And reinforcement Necessary For students from Okay Encourage them on holding on With it until become Part from themselves And Their structure Mentality.

3- The preparatory stage, as it is considered a transitional stage between childhood and adulthood, as well as a transitional stage to university study.

4-The current research is a qualitative addition to the educational library, as researchers and master's students can benefit from it with its methodology, procedures, objectives, and results.

Third: The goal of the research

The research aims to identify the effect of the model (SAVI) inMental habits toFourth year middle school girls.

Fourth: Research hypotheses

For the purpose of verifying the research objective, the following null hypothesis was developed:

no There is difference Dhu indication Specialist when level(0,05)between middle grades Female students the group Experimental who They will study material science Biology according to model education SAVIAnd between middle grades Female students the group Female officer who They will study Subject itself according to(method Ordinary)in Scale Habits Mind.

Fifth: Research limitations: The current research is limited to:

- Spatial boundaries: Governmental middle and secondary (day) schools affiliated with the Babil Governorate Education Directorate
- Time limits: The first semester of the academic year (2023/2024).
- Human Frontiers: Fourth year middle school female students for the academic year (2023/2024).
- Cognitive frontiers: the first five chapters of the book Biology,

Sixth: Defining terms

1- Impact:

Everyone knew him

- ✓ (Shehata and Zeinab,2003) as "the result of a desired or undesirable change that occurs to the learner as a result of the learning process" (Shehata and Zainab,2003: 22)
- ✓ The researcher defines it procedurally: the amount of change caused by a model (SAVI) in the

learning outcomes of fourth-grade scientific female students by identifying the increase and decrease in their average scores in achievement..

2- Model(SAVI) (kinesthetic, auditory, visual, mental)

- Hardian (2009) defined it as “a learning process for students through combining physical movements with intellectual activity, using all the senses, engaging the whole body and all the senses, broadening the personality, and respecting other individual learning styles, realizing that people learn in different ways.”(Turmudi, Rifia, & Mudiyanto, 2020: 144)
- The researcher defines it operationally as:

A teaching model adopted by the researcher in teaching specific biology classes for fourth-year science students (experimental group). It includes combining physical movements and intellectual activity, using all the senses, broadening the personality of fourth-year middle school students, and taking into account individual differences by the biology teacher, with her awareness that female students have learning styles. Different.

3-Habits Mind

- He knew her(Al-Qahtani,2017)on that it"Habits behaviorism produce on capacity Learner on Thinking in Attitudes different so He follows several Entrances To understand Elements Component For situations then take decisions Relevance to guarantee success And excellence"(Al-Qahtani,2017: 20).
- And you know him The researcher ProceduralllyOn it:

group from Habits that maybe training Female students the line the fourth Scientific(the group Experimental)on Practice it In a way actual during study Topics specified from material science Biology

2. Chapter Two: The theoretical framework and previous studies

The first axis: theoretical background

Brain theories

Firstly:theory Sipri Sperry(the theory Duality)

be seen(Sperry)that all from half of me the brain For them Their privacy And their tasks that They get up With it,and that half of me the brain They are the same almost In shape, And jobs Vitality Private With the senses, And from side Mental And thinking They are They differ on each other(slave ELHussein(2015:27).

secondly:theory McLean Maclean(the theory The trilogy):

She is from suggestion pee McLean(Paul Maclean)And it is formed the brain according to This is amazing the theory from three Brains Which:brain Reptiles, And the device Limbic, And the crust Modern.

- ❖ brain Reptiles:(leg the brain) (Brain Stem):Named by this the name Because he Looks like brain Reptiles, And because smallest And the oldest and he Oldest part in the brain,And And it has he is called With a leg the brain he Section The first or Primitive from the brain where Lead group from Jobs, to organize Blows the heart, And facilitate mission Routine Repetitiveness.

- the device Limbic(Limbic Brain):he the brain The middle And he controls this Section from the brain in eater And drinking And health,And he swore big from memory far Term And the goal from This is amazing Business in this Section from the brain he investigation Balance between requirements life And needs the body the basic,(Nofal: 2007: 55-85).
    - Dandruff Modern(the brain The thinker) (Brain Neo-cortex):she Cover External ileostomy For the brain, And it forms this the brain five Asdas size the brain and this is Section from the brain he Administrator the main on mission High the level like the language, And planning, And thinking Abstract, And the movements minute, And solve the problems, And creativity,(Mayer,2010: 85).

