

The Effect of Stepan's Model in Developing Analytical Thinking among Students of the Institute of Fine Arts, with the Subject of Analysis and Artistic Criticism

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Abstract

The current research aims to identify the impact of the Stepan's model on the development of analytical thinking with analysis and technical criticism. It also aims to measuring the impact of the Stepan's model in developing analytical thinking with analysis and technical criticism. To verify the objective of the first research, the researcher formulated the following two zero hypotheses:

1. There are no statistically significant differences at the indicative level (0.05) between the average grades of the experimental group students and the average grades of female students in the control group on the tele analysis thinking scale.
2. There are no statistically significant differences at the indicative level (0.05) between the average grades of experimental group students in the tribal and remote scale of analytical thinking.

Sample: The researcher chose, in the form of sample and random distribution, students of the plastic department (drawing) at the Institute of Fine Arts for Girls/Karkh1 and the control group was taught in the usual way (lecture and discussion), and the experimental group was taught according to the independent variable (Stepan's model).

Results: The results of the search resulted in the superiority of female students .

Conclusions: Stepan's model has proven effective in developing analytical thinking among students of the Institute of Fine Arts with analysis and artistic criticism.

Keys Words: Stepan's Model, Analytical Thinking, Artistic Criticism

1. Introduction

Education occupies a prominent and important position in the building and development of societies as it became in its contemporary concept meant by the human industry in all places and time, and depends on it the quality of building the personality of man, and in it he can improve his being, and through it learns to innovate in life and strengthen himself in the face of the problems that may face in his daily life in different data of the different times, hence the importance of the models and methods of teaching provided by the structural theory because of its educational environment _ learning commensurate with what modern educational studies provide by making the learner the basic role in the process Learning and the teacher is only a guide and mentor, and the concepts, gaining and changing them have taken a high share of the interest in structural theory, emphasizing the models and methods of structural teaching of concepts such as the model (cognitive model, posner, course model, woods, and followed, Stepans) on the activity of the learner and activating his positive role in the learning process by making him research, investigate and infer knowledge, which has a broader understanding of concepts and more continuity, as learning concepts is very important because concepts are the language of science. The real key to knowledge is that it is consistent with the nature and dynamics of modern science, it is a necessary basis for self-learning and the continuity of lifelong learning, and that learning concepts can develop thinking among learners because it makes them more focused and this reduces the need to re-learn when facing new situations, and as a result of the correlation of concepts and their close learning to thinking, construction has given special importance to thinking as a type of learning, as patterns of thinking patterns and diagnosis have been prepared and addressed in the preparatory thinking patterns of different thinking patterns produced by studies and research. It is worth noting that analytical thinking helps learners to meet the requirements of the future and give them the steps of analytical thinking through the conclusion and interpretation of ideas, and that the cognitive progress of our time and the abundance of information has led to the interest of educators more in the development and development of analytical thinking among learners because it offers them the opportunity to see attitudes and things More broadly and clearly, he can come up with new ideas that go beyond traditional ideas, based on the above, and the researcher found that the process of employing a modern teaching model represented by the model (Stepans). Perhaps it contributes to raising the level of acquiring and retaining critical concepts, which will develop their analytical thinking, so the researcher formulated the problem of her research in the following question: **What effect did the use of the Stepans model affect the development of analytical thinking among students of the Institute of Fine Arts in the material of analysis and artistic criticism?**

The importance of research:

1. The current research provides a new addition in the study of the method of analysis and technical criticism because of the importance of concepts as it is a means used in

regulating the content of the subject, as the method of analysis and technical criticism must be parallel to the developments taking place in the world at this time.

2. The current research contributes to the support of the Knowledge Library because of its comprehensive theoretical framework for important topics related to modern teaching methods as the main construction of the curriculum

3. The current research may benefit academic institutions represented by colleges and institutes of the arts because of the importance of analytical thinking as it represents one of the basic stages related to a number of more complex types of thinking (coordinating thinking, critical thinking, problem solving, decision-making scientific thinking)

Research objectives:

The impact of the Stepan's model on the development of analytical thinking with analysis and technical criticism.

