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Review Article

Educational Methods and their Role in Developing Students' Skills in Secondary Schools

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Abstract: Educational methods play an important role in achieving the goals of education as they are one of the pillars of the educational process. For this reason, the many changes in traditional educational theories have prompted educational experts to provide suggestions to modify the means of presenting curricula to improve the educational process. Were, this research came in this context, as it sheds light on the educational methods used in secondary schools and their role in stimulating students' motivation to learn and develop their skills. The research is important through the effective role of the educational methods used by teachers in stimulating students' thinking and developing their skills. The research included a presentation of the most important previous studies about the topic, a review of the theoretical framework, and practical application was carried out on a sample size of (925) male and female teachers. Data was collected through a questionnaire prepared for this purpose, and analysis was done in two ways. The first adopted descriptive statistics by adopting a triple Likert scale, and the second adopted the analytical statistical approach through the use of analysis of variance. And the research concluded with a set of conclusions and recommendations, the most important of which are: educational methods have an effective role in developing students' skills and their use has positive repercussions. There are statistically significant differences between the response levels.

Keywords: Educational Methods, Secondary Schools, Statistical Analysis, Likert Scale, Analysis of Variance.

1. INTRODUCTION

The education sector is an important sector because of its importance and place in the development and prosperity of countries, and in view of the progress witnessed by this sector, it was necessary for Iraq to keep pace with this development to make education better. The educational process in the secondary learning stage depends on teaching students and teaching them information using traditional methods, which were limited to the book and the teacher in conveying the information to the student, which made him a recipient of information without using logical scientific thinking methods, and since the educational method is one of the pillars of the educational process as it plays an important role in achieving the goals of education, therefore attention to it has become one of the necessities of improving the quality of education. Educators have unanimously agreed on the role that educational methods play in making the educational process a success. The teacher's work and efficiency are complemented by the optimal use of the components of the teaching process, which its basis is the educational methods used to communicate and clarify scientific material.

In line with the technological revolution that the world is witnessing, which has led to comprehensive changes to many traditional educational theories, which have become subject to modification and challenge, which has prompted educational experts to submit suggestions to modify the methods of presenting curricula to reach the best results in improving the educational process. The idea of this research came to determine the educational methods used in secondary schools and the extent of their efficiency and effectiveness in stimulating students' motivation to learn and benefit from the scientific material presented.

The importance of this study comes from the effective role of the educational methods used by male and female teachers in secondary schools in stimulating students' thinking and stimulating their motivation towards learning.

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And the research problem was to answer the following two questions:

1. Does the use of educational methods have positive repercussions on students' skills and the speed of their understanding of scientific material?
2. There are statistically significant differences between the response levels from the point of view of male and female teachers.

Where the research aims to identify the educational methods used in secondary schools and their role in stimulating students' motivation to learn and programming their creative skills.

Many researchers have discussed educational methods and their role in developing students' skills, the most important of which are:

A study by Amer Khaled Murshid (2017) which entitled " The level of possession of Shobak District teachers' skills in using educational methods", which aimed to reveal the level of possession of Shobak District teachers' skills in using educational methods. And to achieve this, the researcher developed a questionnaire consisting of (20) items and distributed to the study population consisting of (82) male and female teachers. The researcher used the descriptive analytical method in order to reach the objectives of the study, and the study reached the following conclusions:

1. There are no statistically significant differences due to the variables of gender and academic qualification in the use of educational methods.
2. There are statistically significant differences attributed to the practical experience variable, in favor of the more than ten years group.

A study by Mai Al-Kilani and Nadia Thabet (2011) entitled the importance of using educational methods in mathematics class from the point of view of the students themselves in Palestine. The study aimed to find out the importance of using educational methods in mathematics class from the viewpoint of the students themselves, and the sample of the study consisted of (235) students from the study population that consisted of students in the second stage of basic education in public schools, and the descriptive analytical method was used to achieve the objectives of the study. The two researchers used a questionnaire and the validity and reliability of the tool was confirmed. Thus, the study reached the following results:

1. The results showed a high degree of the importance of educational methods from the students' point of view.
2. There are no statistically significant differences according to the gender variable.

As well as, study by Khaled Khazaleh (2010), in which the study aimed to determine the effect of using holographic educational methods on the academic achievement of first-year secondary school students in the geography subject assigned to them in the second semester. The results of the study showed that there are statistically significant differences between the academic achievement of first-year secondary school students those who used holographic methods and those who did not use holographic teaching methods favored the holographic method were in favor of the holographic method. And one of the study recommendations is to conduct further studies on the different types of holographic teaching methods in the different branches of social studies.

2. Theoretical framework of the research:

The educational method is defined as the methods and tools used by the teacher to convey meanings and ideas about the material to be presented. Many classifications of educational methods have emerged, differing according to the principles adopted by their owners. The most famous of these classifications are:

First: Classification based on the senses: The authors of this classification divided the methods into three main sections: (3)

1- Visual methods: They are represented by methods that rely on the sense of sight alone, the most famous of which are silent films, both animated and still, maps, pictorial symbols, pictures, models, and samples.
2- Audio methods: It includes all the methods that a person receives by ear, including audio recordings, school radio, and audible verbal language.
3- Audio-visual methods: This means all methods that use the ear and eye as a tool for receiving them. Among the most famous of them are talking and animated educational films, educational television, and slides when used in conjunction with audio recordings for explanation and clarification.