Third:theory Herman Herrmann (the theory Quartet)

foot the world Ned Herman(Ned Herrmann)Concept last For jobs the brain from during theory Release on her theory the brain Total, or Theory Quartet,so He rose Merge theory (Maclean) And theory(Sperry)To come out In theory New she theory the brain Total, after that He rose By exclusion Section the first from the first from Sections theory Macleanand he brain Reptiles, And so Stay Two parts from theory MacleanThey the device Limbic And the brain The thinker or what Known With the crust Modern, And he rose Merge These two The two sections with The two halves Right And the left one For theory Sperryin model circular Quadrant Represent the brain, So it became he have after practical to merge The two theories four regions For the brain Human, Sure Herrmannthat all pattern from This is amazing Patterns The four Is characterized by With characteristics Features His excellence on jealousy from Patterns, And this Patterns Working together To form the brain Total (slave ELHussein,2015:31).

-The concept of the physical, auditory, visual, and intellectual learning modelSAVI))

It is the combination of physical movements, intellectual activity, and the use of all the inner senses and emotions that can have a significant impact on learning (Azizah,2019:28).

- Model steps(SAVI)

The first step is the preparation stage. This stage is about how the teacher prepares the students for learning. At this stage, the teacher provides positive suggestions to students to increase students' interest in the learning that will be carried out. Some of the ways that can be done at this stage include providing positive suggestions, giving useful data, explaining clear learning objectives, arousing curiosity, creating a positive environment, asking questions and posing different problems, And invite students to participate fully from the beginning of learning. Applying this learning method helps students carry out learning activities and unlocks students' initial knowledge.

The second step, the delivery stage, is the teaching and learning step in the activity of expressing the educational materials by the students in a fun and exciting way, and the senses are used as a means of various learning methods for the students. At this stage there are many methods that can be used, which are observing real phenomena, and benefiting all the brain and body. Interactive presentation, graphics, and different learning approaches that all facilitate student and group learning styles, real-world contextual learning experiences, and problem-solving training..

The third step of the training phase is for teachers to help students integrate and assimilate learning materials and new skills in a variety of constructive ways. Some methods that can be used at this stage include real-world simulations, learning games, and problem-solving activities.

The fourth step teaching and learning ends with activities that show the results obtained can be inherent to the students. Learning activities can be done through reinforcing materials, skills training, feedback, scaffolding activities, and collaboration ((Basuk & Suriani,2019: 22.

Habits of mind

Definition of habits of mind

pointed out(Jurist: 2007)That Habits Mind she behavior frequent from before Learner In a way Involuntary,And this Habits Different in degree Its stability in behavior Learner Depending For practice Temporality

(Jurist: 2007 : 15)

Costa and Kalik knew her (Costa & Kallick:2007It is an evolutionary and sequential process that leads to the formation of ideas and innovation, which includes values, inclinations, and trends. The student is selective in his mental behavior according to his inclinations, values, and tendencies.

(Costa & Kallick: 2007: 28).

And it varied Trends the theory in study Habits Mind,So I appeared With that Categories several,He was from Most notable classification Costa"And like you Costa & Kallick",will Count this Category in We searched; so Prepare classification"Costa"And like you"For habits Mind from more Categories Convincingly in to explain And interpretation And application Habits mentality; To be approved on results studies Research more from Categories The other

(Nofal(2008, 90).

Characteristics of habits of mind:

The concept of habits of mind can be understood through the characteristics they possess, which are as follows:

- the value (Value): It means choosing a form or embedding specific models of intellectual behavior that is more appropriate and suitable for application than other intellectual patterns that are less useful and less productive.
- allergy (SensitivityIt means recognizing opportunities, appropriate times for application, and appropriate situations for thinking.
- having the ability (Capability): It includes possessing the basic abilities and skills through which multiple patterns of intellectual behavior can be applied.
- Commitment (Commitment): It is the insistence on work that helps develop performance regarding patterns of behavior that activate the thinking process itself.
- Politics (PolicyIt is the integration and strengthening of rational patterns, raising their level in all decisions, actions and practices, and making them general to the school and should not be skipped.

