



Nanometric crystals of clay minerals as optical stimuli in contemporary painting work.

Submitted by

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in Art Education majoring in (painting)

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Research title:

**Nanometric crystals of clay minerals as optical stimuli in
Contemporary painting work .**

research aims:

- Studying the shapes of nanometer crystals of clay minerals to extract plastic vocabulary and aesthetic foundations.
- Nanometer crystals of clay minerals are a source that contributes to enriching the artistic visual vision of the student teacher
- Benefiting from the plastic vocabulary and the aesthetic foundations of nanometer crystals of clay minerals in building contemporary paintings.

The importance of research is summarized in:

- The importance of the research lies in discovering new sources (nanotechnology tools) that enrich the field of imaging.
- Developing the creative ability of the artist and the student teacher by studying the nanometer crystals of clay minerals through the use of computer performance tricks.
- The study of nanometer crystals of clay minerals contributes to enriching the artistic and visual vision of the student teacher.
- Studying nanometer crystals of clay minerals as a new approach to creating contemporary photographic works.

Therefore, this research focuses on shedding light on studying the shapes of nanometer crystals of clay minerals, and what it contains of aesthetic and artistic values and multiple building systems that contribute to enriching the artistic and visual vision of the student teacher to create contemporary graphic works.

The research assumes that:

- The study of nanometric crystals of clay minerals contributes to enriching the artistic visual vision of the student teacher in the field of photography.

- There is a positive relationship between the study of nanoscale crystals of clay minerals and the construction of contemporary photographic works.

The study included five consecutive chapters as follows:

The first chapter: the research problem and its limitations.

This chapter dealt with the introduction of the research, the research problem, the research objectives, the importance of the research, the research hypotheses, the limits of the research, the research methodology, the related studies, and the terminology related to the research.

The second chapter: the emergence and development of nanotechnology applications and their relationship to plastic art.

It deals with studying the impact of scientific progress on the science of nanotechnology, and identifying the stages of development of nanotechnology tools, then the historical development of nanotechnology applications and their relationship to plastic art, the technological development of nanotechnology and its impact on the aspects of contemporary photography.

The third chapter: the formation of rock mineral crystals:

In it, the identification of rock minerals in general and their relationship to nanotechnology was dealt with, then the nanometer crystals of clay minerals and their relationship to sedimentary rocks were studied accurately, and finally the aspects that enter as a visual stimulus for the development of photographic works were studied.

Chapter Four: Aesthetics of microscopic vision of nanometer crystals of clay minerals under electron microscopy (SEM).

In it, the study of the structural systems of nanometer crystal forms of clay minerals was dealt with under the electron microscope, then the study of the aesthetic values of the shapes of nanometer crystals of clay minerals, followed by a study and analysis of selections from the works of contemporary artists interested in applying the nanofield.

Chapter Five: The applied experience of the research to take advantage of it as an entry point for building graphic paintings.

In fidelity, the study of the experimental controls for the research experiment was dealt with, from the general objectives of the experiment, the steps of the experiment, the importance of the experiment, and the concepts that the experiment dealt with. The experiment, the time of the experiment, the tools used in the experiment, the techniques used in the experiment, then explaining the specific teaching aids, then presenting the researcher's self-applications, then presenting the interviews and objectives of the experiment, then presenting and analyzing some of the results of the experiment (the research sample), including the students' results in the cardiac and post-test .

Chapter Six: Experiment Results and Statistical Analysis

Presentation of the experiment results and discussing them statistically in the light of the research hypotheses, then the results .and recommendations of the research