Measuring the impact of the Stepan's model in developing analytical thinking with analysis and technical criticism.

To verify the objective of the first research, the researcher formulated the following two zero hypotheses:

1. There are no statistically significant differences at the indicative level (0.05) between the average grades of the experimental group students and the average grades of female students in the control group on the tele analysis thinking scale.

2. There are no statistically significant differences at the indicative level (0.05) between the average grades of experimental group students in the tribal and remote scale of analytical thinking.

Research limits:

The current research is determined by:

- Human Frontiers: Institute of Fine Arts
- Spatial boundaries: Directorate of Education (Baghdad / Karkh 1) at the Institute of Fine Arts for Girls
- Time Limits: 2020-2021
- Objective limits: analysis and technical criticism

Determining terms:

I/ Stepan's Model

Zaytoun (2007) defined him as: a model of conceptual change that puts students in a learning environment that encourages them to face their previous concepts as well as those of their former colleagues, in order to gain the concept. (Olives: 2007,500)

II/ Analytical Thinking

Qatami (2000) knew him: structured, sequential and sequential thinking in constant steps in its development, as analytical thinking goes through multiple stages by standards. (Qatami: 2000, 677)

Third / Artistic Criticism

Attia (2009) defined him as: thinking that facilitates the processes of reaching a judgment or decision in the light of specific criteria or tests based on experience and the degree of sensitivity of the situation and its elements. (Attia: 2009, 181)

2. Theoretical framework

First research

- **First: Structural theory**

Construction is one of the intellectual doctrines that revolutionized research and application within the framework of human studies, especially social and ways to deal with knowledge and acquisition, and education has gained its great impact as it has become an intellectual curriculum, educational activity and an important entry point for teaching, emphasizing the social dimension in the development of learning by emphasizing that the student builds his knowledge in a real social and material climate that allows him to acquire concepts through his activity and self-practice and integrate it with his cognitive structure. (Attia: 2015, 88)

Zaytoun (structural theory) was defined as a social process in which learners interact with things and events through their senses that help to link their previous knowledge to current knowledge that includes beliefs, ideas and images. (Olives: 2007, 41)

Cognitive objectives depending on the structural theory:

1. Understand knowledge.
2. Keep knowledge.
3. Active use of knowledge and skills. (Ismail: 2000, 113)

Second: concept

Most of what we know about concepts as things that have relationships with each other, the concept is a category used to collect similar events, ideas, topics or people. Concepts help us organize vast amounts of information in handleable units. (Salama et al.: 2009, 55)

There are specific characteristics of the concept:

A- Discrimination: I.e. the concept is to classify things or situations according to common elements.

(b) Generalization: The concept does not apply to one thing or position, but applies to a set of things and attitudes.

C- Symbolism: The concept only symbolizes a property or a set of abstract properties. (Aggression and permosis: 2008, 42-43)

Concept teaching models:

- Model Hilda Tapa
- Joyce & Weil Model
- Klausmeier model
- Stepan Model

The author of this model is Joseph Stepan, as shown in this photograph, a professor of mathematics at The University of Wimank, Usa, Faculty of Education, and this professor was awarded an award on April 4, 2011, from The University of Weymank- Faculty of Education awarded by the organization. Scientific teachers, one of his contributions is the development of a model in conceptual change (1994) where he puts students (educated) in a learning-educational environment that encourages them to face their previous concepts as well as the concepts of their former colleagues, and then work towards solution and conceptual change. (Olives, 2007: 500)

The model consists of six steps:

- First: Students become aware become aware of their previous concepts about (concept) by thinking about it, and then making predictions (and commitment to products) before any scientific events or activities begin
- Second: Students present their beliefs by participating with small (cooperative) groups at first, and then with students who speak a thousand words
- Third: Students face their ideas and beliefs by testing them and discussing them in small groups
- Fourth: Students work towards solving conflict mental difference (if any) between their ideas (depending on the preconceived concepts and classroom discussion), their observations and therefore (adoption) and represent the new concept or its absorption and adaptability
- Fifth: Students expand the concept by trying to make connections or relationships between the concept learned in the class and other situations including their daily lives.
- sixth Students are encouraged to go behind the beyond go concept, such as following up on additional questions, problems or projects they have chosen and related to the concept. (Olives: 2007, 500)

The second one.