(Hajat: 2010: 35-36).

The second axis: previous studies

- Studies related to the model (SAVI).

1- Azizah (2019): Keefektifan Model Pembelajaran Savi Terhadap Minat Dan Hasil Belajar Sbk Siswa Kelas V Sd Negeri Lawatan 01kabupaten Tega.

2- Nofziarni (2019): Pengaruh Penggunaan Model Somatis Audttori Visual Intelektual (Savi) Terhadap Aktifttas Belajar IP A Siswa Kelas III Sdn Gugus 5 Kecamatan Kpgd Kabupaten Solok Selatan**.**

❖ **Studies related to habits of mind**

1. Study by Al-Jaafari (2012): The effect of using strange pictures and drawings of creative ideas to teach a science course in developing cognitive achievement and some habits of mind.
2. Al-Qarni's (2015) study: The impact of the brain-based learning strategy in teaching science on the development of higher-order thinking and some habits of mind among second-year middle school students with different brain control patterns.

3.Chapter III

Firstly: Research Methodology

The researcher adopted the experimental method to achieve the objectives of her research, due to its suitability to the nature of the research, in addition to being one of the methods that uses experience to reveal the relationships between the two variables.It is based on accuracy in observing the phenomenon to be studied. It is represented in identifying the effect of the independent variable on the two variables under scientific experiment, which is an important source for reaching accurate results (Al-Kubaisi,2011:59).

Second: Experimental design

Since this research consists of one independent variable (modelSAVI) and dependent variableOne Habits of Mind) Therefore, the researcher adopted a partial control experimental design with two groups (experimental and control) and a post-test, as shown in the table.No. 1).

Table(1)The experimental design adopted in the current research

T	the group	Parity	Independent variable	Dependent variable	the tool
1	Experimental	-Test previous information. -Intelligence test (Auteus-Linion). -Age calculated in months. - Biology exam grades for the third intermediate grade for the previous academic year (2022-2023). Habits of mind scale	(FormSAVI)	-Habits of mind	Habits of mind scale
2	Female officer		The usual method		

Third: The research community

It means all the individuals, people, or things that constitute the subject of the research problem, that is, all the elements that are related to the research problem, and to which the researcher aims to generalize the results (Abbas et al.,2011: 217). Thus, the population of this research consists of all fourth-grade science students who study in all government preparatory and secondary day schools for girls.Affiliated to the General Directorate of Education in Babylon, Hilla District, for the academic year (2023-2024)..

Fourthly: The research sample

The research sample is defined as a model that includes an aspect or part of the units of the original society concerned with the research and is representative of it, as it bears its common characteristics. This model or part saves the researcher from studying all the vocabulary and units of the original society (Kandilji,2019: 186).

Accordingly, (Tahrir Secondary School for Girls) was selected in a simple random manner from among the schools affiliated with the Babylon Education Directorate for the academic year (2023-2024). Affiliated to the General Directorate of Education in Babylon, Hilla District for the academic year (2023-2024)As shown in Table No. (2).

Table(2)The number of female students in the two research groups before and after exclusion

T	the group	Section	Number of female students before expulsion	Number of excluded female students	Number of female students after exclusion
1	experimental model (SAVI)	Dr	38	3	35
2	Female officer (the usual way)	B	39	4	35
	the total	2	77	7	70

Fifth: Equivalence of the two research groups

The researcher conducted parity between the two research groups in some variables that may affect the integrity of the experiment and the accuracy of the results, despite the fact that the female students of the research sample are from a very similar environment in terms of social and economic terms, and they study in the same school and are of the same gender. These variables are

1- Chronological age calculated in months.

2- Previous information.

3- Biology exam grades for the third intermediate grade for the previous academic year (2022-2023)M.

4- Intelligence test (Auteus - Linyon).

5. Habits of mind scale.

Seventh: Research requirements:

Before implementing the experiment, the basic requirements for the experiment must be prepared,

which are:

Determine the scientific subject: The researcher determined the scientific subject that would be taught to the students of the experimental and control groups during the duration of the experiment. It included the first five chapters of the biology textbook for the fourth scientific grade, 11th edition,For the year 2023.

