
The Effectiveness of The Brunner Model for Developing Technical Skills for Fifth Year Middle School Students in Art Education

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Abstract: The research aims to knowing the effect of using Bruner's exploratory model in acquiring the Art Educational among fifth High school grade students. The research sample consists of (40) students; (20) experimental group students and (20) control group students. The researcher teach himself the two groups at light of the two teaching modes of Bruner's. The experiment covered a second academic year 2018– 2019) There is a statistically significant difference between the average of acquiring the Art Education among research sets members at the two variances of teaching methods and in favour of the experimental sets. There is a statistically significant deferences among the experimental sets studied through the Bruner's model. The researcher concluded groups of results and among them was effectiveness of the reception and optional teaching modes in Bruner's exploratory models in acquiring the Art Education concepts and developing inductive thinking among fifth year preparatory students.

1. INTRODUCTION

The current research aims to identify the effectiveness of using the Brunner model in developing the technical skills of fifth-grade students in art education To achieve this goal, null hypotheses were formulated The research sample consisted of (40) fifth year middle school students. An experimental design with two groups, the experimental and the control group, with a post-test skill was adopted. The teaching plans were adopted according to the method of the Brunner model in the post skill test through the skill performance evaluation form. The researcher used many statistical methods to process the data. The superiority of the experimental group appeared in the post- skill test, in order to prove the effectiveness of the teaching method prepared according to the Brunner model through the organization of information and the sequence of steps for implementing the skills of art education work.

First, the research problem:

Art education is one of the means of expression, as it is the most resistant means to the factors of time, through which man expresses his life with its various relationships and



different ranges, which he has lived through the horizons of time and its body. High and Rafa (Amr, 2002, 103).

Learning technical skills is not just providing the student with information, notes and educational experiences, but rather it is a process of helping and guiding the student to learn skills on their own and to develop their abilities and capabilities on how to continuously acquire modern information and experiences and employ them in different areas of life and specialization in which they learn in particular. Knowing the methods and means by which the student learns technical and methodological materials, the researcher was convinced that the teaching methods and methods used in education have become weak and not of any use to lure the student to creativity in general. Therefore, he decided in his research to use modern educational strategies because these methods, strategies and models focused their attention on the teaching/learning process, which depends mainly on the student's use of all his senses as learning tools that relate to the influences around him that transmit them to the mind that analyzes them.

The researchers believe, through the foregoing and what is applied on the ground, that modern teaching methods, including Brunner's educational model, have eased the strenuous effort that the teacher was exerting by performing teaching and training skills alone in the educational process, as he became in the light of this to be a guide and supervisor that organizes the learning and teaching process According to the functional use of teaching methods.

This necessitated that the researcher conduct an exploratory study asking him to coexist with the students of the fifth grade of secondary school, as he drew his attention to the presence of mistakes committed by students, which can be observed and pointed out during their performance in art education, which is represented by the weakness of their artistic skills, which generated a feeling and a sense of the existence of a problem that requires identification and standing on the difficulties that Students face it and then identify the positive to reinforce it and the negative to correct it for students.

Research importance

In some senses, the teaching process aims to bring about fundamental changes in the student's behavior, and to provide him with information, knowledge, skills, attitudes and social, educational and artistic values. In order to achieve the technical educational goals that seek to bring about those desired behavioral changes. The teacher must transfer the experiences and information required to achieve educational behavioral change in an uncommon way that changes the student's interest and desire and pushes him to learn, taking into account his psychological, social and mental qualities and characteristics.

(Al-Bakri, 2002: 43).

Cognitive models have emerged that emphasize how to learn the skill and give the importance of the student's autonomy and his effective contribution to the process of learning the skills in the lesson. It emphasized the stimuli that the student is exposed to and his method of learning by presenting the steps of skill and how to reach the level of mastery. These



models constitute successful teaching methods in teaching topics in various scientific and technical fields, including these models.

1. J Piaget model, which is known as (the cognitive development model).
2. J Bruner's model, which is known as (the cognitive formative model).
3. Kanye model D. Gagen, which is known as the hierarchical model or structure.
4. D. Ausubel's model, which is known as the meaning model.