First / Think

Thinking is a merely intangible conceptual formation that is very similar to other concepts such as humanity, freedom and justice, where we all recognize it through its outputs and effects, since thinking remains something worthless if it does not turn its skills into reality so that it becomes teachable and learnable, (Egyptian: 2003, 17) and is considered to think as a high-end mental process in The development of the individual and the progress of society alike, has received the attention of philosophers and scientists since ancient times, and theorists worked hard to address the subject of thinking and each view heading in a certain direction and within their different fields in explaining this phenomenon, and realizing its secrets in the desire of them to develop strategies and conditions that help them to develop this process so that man is able to employ it in adapting it and improving the conditions of his life in different fields. (Abu Jadu:25,2000)

Thinking properties:

1. Thinking is a sophisticated and developmental behavior that varies in its degree and levels from one age to another, so thinking is an evolutionary behavior that changes in quantity and type depending on the growth of the individual and the accumulation of his experiences.
2. Thinking is purposeful behavior; it does not happen in a vacuum or without purpose. It happens in certain situations.
3. Thinking takes multiple forms and patterns such as creative thinking, criticism, abstract, logical, analytical, etc.
4. Effective thinking is thinking that reaches the best meanings and information that can be extracted.
5. Thinking is a relative concept.
6. Thinking consists of overlapping elements of the environment in which thinking (the duration of thinking) and attitude or experience are being thought about. (Al-Atum et al.: 2009.21)

Patterns of thinking: (abstract thinking, inductive thinking, convergence thinking, analog thinking, philosophical thinking, analytical thinking,) and we will address in the current research analytical thinking

Analytical thinking is a pattern of thinking that requires the ability to divide attitudes, things and relationships into its elements (Tuq et al.: 2003, 80), where analysis comes at the fourth level of complexity in the cognitive levels identified by Bloom and requires the learner to divide information into its small parts and find hypotheses or Muslims or find differences between facts and opinions or explore causal relationships (Qasim: 2002, 132)

The process of analytical thinking requires the use of the individual's cognitive abilities and previous experiences to deal with new situations and training in thinking about what

it really is educated and trained for problem-solving skills so that some researchers know to think that it is a process of solving the problems faced by the individual. Studies aimed at observing the behavior of experts in problem-solving were important in identifying some general steps that could be used to solve problems in an effective and orderly manner. (Azzawi: 2008, 74)

Stages of analytical thinking:

Analytical thinking is a regular, sequential and sequential thinking in constant steps in its development as the child's thinking goes through specific stages by criteria. Determines his success in it. Dewey formulated the method of analytical thinking in short terms as follows:

1. There is a problem facing the individual and prompting him to carry out the activities necessary for the solution.
2. Note and watch to collect the necessary information about the problem in order to understand it. and analyze them.
3. Putting the assignments after collecting information and achieving the problem and analyzing it.
4. Achieving these duties and demonstrating them and proving them with other information and the individual's previous experiences.
5. Access to definitive results, laws and general rules (Qatami: 1990, 558).

Assumptions of analytical thinking:

1. Thinking is an active mental process in which the individual is aware and preoccupied with what he or she faces and aims to overcome the problem and thus be active.
2. Thinking involves successive, sequential and regular mental processes that go according to a pattern and are not random fluctuating processes such as attempt and error.
3. Analytical thinking requires the individual to recall previous experiences associated with the more mature position, which is more closely related to the situation he faces.
4. Analytical thinking is of a central nature, i.e. all mental events are centered and centered towards the position formed to understand its nature, elements, factors affecting it and methods of salvation from it. (Qatami:2008, 438)