Second: Classification according to the method of obtaining it: it is divided into two main parts (6)

1- Ready-made materials that are produced in factories in large quantities and are distinguished by their quality of workmanship.
2- Locally manufactured materials produced by the teacher or learner, such as maps and graphs.

Third: Classification according to the nature of the display: It includes two sections: (2)

1- Materials that are displayed optically on a screen, such as slides, films, and computer software.
2- Materials that are not displayed optically, including models, paintings, maps, posters, educational games, and graphs.

Fourth: Classification according to effectiveness: It is divided into two categories: (1)

1- Passive methods are methods of communication that can mediate, carry, or transmit different types of

learning and do not require an active response from the learner, such as audio tapes, printed material, and radio.

2- Active methods: Examples include blended learning and computer-assisted learning, where the learner is active in his response.

Fifth: Classification of methods according to their role: They are divided into types, which are: (9)

1- Main methods: These are those methods that are used as a focus in an educational learning situation, such as television.
2- Complementary methods: These are the methods that may be used to complement the main methods, such as using a special piece of paper after watching a television program.
3- Complementary methods: These are the type specific to the teacher that he uses when he observes all of the methods that he use are insufficient, and this type is usually produced by the teacher or Stomach before.

Teaching methods are considered an important part of the tools used in the educational process. They are the material and moral tools that the teacher uses in the ambiguous aspects of his lessons to facilitate students' understanding. The need for teachers to use educational methods also increases, because they make education more connected, faster, and private, provide better curricula, and also provide the ability to deal with the increasing numbers of students. It makes education a fruitful process (4). The role played by educational methods can be diagnosed by the fact that they work on (5):

1- Attracting the learner's interest and satisfying his learning needs.
2- Attracting the learner's attention to the scientific material presented.
3- The diversity of educational experiences that the school prepares for the learner.
4- Increasing the learner's positive participation in gaining experience and developing his ability to think scientifically to solve problems.
5- Diversifying reinforcement methods that lead to confirming the correct answer and confirming learning.
6- Creating new trends that lead to modifying the learner's behavior.

The benefits of educational methods can be summarized as follows (7, 8):

1- Reducing effort and time on the part of the learner and teacher.
2- It overcomes verbalism and its shortcomings and helps in transferring knowledge, stabilizing the process of perception, and clarifying ambiguous aspects of science.
3- It arouses the students' attention and interest, confirms the information, develops the accuracy of observation, increases the student's memorization, doubles his understanding, and measures the extent to which the student has absorbed the lesson.
4- It provides learners with multiple opportunities for education, self-realization, skills education, taste education, and behavioral modification.
5- It facilitates the learning process for the teacher and education for the student and clarifies some specific concepts of education.
6- It helps to highlight the individual differences between students in various fields.
7- Providing the student with the necessary scientific information.
8- It contributes to maintaining the educational experience for a longer period with students.
9- It increases the opportunities for participation and cooperation among students, which further encourages students to learn without boredom or laziness.
10- It provides realistic experiences that encourage students towards self-activity and develop in them continuity of thinking and creativity.

3. The Practical Side:

3.1. Research sample and data:

For the purpose of achieving the research objective, a sample of (925) male and female teachers distributed among all secondary schools was studied in light of their answers to the questionnaire prepared for this purpose.

Note that the study population is represented by male and female secondary school teachers affiliated with the Fallujah Education Directorate, one of the Anbar Education Directorates, for the academic year 2023-2024. Their number is (3574) male and female permanent staff teachers, distributed among the secondary schools, which number (156) schools and by region, as shown in Table No. (1).

Table 1: Shows the number of secondary schools by region, the number of male and female teachers in them, and the size of the drawn sample

Region	Number of Schools	Number of Male and Female Teachers	Sample Size
Fallujah Center	73	1875	485
Saqlawiya	34	761	197
Nassaf	24	453	117
Al Nuaimiya	12	217	56
Al hsay	13	268	70
The Total	**156**	**3574**	**925**

3.2. Analysis and results:

After collecting and reviewing the questionnaire, the sample responses were tabulated as shown in Table No. (2).