The importance of the current research is reflected in the following points:

- 1- The importance of the secondary stage, which is the basic roots for developing the spirit of artistic creativity among students, especially when they are in a stage characterized by the basic beginnings of the launch of abstract intelligence and symbolism in thinking in all its meanings.
- 2- The application of this kind of models may help students to develop their abilities, reduce time and effort, and overcome random performance.
- 3- Art education contributes to the development of artistic taste among secondary school students and has a special distinction as it deals with the materials of the local environment.
- 4- The application of the model designed according to the Brunner model may provide the teaching staff with a consistent and relatively stable system by circumventing the technical skill performance that provides appropriate information that helps them in evaluating the performance of students and improving their performance level according to objective criteria.
- 5- Teaching the educational model to master the performance of technical skills in art education according to the Brunner model may work to raise the levels of technical skill proficiency for students and reduce the cost of learning at the same time.
- 6- The teaching educational models that the current research seeks to design will become a tool in the hands of teachers of art education to be adopted in education and mastering its basic skills.
- 7- Art education depends to a large extent on its popularity and development on the development of its skills, especially the basic ones.
- 8- This study may contribute to identifying the cognitive and skill aspects in the subject of Art Education, which is one of the basic and necessary skill subjects for students in the field of Art Education.
- 9- This study benefits all educational stages and training centers to benefit from these teaching models

Research Objectives: The current research aims to

Designing teaching plans, according to Brunner's model, for developing art education skills for fifth grade secondary students.

The effectiveness of teaching plans by applying it to a sample of fifth year middle school students.

Since the program that the current research aims to design requires evaluating its impact on developing art education skills, by applying the program to an experimental group and comparing it with the control group that is taught these skills in the usual way, so the researcher put the following two null hypotheses:

There is no statistically significant difference at the level of significance (0.05) in the average



scores of skill performance for students in art education between the experimental group that studies art education according to Brunner's model, and the control group that studies art education in the usual way in the skill performance test (pre-test).

There is no statistically significant difference at the level of significance (0.05) in the average scores of skill performance for students in art education between the experimental group that studies art education in the educational model prepared according to the Brunner model, and the control group that studies art education in the usual way in the test Skill performance (poster).

search limits :

The current search is determined by:

1. Students of the fifth year of middle school, morning study. The second semester of the academic year (2018-2019).
2. Brunner's educational model.

Define terms:

I. Effectiveness

Procedural definition of effectiveness:

The amount of development caused by the content of teaching plans based on the Brunner model.

Secondly. Brunner's model:

The procedural definition of Brunner's model was defined by the researcher:

The art education teacher/teacher presents examples classified into positive that apply to the artistic concept and negative ones that do not apply to it. He instructs fifth-grade students to compare the positive and negative characteristics of the given examples, in addition to the students formulating a definition of the concept of art education in light of its characteristics and identifying additional examples of the concept that are not classified into positive and negative.

Third- Fifth Grade Preparatory:

It is the second grade of the preparatory stage, which includes the fourth, fifth, and sixth grades in their scientific and literary branches. This stage comes after the middle school and works to prepare and prepare students to enter the university, or in other areas of life (Ministry of Education, 2013).

Theoretical framework:

Bruner is one of the most prominent advocates of learning by exploration and practice, as he believes that teachers should focus on the active skill side of learning so that the student is given great freedom of planning and implementation in studying specific problems or answering specific questions without giving the necessary theoretical information or specifying practical procedures for them. Therefore, Bruner asserts that what is important in exploration is not the discovered result, but rather the processes carried out by the student that lead to exploration, and that involve him in making the information. In this regard, (Bruner) stresses the importance of the internal reinforcement that the student obtains when he has a deep understanding of the idea or the subject, which generates in him joy rarely generated by



any kind of external reinforcement, as Brunner sees that the reinforcement in exploration is exploration itself. The other aspect of Brunner's strategy is to emphasize that any skill can be taught to any student of any age if it is presented to him in an appropriate manner. The transition between the levels of thinking, i.e. from sensory thinking to symbolic thinking, and this does not require waiting until the student reaches the stage that suits the ability and technical proficiency, but rather, the levels of thinking must be integrated in an effective way that helps the student move from the lower level of thinking to the higher level of thinking.