Third Research

Artistic criticism

• First: the genesis of criticism, a definitional Thad

Criticism arose in Greece when Athens held their artistic competitions on religious holidays, so that the contestant would win, a committee of literary and art connoisseurs

would have had to present their critical opinions in order to justify the results they announced. The philosophers then developed these opinions into critical approaches, which made critics distinguish between what is major and general in the artwork and what is opposed or secondary or special to that artist, because when the rules were set by a generation of critics, and generations of critics were dating each art a set of rules and was turning into an art school or artistic doctrine and critics were holding the new creators accountable on the basis of it, thus turning criticism from an opinion that follows the creative work to a rule that precedes it. (Hauser: 1981, 49)

- **Second: Modern monetary approaches:**

First: Structural approach

The structure has emerged to meet the need for the emergence of new intellectual movements that go beyond what exists in modern critical trends of over-self-esteem and over-individual freedom, where the structural approach emerged as a systematic attempt to reveal the deep total buildings in art and literature, and the structure differs from aesthetic criticism in that it goes beyond the appointment of what can be chosen in the taste of the artwork, to explain how to draw meanings from images. The critic here tries to change the meaning of shapes and images, by finding an emerging relationship within the framework of an artistic model (Attia:2001,180). The structuralists emphasize the system of bilateral relations, laws and functions, these relationships control the parts, and represent the individual performances that represent their existence and derive from structures, landscapes that derive their forms and existence from the geological layers behind them, defining the structure as "a center or point of origin and replacing the center of other origins such as the individual or history." (Salloum: 1996, 106) The structural approach in analysis at Roland "Bart" includes two processes: the first is the division of the text into reading units and the second is the decoding of visual codes, which determines the following:

- 1- Proairetic Code, which is the code of events.
- 2- Hermeneutic Code, which is the subject of puzzles and questions.
- 3- Semantic Code, which is the code of the indication of inclusion.
- 4- Symbolic Code, which determines the theme and suggests ideas.
- 5- Referential Code, which refers to a science or knowledge material, refers to the type of knowledge. (Ravindran: 2002, 70-79)

Second: Seminal approach

Psychology goes back to Dosusser, who predicted his birth from the fact that the language is a system of signs that express certain ideas.

Robert (1994) defined it as "the study of signals and codes, i.e. systems that enable human beings to understand events as signs of meaning" (Robert Schulz, 1994, 13_14),

while the philosophical dictionary defined them as "a symbol or movement to indicate something, and the language is defined as a pattern of signals, called a sign", because language has a formal function. defined it as a meaningful unit interpreted as acting on behalf of something else. Anal: 2013, 36, while Bors sees that the mark is something, someone's on behalf of something, from some point of view, in the sense that it creates in that person's mind an equivalent sign, and perhaps a more conceived sign. This mark he called "Bors" explained (Moul) for the first sign, that the mark is acting on behalf of something, and this thing is its subject, and it is not based on that position from all destinations, but rather on behalf of it by reference to some kind of idea. Burse: 1986, 138.

Accordingly, the mark at Burse consists of three components:

1. Mathol: He is the material bearer of the mark, and he exists only through his realization within a subject by moul, and not necessarily verbally.
2. Subject: Which is what Mathol refers to
3. Al-Moul: It is characterized by its media role, i.e. it is the mediator between the mathol and the subject, and its role is determined in interpreting the interpretation of the signs. (Al-Ammari: 2007, 97)

Third: the disassembly approach

The philosophical meaning of the disassembly indicates pluralism in readings or interpretations of assets or different intellectual aspects, to conclude and explore what they are and their inner intellectual connotations, which at its deep semantic level indicates the dismantling of speeches and intellectual systems and their review according to their elements, and the immersion in them to the knowledge of the main focuses in them." (Ibrahim: 1990, 114) and rejects the dismantling of previous traditions and curricula, so that it rejected all previous projects and rejected traditions and predecessors that may obscure the meaning and suppress it. (Hamouda: 1998, 164)

There are important steps for the critic's disassembly work in dealing with artistic outputs:

1. You should enter carefully into the maze of each artistic product. A critic or analyst has to feel his way from one form to another and from one concept to another in a repetition that cannot be described as opposed, yet he uses the destructive force that exists in the most precise and specific duplications.
2. Try by tracking that trace, finding the item within the pattern. Which will reveal the whole "fabric" or the unstable, anxious structure that leads to the destruction of the entire product.
3. Abolish the foundation on which the building stands in a way that is aware or unaware, and prove that the construction of the artistic product has already dismantled itself. (Ravindran: 2002, 157-162)