Table 2: Sample answers tab

No	Items	YES	NO	To some extent	
1	The school has educational methods other than the blackboard	304	527	94	
2	You find ease in using educational methods	475	178	272	
3	Educational methods play a role in taking into account individual differences	471	116	338	
4	It helps stimulate students' thinking	627	124	174	
5	It plays an important role in shortening the time to deliver scientific information	691	87	147	
6	It provides students with new skills	335	67	523	
7	Using teaching methods makes the information easier and clearer for students	813	35	77	
8	Helps attract students' attention	769	47	109	
9	Helps achieve educational goals	711	28	186	
10	It helps improve the student's desire to learn	632	66	227	
11	It helps in the student's ability to evaluate the information	307	213	405	
Total		6135	1488	2552	10175

For the purpose of analyzing and presenting the results resulting from the questionnaire, two analysis methods were adopted:

The first method:

A descriptive statistical method to describe the studied phenomenon, where a three-way Likert scale was adopted to describe the results of the opinions of the sample members, and the following weights were given to the answers:

Yes 3
To some extent 2
No 1

By using the statistical package for ready-made programs (SPSS), the results shown in Table No. (3) were obtained, where the arithmetic mean was found, and here we mean the weighted arithmetic mean, as well as the standard deviation, percentage, and t-test, to find the trend of the sample, which extracts:

Sample Direction = (largest degree - lowest degree)/largest degree

Sample Direction = (3-1)/3 = 0.67

No	To some extent	Yes
1 – 1.67	1.68 – 2.53	2.54 - 3

By applying a three- way Likert scale, the results shown in the following Table No. (3) were obtained:

Table 3: Likert analysis results

No.	No	To some extent	Yes	Average	Deviation	Percentage	T TEST	Sample Direction	Question Rank
7	77	35	813	2.80	7.27	93.19	3.33	Yes	1
8	109	47	769	2.71	7.09	90.45	3.06	Yes	2
5	147	87	691	2.59	6.74	86.27	2.65	Yes	3
9	186	28	711	2.57	6.82	85.59	2.53	Yes	4
4	174	124	627	2.49	6.44	82.99	2.31	Yes	5
10	227	66	632	2.44	6.43	81.26	2.07	Yes	6
1	94	527	304	2.23	4.93	74.23	1.40	To some extent	7
2	272	178	475	2.22	5.60	73.98	1.19	To some extent	8
3	338	116	471	2.14	5.50	71.46	0.80	To some extent	9
11	405	213	307	1.89	4.46	63.14	-0.72	To some extent	10
6	523	67	335	1.80	4.39	59.89	-1.41	To some extent	11

The table above shows the results of the analysis of the questionnaire questions from the point of view of the sample members, where the questions (7, 8, 5, 9, 4, 10) came in a row towards the yes sample, with averages ranging from (2.44 - 2.80), and percentages ranging from (81.26% - 93.19%). While questions (1, 2, 3, 11, 6), respectively, were towards to some extent sample, with averages that ranged between (1.80 - 2.93), and percentages that ranged between (59.89% - 74.23%). This emphasizes the effective role of educational methods in developing students' skills.

The second method:

An analytical statistical method was adopted, and for the purpose of knowing whether there were statistically significant or significant differences between

the three answer levels of the respondents (yes, no, to some extent), an analytical statistical method was used, which is one-way analysis of variance. To find a sum of squares between the treatments, since the treatments include answer levels (yes, no, to some extent), and thus the number of treatments is equal to (3), each one repeated (11) times with the number of questions.

To find the total sum of squares, we take all response levels and all questions, where the total number of items is equal to (33) items.

The sum of squares of the error will be the difference between the sum of the squares of the total and the sum of the squares of the treatments. And the following table (4) shows the results of the analysis of variance:

Table 4: Analysis of variance table

ANOVA				
S.R	**SS**	**df**	**MS**	**F**
Between Treatments	1077714.94	2	538857.47	21.4423
Between Error	753918.4	30	25130.6	
Total	**1831633.3**	**32**		

It is clear from the analysis of variance table above that the calculated F is significant and highly significant, as:
Calculated F = 21.4423 with degrees of freedom (2.30)
Tabulated F = 3.32 at ά = 0.05
Tabulated F = 5.39 at ά = 0.01

Thus, the differences between the three response levels are significant and to a high degree, and this means that the answers of the respondents were accurate, clear and not overlapping, and this has more than one significance for the subject of our research, as it indicates the accuracy of preparing the questionnaire on the one hand, and the high level of the teachers' understanding of the questionnaire questions and the seriousness in their answers, on the questionnaire on the other hand.

4. CONCLUSIONS AND RECOMMENDATIONS

Through the theoretical presentation and practical application of the research and its results, we list the most important conclusions and recommendations:

1- Educational methods have an effective role in developing students' skills from the point of view of the research sample, and their use (educational means) has positive repercussions on students' skills and abilities.
2- Questions (7, 8, 5, 9, 4, 10) came respectively, in the direction of the yes sample, with averages that ranged between (2.44 - 2.80), and percentages that ranged between (81.26% - 93.19%). While questions (1, 2, 3, 11, 6), respectively, were in the direction of to some extent, with averages that ranged between (1.80 - 2.93), and percentages that ranged between (59.89% - 74.23%). This emphasizes the effective role of educational methods in developing students' skills and abilities.
3- The analysis showed that the differences between the response levels are highly statistically significant.
4- The results of the analysis showed that the sample members' answers were accurate and did not overlap, which indicates the accuracy of preparing the questionnaire on the one hand and the high level of understanding of the teachers and their seriousness in their answers.
5- Paying attention to providing educational methods and developing them periodically, and updating teachers' skills by holding workshops and training courses for them.

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