(Al-Khalili, 1996: 120–121). In order to pay attention to teaching models, many studies have been conducted in which several models have been applied in order to identify their effectiveness in a number of dependent variables. Among these local studies are the study of (Al-Tamimi 1997) and (Al- Jubouri 2001). Jerom Bruner (1915-1987) is one of the pioneers who enthusiastically support the development of teaching methods, and he made a great effort in crystallizing a theory that emphasizes cognitive structure and discovery learning, and tried to know its nature and reveal its development methods (Muhammad, 2005: 22). Bruner in his model stems from a set of assumptions, including what he calls (intellectual instrumentality), an assumption from the origin of the theory (John Dewey) (1859-1954) known as instrumentalism. In dealing with the environment to overcome problems, these tools are correct if they succeed in overcoming the problems, and they are considered wrong if they fail to. This requires modification or exclusion. As for the other important part, Brunner's educational model is in exploration. Intellectual models mean that the student in any society learns about the natural and social environment common in his community or acquires it through contact with others, and through representation, and it is the student's tool in discovering his environment by which he perceives the environment around him and deals with it (Ghanim, 1995: 148-149).

Learn the concept from Bruner:

Bruner explains concept learning as the acquisition or acquisition of a concept. Bruner developed his approach to concept learning in cooperation with Goodner and Wasten. He sees that there are two processes related to concepts: the formation of concepts first and the acquisition of concepts secondly, and the formation of concepts is a basis and a precedent for the acquisition of concepts in the formation of concepts. The new concept by helping it classify or classify a number of examples, things or events into categories according to criteria and then give a special label to these categories and this label and what it refers to from a new perception in the mind of the learner, which is the name of the serious object. As for the process of acquiring concepts, it is done with the help of the learner to collect Examples indicating the concept or categorizing it in a way that enables it to reach the desired concept (Bilqis and Maree, 2001: 326).

The basic principles on which the Bruner strategy depends:

1. Mental development requires increasing independence from the direct influence of stimuli through the development of intermediate cognitive processes that enable the individual to process stimuli on a symbolic level.
2. Mental growth requires a development of the individual's internal system in representing things and events.
3. Mental development requires the ability to use words and symbols to analyze what we have done logically and analyze what we can do in the future.



4. The increase of this mental development through the organized and associative relations between the teacher and the student. The role of the teacher is played by different people who are important within the school, in the family, and in different areas of life.

5. Language is a tool that enables the student to understand the system in his environment, as it is a means that facilitates learning.

6. With the increase in mental development, the individual becomes more able to deal with various pressures and perform many operations and becomes more able to distribute his mental capabilities to achieve this goal.

(Jaber, 1980: 416)

The main features of the Brunner model

Bruner is based on discovery learning or investigation training, and this type of learning is preferred over other learning methods.

Bruner has taken into account several important things in his model, including the individual differences between students and the differences in the special environment of the various fields of knowledge, as well as the necessity of flexibility to meet the necessary sequence to face individual differences in the rate of learning.

The features adopted by "Brunner" and their contemporary impact on educational psychological thought, which occur in his educational theory are:

a. Predisposition of learning

This principle or characteristic means the multiple conditions and factors that affect the motivation towards learning. Bruner identified the cognitive aspects in three:

1. Activation
2. Maintenance
3. Direction

The most important epistemological explanation offered by Bruner by saying that the way that the student acquires the behavior of investigation and research is that which generates a degree of uncertainty in him. This is a point that is easy to talk about, but difficult to achieve. And research, even if it carries an agitation of suspicion, may generate confusion and anxiety without leading to discovery and travel.

b. Structure of knowledge

This principle emphasizes organizing the cognitive structure of the learned material in a way that enables the student to control and assimilate it regardless of his final age and the level of his abilities.

It is the method that the teacher uses to transfer knowledge to others and communicate it, depending on the level of experience of the learner, and it refers to the pictorial means by which information can be presented. Through words and numbers, and in order to clarify them, Bruner is interested in displaying them according to patterns.

c. Sequencing

The theory of education should determine the optimal sequence in the presentation of educational experiences, and Bruner acknowledges that there are several equivalent sequences and that there is no sequence consistent with all learners and all educational goals.