Eighth: Search tool:

It is the means by which the researcher collects his data so that he can solve the research problem and verify his hypothesis (Al-Shayeb,2009: 69), and to determine the extent to which the research objectives and hypothesis were achieved, this required preparing a tool to measure the dependent variable.:

- Habits of mind scale

The researcher built a scale of mental habits, for fourth-year science students, after reviewing previous studies that dealt with this topic. Planning to build the scale is part of planning the research, and among the requirements for building the scale is following clear and specific scientific steps, upon which the researcher relies when constructing the scale. It is necessary to begin first by knowing and defining the theoretical starting points.

where he sees (Cronbach: 1970) It is very necessary for the researcher to define the structural concepts on which he relies, and from which the steps used in constructing psychological measures begin before starting with them (Al-Kubaisi: 2010: 263). The following methodological and theoretical starting points have been identified:

- ❖ Adopting the theory developed by (Costa & Kallick) (Costa & Kallick: 1999).
- ❖ Determine the scale areas based on theory(Costa & Kallick).
- ❖ Formulating and collecting items that relate to each area of the scale.

Below are the steps in detail

1- **Determine the purpose of the mental habits scale:**The main goal of the mental habits scale is to ascertain the level of possession and practice of the fourth grade female students, represented by the students in the experimental and control groups, of mental habits.

2- Determine the scale areas: Through the researcher's acquaintance with the literature and studies through which she was able to obtain it, the various classifications of mental habits contained a number of measures, and for the purpose of constructing a measure of mental habits, she adopted a classification(Costa & Kallick: 2000)As a basis for its construction, I took a picture of each of the mental habits within this classification, which amounted to (16) habits of the mind, which are (perseverance, controlling recklessness, listening with understanding and empathy, questioning and posing problems, thinking about thinking, striving for accuracy, Applying previous knowledge to new situations, thinking and communicating clearly and accurately, collecting data using the senses, taking responsible risks, reciprocal thinking, constant readiness for continuous learning, flexibility of thinking, imagination and innovation, a sense of humor, and responding with amazement. and desire)

3- **Formulating items for the mental habits scale**The researcher drafted the paragraphs of the Mental Habits Scale for each of its fields, and their number reached (80) items distributed over all its fields, as each of the fields included (5) items. The researcher was careful that the paragraphs

of the scale were appropriate to the research sample and its nature, and she reformulated them. , several times to be consistent, understandable, and clear, and the table below shows the number of mental habits paragraphs:

4-Identifying alternatives to the mental habits scale: The researcher placed five alternatives in front of each item of the scale:**(Always-Mostly-Sometimes-Rarely-Fatherda)**Grades were given (1, 2, 3, 4, 5), with (5) being given to the alternative always, (4) to the alternative often, (3) to the alternative sometimes, (2) to the alternative rarely, and (1) to the alternative never. For the positive items, these scores are given in reverse for the negative items (5, 4, 3, 2, 1) in a row, and thus the highest score obtained by any sample member on the scale will be (400), and the lowest score will be (80). The hypothetical, i.e. theoretical, average of the scale is (240) degrees.

9- Statistical analysis of the scale items:

A - Construct validity: It is called hypothetical formative validity, because it indicates the level of the psychological measure, and this type is concerned not only with the method of measurement, but rather with the theory presented in its light (Al-Zuhairi: 2017: 272).

The researcher verified the validity of constructing the scale for mental habits, and used the scores of the survey sample used in the statistical analysis of the scale for the purpose of finding the following:

- **The relationship of the item score to the total score of the mental habits scale:**

The researcher used the Pearson correlation coefficient equation to calculate the values of the correlation coefficients for the relationship between the score of each item of the scale and the college score. She subjected the scores of the female students in the second survey sample, of which there were (100) students, to statistical analysis. It became clear that the correlation coefficient ranges from (0.30 to 0.30). 85), and thus all paragraphs are statistically significant, as seenEbelThe correlation coefficient is statistically significant if its value reaches (0.20) or more, (Ebel, 1972: 566Thus, all 80 items of the scale were retained.