Fourth: Deliberative approach:

Deliberative contradiction of previous approaches such as structuralism, susilocy, disassembly and other approaches that have been adopted by the so-called "death of the author" because deliberativeism is interested in speech, it is a linguistics that believes in the importance of the author as well as social, cultural and historical aspects, it is "a field of my tongue that cares "It's part of the semiotic that deals with the relationship between the tags and the users of these tags," Said Morris. : 1986•8)

Deliberative emphasizes:

1. The meaning that refers to something through communication and communication and refers to the contextual meaning in its narrow meaning, but in its broad sense refers to what the sender means in the context of a product.
2. Assuming that the logical meaning of the products is referred to, i.e. the logical correlation of meaning in the product
3. Achievement (Performative): i.e. implying that symbols and elements of forms do not only mean anything, but they give information and clarify the facts, so three actions are embodied here:

I'm not going to do thatDetermining the semantic and indicative meaning, i.e. the specific meanings. (Elocutionary) or expressive act.

- A. B. The act achieved by the expression i.e. at the functional level (illocutionary) or the communicative act.
- B. The effect of the act, i.e., what is achieved as a result of the expressive act i.e. (effect or impact act) perlocutionary
3. Waving a reference to an indirect or implicit meaning. (Implicature). (Alia: 2006, 96)

Third: Artistic criticism

Artistic progress at the simplest level represents a kind of talk about art, or is an artistic activity that requires the presence of artwork and the public, and the critic needs language that can make the process of criticism effective and influential, and artistic criticism is a discussion of the work of art itself and its evaluation, and it should not confuse the biography about the artist with talking about the artist as the creator of the artwork, but it is difficult to completely separate artistic criticism and art history from aesthetic theories. (Attia: 2001, 18) and confirms (Bassiouni) that artistic criticism is an attempt to reveal the aesthetic experience that the eye cannot understand, art criticism is in fact a kind of reading of works of art where its function is based on training The people on this reading to enjoy this artistic work, and here comes the role of the critic to be a medium between the artist and the audience enjoying, because he tries to explain the aesthetic function taken by this within the new artistic field and then realize that works of art without criticism will remain vague, unexplained and mysterious. (Bassiouni: 1969, 81)

3. Research Methodology and Procedures

- First: Research methodology: The researcher adopted the experimental approach to achieve the goal of her research because it is an appropriate approach to research procedures and finding results.
- Second: Experimental design: The researcher used the experimental design with partial adjustment to the design of the experimental groups and the officer with tribal and remote testing.
 - Third: The research community and its sample: the current research community is determined by the 673 students of the Institute of Fine Arts/Karkh1.

The Department of Fine Arts (Drawing) was selected for the fifth grade for the academic year 2020-2021 as a representative sample of the original research community selected in a deliberate way the drawing branch was selected as the sample of the research experience of 12 students distributed on the bottom Two hall (a) number of students (6) and represented the experimental group and hall (b) the number of students (6) and represented the control group and distributed and selected randomly simple by lot because of their small number and the ease of applying this method in random selection.

- Fourth: Parity of the two research groups: parity was performed in the following variables (time age calculated by months, Raven's intelligence test, previous experience of analysis and technical criticism, tribal analytical thinking measure)
- Fifth: Research tool (analytical thinking measure):

The researcher adopted the analytical thinking scale prepared by Riad 2020 supplement (7) which consists of (28) paragraphs with a five-amphitheater of (1-5), and the researcher adopted the scale (Riad, 2020) for analytical thinking for reasons including:

1. It is a general measure of analytical thinking and is not specialized in a particular and specific substance and this is what the researcher needs in her research procedures.
2. It is a recent measure as it returns to 2020.
3. He enjoyed good and new sociometric characteristics where the apparent honesty was found for him and he enjoyed high stability as he reached his stability using the corrective Sperman equation (80.0) as well as his stability when using the alpha equation of internal patterns (77.0).