There are a set of general rules that are useful in planning the sequence of learning from them.

1. Taking into account the learners' abilities in developing information and actively handling it.
2. Providing the student with experiences and motivation towards the subject.
3. Studying the student's circumstances and determining the extent of his progress, mistakes and abilities in studying the subject.
4. Achieving speed and economy in reaching a sequence and a sequence less than that.
5. Determine the best sequences in which educational materials can be presented and studied.

D. Reinforcement

Bruner believes that in order to master an educational problem or question, the learner must be subject to feedback and knowledge of the results of his work? Bruner believes in the importance of the learner becoming self-sufficient and able to solve the problems they encounter. And Bruner does not accept that the learner becomes dependent on the teacher's reinforcement through his presence and continuous presence, but the learner has the ability to correct his educational path

By itself, i.e. determining its nature and rate of progression of rewards with the transition from external to internal rewards (Al-Azrajawi, 1991: 329–331).

Interpretation of Bruner's model of cognitive development

Bruner proposes a theory of cognitive development, making language an essential role in it, without neglecting the role played by human development as a species and the role played by the culture in which he lives. However, the main interest in this model is focused on the first issue without neglecting the second and third issues. On a main question (what is the means by which the individual represents his knowledge of science?) and how he organizes these experiences in order to use them later, it is necessary to refer to six main points about cognitive growth, Bruner, before one can answer these two questions, and these points are among them. Bruner in his famous *Towards A Theory Instruction*.

(Tawq and Adas, 1984: 108)

The stages of knowledge formation according to Bruner

Bruner was greatly influenced by Piaget's work, and this is evident from the stages of knowledge formation proposed by Bruner, which are summarized in three levels that are very similar to the stages set by Piaget for mental development in a child, and these stages are:

The stage of sensory representation (Enactive Representation)

This level is that the action or the action is the child's way of understanding the external environment, as the student deals with things directly using his senses, so he grasps the thing, feels it, smells it and may taste it. Bruner believes that learning at this level is the basis of any other learning.



The semi-sensory stage

At this level, the student deals with pictures, drawings, films and the like. He is also able to deal with mental images when the information is in linguistic content, meaning that the child is in this

The level should have a knowledge background about objects that qualifies him to deal with their images, which does not require the presence of objects by themselves. The child deals with images of objects and does not deal with objects directly

The stage of symbolic representation

Here, the student becomes able to work and deal with things using abstract symbols, as he has accomplished translating sensory experiences into a language that he uses in thinking, and then he can deal with linguistic symbols without relying on their sensory and semi-sensory background.

(Al-Khalil and others, 1996: 119-120).

Earning According To Bruner:

He sees that learning falls within three processes, and he recognizes that different learning situations may require confirmation of these processes or aspects to different degrees.

The first process: the acquisition of new information that replaces previous knowledge or that refines it. Learning is a gradual process. The second process: the process of transformation (Transformation), that learning includes the transformation of knowledge so that it is useful to the student, and he suggests that during the transformation process, that is, changing the information in different ways so that we can go beyond the facts that they provide it with in the original, and thus we find him missing the passive deaf memorization ascending The need for a degree of cognitive transformation in new situations because it does not benefit from them. The third process: Evaluation: It aims to determine the extent to which the new knowledge has been transformed so that it fits and is suitable for the work that the individual addresses. This evaluation is carried out by the teacher himself, and the teacher's job is important in many cases because it helps the student to develop his skills in order to evaluate his educational progress by himself (Jaber, 1980: 148-149).

According to Bruner, the process that includes learning concepts includes three steps:

1. Acquisition of new information that adds or refines the information that the learner previously learned.
2. Organizing new knowledge and information for new and similar situations.
3. Evaluation, that is, ascertaining the way information is used and how it is processed to reach the correct concepts (Jouse, 2003: 27).

Bruner indicates that there are two processes related to technical skills, namely skill formation and acquisition, which precedes the second and is the basis for it (Ghanim, 1995: 105). Bruner sees that skills consist of five elements:

1. The name of the skill: It refers to the category to which the skill belongs.
2. Examples belonging and not belonging to the skill.
3. Distinctive and non-distinctive features of the skill.
4. Distinguished value: It includes simple and complex skills.