- **The relationship between the degree of the paragraph and the total degree of the habit to which it belongs**

The researcher extracted the Pearson correlation coefficient between the score of each item and the degree of the habit to which it belongs. The correlation coefficients for the items on the habit of perseverance ranged between (0.63 - 0.77), and the values of the correlation coefficient for the habit of flexibility of thinking ranged between (0.68 - 0, 75), the habit of asking questions and posing problems is between (0.65-0.84), and the habit of collecting data using all the senses is between (0.72).-0.87), and the habit of applying past knowledge to new situations ranges between (0.63 - 0.75), while the habit of controlling recklessness ranges between (0.56).-0.77), and the habit of listening with understanding and empathy between (0.62-0.80), and the habit of thinking and communicating clearly and accurately between (0.69-0.75), while the habit of always being ready for continuous learning is between (0.68-0.77), and the habit of taking responsible risks is between (0.73-0.85), and usually think between (0.65-0.82), the habit of imagining and innovating between (0.66-0.76), and the habit of responding with amazement and desire between (0.52).-0.76), and usually a sense of humor between (0.65-0.78), and the habit of reciprocal thinking between (0.67-0.78), and the habit of striving for accuracy is between (0.51-0.81), so they are considered good correlation coefficients, and this indicates that these habits actually measure mental habits, meaning that the measure is characterized by construct validity.

❖ **The relationship between the degree of habit and the total score of the scale:**

The score of each habit must be proportional and interconnected with the total score of the scale. The researcher calculated the correlation coefficients between the score of each of the sixteen habits and the total score of the scale. She used the Pearson correlation coefficient for this. The values of the correlation coefficient ranged from (0.53).-0.93) which are good correlation coefficients, so it turns out that all mental habits are statistically significant

The discriminating power of the scale items:

The researcher used the t-test (T-testFor two interconnected samples in extracting discriminatory power, the T-value ranged between (2.447-14,058) which is greater than the tabulated value of (2) at a significance level of (0.05) and a degree of freedom (54), and thus all items of the scale are significant.

❖ **Scale stability**

The stability of the scale is one of the characteristics that must be characterized by a good measuring instrument. This means that the measuring tools must have a high degree of mastery, accuracy, and consistency when collecting data related to the behavior of the subject (Al-Chalabi: 2005: 113). Calculating the stability of the scale is based on the internal consistency method. (Cronbach's Alpha) equation, and it turned out that the calculated reliability coefficient value was (0.98), which is a good and acceptable sign of the scale's stability (Younis: 2018: 72).

4.the fourth chapter

First: Presentation of the results

The current research aims to (identify the effect of the model)SAVI)In mental habits toFourth-year middle school students in biology. In order to verify this goal, the results reached by the researcher will be presented according to the dependent variable of this research and its null hypothesis.HAnd as follows:

Null hypothesis

To verify the validity of the null hypothesis, which states (There is no significant differenceStatisticAt the level of (0.05) between the average grades of the experimental group students who will study biology according to the education modelSAVI and the average grades of the control group students who will study the same subject according to (the methodOrdinary) in the habits of mind scale)The researcher calculated the arithmetic mean and the T-value using the testAl-Tai (t-test) For two independent samples to compare the average scores of the female students in the experimental group and the average scores of the female students in the control group on the mental habits scale, as shown in Table (3):

Table (3). Test results(t-test) for the two research groups (control and experimental) in the mental habits scale

T	the group	Number of female stude	SMA	standard deviation	variance	Degree of freedom	T value		Statistical significance at the 0.05 level
							Calculated	Tabulation	

		nts							
1	**Experimental**	35	253,54	27,73	768.95	68	7,372	2,000	Statistically significant
2	**Female officer**	35	206,49	25,63	656.90				

To know the size of the impact caused by independent change(Model SAVI) In the dependent variable (mental habits), the effect size equation (d) was used as shown in Table (4):

Table (4) valuesize Impact (d) In the mental habits scale

Amount of effect	valuesize Impact (d)	valuet calculated
big	1,79	7,372

It is clear from the table above that the effect size value (d) It reached (1.79), and this indicates that (the SAVI model) had a significant impact in raising the level of mental habits among the female students of the experimental group compared to the female students of the control group.

Conclusion

In light of the research results, the researcher reached the following conclusion: “The use of (modelSAVI (in teaching) had an impact on increasing the academic achievement of fourth-grade female students in biology compared to the usual method.

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