Sixth: Statistical means

The researcher analyzed the data into systematic images of her research using the social sciences statistical bag spss.

4. Results and Discussion

To verify the results of the first hypothesis: the researcher extracted the average grades of the experimental group of (9.50) with a total rank (57), while the average rank of the control group was (3.50) with a total rank (21), and the calculated value of Man Whitney was calculated (2.50) 882) which is greater than man Whitney's scheduled mediocre

value of (1.96), and at a indicative level (05.0), this indicates a statistically significant difference between the average grades of female students in the remote analytical thinking scale and in favor of the experimental group, Table (1) shows this:

Table (1) Average grades, man value, calculated and scheduled

for the degrees of the metric of remote analytical thinking

Total	sample	Average ranks	Total ranks	Mann and Tenny Z's value		Indication level	Indication level 0.05
				Calculated	Scheduling		
Experimental	6	9,50	4,089	2,882	1,96	0,05	Statistical function
Control	6	9,50	4,410				

To verify the results of the second hypothesis: The researcher used a Wilcoxon test to detect differences between tribal and remote measurements with regard to averages of the analytical group's analytical thinking scale rankings and table (2) illustrating the results related to this hypothesis.

Table (2) Indication of differences between averages of analytical thinking scale rankings

Tribal and remote members of the experimental group

Total	sample	Average ranks	Total ranks	Mann and Tenny Z's value		Indication level	Indication level 0.05
				Calculated	Scheduling		
Experimental	0	0	0	2,201	1,96	0,05	Statistical function
Control	6	3,50	21				

It is clear from the table above that the difference is statistically d because the value of the calculated 0.201 x X-X is greater than the value of the scheduled X-X (1.96) at the indicative level (0.05). This means that the model has contributed to an increase in the degree of analytical thinking among the students of the experimental group.

Thus, the zero hypothesis that there is no statistically significant difference between the average grades of the two research groups in the tribal and remote analytical thinking scale was rejected and the acceptance of the alternative hypothesis, which states that there are differences between the average grades of the two research groups in the tribal and remote analytical thinking scale.

The size of the effect using Cohen's equation:

The size of the effect was extracted by extracting the arithmetic average, the standard deviation of the tribal and remote scale, and the weighted standard deviation of the analytical thinking scale variable of the experimental group as described in table (3)

Table (3)

Arithmetic average and standard deviation of the tribal and remote scale

The testing	The arithmetic mean	Standard deviation	Weighted deviation
Previous	84,167	5,672	11,075
Dimensional	115,833	7,305	

After the application of the Cohen equation, the impact size was 2,859, so the magnitude of the impact of the model in increasing analytical thinking has a significant impact on the experimental group.

Explanation of the results:

1. Stepan's model helped provide meaningful learning and a conceptual structure that is the basis and first condition for any learning process.
2. The use of the Stepan's model has demonstrated the nature of the concepts of analysis and technical criticism and the relationship of these concepts to each other and the nature of these relationships, which helped to understand these relationships and acquire these concepts correctly.
3. Stepan's model helped both the school and the students focus on the main ideas of the subject to be taught because Stepan's model provides a summary of the scientific material studied.

5. Conclusions:

In the light of this finding, the researcher concluded a number of conclusions:

1. Stepan's model plays a major role in improving and developing analytical thinking among female students, not only for the distinguished, but also for the rest of the students.

2. Stepans model gives immediate opportunities for female students to process past misinformation.

3. Stepans' model made female students a key focus in the education process, as it strengthened the enthusiasm of female students to learn and increased the positive interaction between them during the duration of the experiment by applying its steps scientifically, which gave positive results in developing their analytical thinking about works of art in the subject of criticism and technical analysis.

Recommendations

Work to increase interest in modern teaching models that help develop students' mental abilities, or prepare training courses by teaching institutions for teachers on duty and make them able to use effective teaching models such as (Stepans Model).

Fifth: Proposals

Conduct a similar study to see the impact of the Stepans model on problem solving, or conduct a similar study by adopting the Stepans model in teaching middle school students taking into account the sex variable.

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