(Bilqis, 2009: 34)

Darwaza 1995 shows that the method that is used in order to ensure that the process of learning the skill takes place is by asking the question that tests the student's ability to:

1. Defining the skill to be performed.
2. Applying the skill in new educational situations.
3. Discover the technical characteristics of the skill. (Darwaza, 1995: 14-15)

Chapter Three: Research Methodology and Procedures

2. RESEARCH METHODOLOGY AND PROCEDURES

Since the current research aims to (designing teaching plans according to the Brunner model for students of the fifth grade of middle school), measuring the effectiveness of the plans prepared for teaching after applying them to fifth-grade students) and it is from experimental research. intended results.

Research Community

The research community is represented by the fifth grade of middle school students in the morning public preparatory schools in the General Directorate of Education in Diyala.

Experimental design

That the experiment is a controlled attempt to prove certain hypotheses, and that the experimental research is to prove the hypotheses through experimentation and prove the hypotheses. Partial control adjusts one another with the post-test of two independent groups of unequal numbers, one of which represents the experimental group and the other represents the control group, and diagram (1) illustrates this Striped (1)

The experimental design adopted by the researcher

post test	independent variable	pretest	the sample	the group
skill performance test	Brunner's model	skill performance test	20	Experimental
	traditional way		20	control

Research sample:

A random sample of the fifth preparatory grade students was chosen, their number was (40) students, (20) students as an experimental group and (20) students as a control group, as one student was excluded for having previous experiences.

Search variables: The search variables were defined as follows:

- 1- The independent variable, which is represented by Brunner's model in mastering the skillperformance of the fifth year middle school students in art education.
- 2- The dependent variable, which is the observable and measurable variable represented inthe skill performance of the fifth year middle school students.



Equality of the two research groups: Before starting the experiment, the researcher was keen to ensure that the students of the two research groups were statistically equal in a number of variables that she believes affect the results of the experiment, even though the students are from one residential area, study in one school, and are of the same sex, and these variables are: Age Time schedule for students - academic achievement of parents - pre-testing skill performance.

Stages of preparing teaching plans using the Brunner model

The researcher designed teaching plans that include art education skills, as well as designing a skill test measured by means of a skill performance appraisal form prepared for this purpose, working to reveal the extent to which the sample acquired the necessary training.

The survey

In order to identify the needs and requirements of students in the skills of art education, the researcher directed a set of exploratory questions to (25) students who did not participate in the experiment in order to determine the extent to which they possess these skills. The survey questionnaire included the following questions:

- 1- Have you ever done a drawing on a board?
- 2- What are the difficulties you face in mastering art education skills?
- 3- What are your suggestions for developing art education skills?

Define the characteristics of the target group:

Organization of the material: The researcher designed teaching plans for art education skills for students. Procedures for applying teaching plans for art education skills:

Defining educational goals and formulating them behaviorally:

Behavioral goals:

The specific educational objectives of each teaching plan were transformed into observable, measurable behavioral objectives and the evaluation of the teaching results. It reached (10) behavioral objectives whose formulation was taken into account according to the components of the behavioral objective and based on Bloom's three-level classification (knowledge, understanding, application), the training plan included The first (2) behavioral objectives, while the second included (2) behavioral objectives, the third (2) behavioral objectives, the fourth (2) behavioral objectives, and the fifth (2) skill behavioral objectives, after which the researcher presented these objectives to a group of experts whom he relied on in determining The validity of the current research tools to know their clarity and accuracy in measuring what they were designed to measure.

Skill Performance Test

He prepared a skill test according to the use of art education skills, which aims to measure the ability of the sample members to implement the requirements of this method, in order to achieve the objectives of the current research. prepared for this purpose.

Skill test question: The researcher asked the following students:

Carry out the skill performance steps for drawing skills (as a painting)?



Skill Performance Appraisal Form

For the purpose of measuring the skill performance of the target group members in the field of using the art education skills that the current research aims to impart to the fifth preparatory grade students, a skill performance evaluation form was designed for the required skills that students use for education skills. And a five-point scale was defined as a criterion to determine the degree that students obtain in performing art education skills, so that the total score obtained by students is equal to (40) degrees.

Validity of the calendar form:

The skill test and evaluation form were presented in their initial form to a group of (5) experts who are specialized in this research, distributed among the specializations of art education, plastic arts, measurement and evaluation, and teaching methods. The researcher took all the opinions and observations, and worked on correcting what was required of the evaluation form, and it was returned to some experts to obtain complete agreement about its validity, and thus the form became ready for application.

Form stability:

The researcher found the stability coefficient of the evaluation form that you selected to achieve the requirements of the skill test. The researcher used two observers * who were trained on the components of the form and how to work with them for the purpose of their participation in evaluating the skill performance of the target sample members and setting grades for each trainee. Therefore, the researcher used the HOISTI equation to extract the coefficient of agreement between the observers and the researcher, as shown in Table (3)

Table (3) stability coefficient of the skill performance appraisal form

the average	the observant1 the observant2	the two researchers		t
		M2	M1	
0,83	0,83	0,82	0,84	(1)
0,85	0,85	0,85	0,85	(2)
0,84	0,86	0,84	0,82	(3)
General Average 0,84				

Through the results of Table (3), it appears that the reliability coefficient of skills for art education equals (0.84), and this result gives a good indication of the validity of the form and thus becomes ready for application.

Annex (3) sees the skill performance evaluation form for teaching skills.

* The researcher relied on the observers whose names are listed below in evaluating the skill performance of the research sample members:

1- Intisar Ali Hussein - Master of Art Education. 2- Ahmed Adnan - Master of Art Education.

Statistical means
1- The Mann Whitney test for the differences between the skill performance test 2- Holsti equation for the stability of the analysis form

a. Display and Interpretation of Search Results:

To verify the validity of the first hypothesis, the (researcher) used the (Mann Whitney) test of

the two correlated samples to identify the significant differences between them and related to the skill performance of the experimental research sample in representing the skill test requirements (art education skills) after studying the content of typical teaching plans, and table (4) shows that:

Table (4) shows the calculated value and tabular value of the skill performance of the sample members - dimensionally

Significance level (0.05)	degree of freedom	Mann Whitney value		average rank	total ranks	the sample	the group	Fifth grade students
		tabular	calculated					
A function in favor of the experimental group	18	127	5,500	30,22	604,50	20	Experimental	
				10,87	215,50	20	control	

By noting Table (4), it appears that the calculated value (j) is equal to (5,500), which is smaller than the tabular value (j) (127) at the level (0.05) and the degree of freedom (18), so it is rejected. The null hypothesis is accepted and the alternative hypothesis is accepted, which states that there is a statistically significant difference at this level (0.05) in favor of the experimental group, and this indicates the effectiveness of using art education techniques in mastering the skillful performance of students in art education.

3. CONCLUSIONS

The Brunner model method is one of the good teaching methods that have been proven to be used in the development of art education skills, as it allows students to dialogue, discuss and implement according to the steps of the Brunner model method in reaching the desired results. The adoption of the Brunner model method in teaching art education skills for the fifth grade of middle school had a positive impact on their skill performance. Proving the effectiveness of the teaching plans according to the Brunner model method in the current research in mastering the skill performance of the experimental group students in the skills of art education. Recommendations: In light of the findings of the research, the following recommendations can be formulated: The necessity of emphasizing the use of male and female teachers of the method of the Brunner model in teaching art education because of its positive impact on mastering students' skills. The necessity of involving teachers of art education in developmental courses on how to prepare this method and its uses in the skill side.

Supplement (1) skill performance appraisal form

weak1	middle2	Good3	very good4	Excellence5	paragraphs	t
					Formation of the basic idea of art education skills	1
					Distribution of skills within the selected board	2
					Achieving the objective of the topic	3
					Relationship of the subject ratio with each other	4
					Achieving control of relationships with each other	5
					Achieve coloring skills by drawing	6
					Artwork Label	7
					Achieving the quality of artwork	8

High degree: $5 \times 8 = 40$

Minimum score: $1 \times 8 = 8$

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