

## THE MOVEMENT AS AN ARTISTIC PLASTIC VALUE EMPLOYED IN THE DESIGN OF THE TRIDIMENSIONAL WOVEN

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### Abstract

Art has been influenced by the different theories and discoveries of science and the availability of technology of raw materials with characteristics contribute to the highlight of the new composition of the effects on the textile industry technically, and the interest in the third dimension and the movement of inspiration and vacuum and busy tissue multi-level and stereoscopic and came out of the conventional framework.

And movement is one of the elements of plastic art and developed with the evolution of the laws of the movement of Newton and the relativity of Einstein and the laws of atom, and showed the schools of art interested in these scientific discoveries and developed with them from the future and visual deception and motor art which deals with two- and three-dimensional works that are characterized by actual movement by motor or air, active participation of the viewer or through the re-installation of the elements of the work, it is called the outstanding works. The second type of movement is the work of the discretionary movement, which contains the deception of the movement despite the stasis of action.

**Research problem:** How can a multiplicity of design solutions for the tridimensional woven be achieved by using the motion as an artistic plastic value in the tridimensional hand-woven work?

The current research provides a teaching unit with many practical applications for the use of movement in the tridimensional hand-woven work, and the sample of the experiment was limited to the students of the third division - Faculty of Specific Education - Alexandria University.

**Keywords:** The Movement, Artistic Plastic, the Tridimensional Woven.

### RESEARCH BACKGROUND

Art has been influenced by the different theories and discoveries of science and the availability of technology of raw materials with characteristics contribute to the highlight of the new composition of the effects on the textile industry technically, and the interest in the third dimension and the movement of inspiration and vacuum and busy tissue multi-level and stereoscopic and came out of the conventional framework. And movement is one of the elements of plastic art and developed with the evolution of the laws of the movement of Newton and the relativity of Einstein and the laws of atom, and showed the schools of art interested in

these scientific discoveries and developed with them from the future and visual deception and motor art.

"Kinetic Art" is considered an art that has honestly expressed the current era and the revolution over everything that is traditional (Hisham Samir Habib ,2004, p.10), the concept of the movement reflects that the artistic work extended in time as extended in the place, and movement shows the ability to express freely while distributing of elements in new dimensions, thus it is the language which the artist expresses his awareness of the reality of space (Nawal Mohamed Mohamed ,1978, p.13), which deals with two- and three-dimensional works characterized by actual movement by motor or air, active participation of the viewer or through the re-installation of elements of work and it is called outstanding works while the second type of movement is the work of the discretionary movement, which contains the deception of the movement despite the stasis of action.

The textile structures achieve a variety of effects in the surface of the woven, which is what brings a sense of movement on the surface of the woven, such as files in various types, including what makes the surface appearance of the woven in the case of stability, as well as the use of various decorative methods of handcrafts such as free welds and non-genuine fabric, which achieves the movement in the surface appearance of the fabric, which works to enrich the surface of the tridimensional woven with different values (Sawsan Mohammed Younis Hinawi ,2002,p.100), modern art emphasizes that the composition of the element of emptiness in the construction of the artwork reflects the sense of movement and infinite depth, as was done in the various schools of modern art, and sometimes translates the movement beyond its spatial events (Najwan Anis Abdul Aziz ,2001,p.3).

And the most obvious evidence of this is what we see in most of the works of the builders and the works of moving pendants, the structural direction of contemporary trends, which dealt with the problem of vacuum during the planning and construction of the work of art to gain its meaning according to the field in which it is used (Hind Fouad Ishaq,1996, p.58). The great transformation that we see in the various art fields today is the birth of a new structure of form and content, the starting point for the artistic work is the structure, each part expresses a special formulation of the artist (Metwally Ibrahim Al-Dessouki ,1983, p.42).

The current research depends on some of the technical values of formality alongside some techniques and methods of weaving to create a new vision in the design of tridimensional woven in the vacuum output and the actual motion.

**Research Problem:** Based on the above, the problem of research may be determined in the following question: -

How can a multiplicity of design solutions for the tridimensional woven be achieved by using the motion as an artistic plastic value in the tridimensional hand-woven work?

**Research Hypotheses:** The value of technical art can be achieved through a variety of design solutions for the tridimensional woven to find a coherent design for the elements of the technical composition using elements of movement and vacuum.

There is a positive relationship between the technical values of the newly created plastic for a variety of design solutions for the tridimensional woven of the experimental students and enrich the tridimensional woven operators of students of the Faculty of Specific Education.

**Research Objective:** The emergence of non-traditional solutions for tridimensional woven and present the third dimension using elements of movement and emptiness.

**Importance of Research:**

Trying to provide students with technical and artistic expertise consistent in the field of handmade textile

Enrichment of the curriculum of handmade textiles and ways of teaching them in a concept that goes hand in hand with contemporary art.

Creating new technical entrances for teaching handmade textiles

**Search Limits:**

The search is limited to the following: -

A proposed unit to teach the ideas of the philosophy of the art of movement and the most important pioneers and the use of simple textile structures and decorative textile methods that achieve the element of movement and emptiness.

The practical application of the experiment is limited to the practical practices of a sample of third year students, Faculty of Specific Education, Alexandria University.

Use the loom of the frame and looms with multiple frames.

Use of decorative yarns, wool and various artificial silk.

### **Module Planning:**

Title of the unit: hanging textile suspensions using the actual movement as an input to the creation of technical values as design solutions for the tridimensional woven.

Field of Unit: handmade textile

Philosophical basis of the unit: Experimentation to create a new body of the tissue through the actual movement of the process.

Unit Objective: To reveal the aesthetics of the artistic values resulting from the actual movement and its effect on enriching the field of tridimensional woven.

Unit time: 60 hours.

Unit steps: The unit is taught in 15 lectures, 4 hours per lecture.

Tools: loom with different sizes depending on the nature of each design, needle and scissors.

Teaching methods: group teaching.

Calendar: Progressive calendar after each lecture, final evaluation after the completion of the teaching unit.

### **Unit Title: (The Movement as an Artistic Plastic Value Employed in The Design of The Tridimensional Woven)**

The unit deals with the study of the thought and philosophy of the art of motion and its roots since the art (primitive - ancient Egyptian - Coptic - Islamic - popular - modern era) and different types of movement (motion movement - air movement - fire - water - static movement) with a presentation of the characterization and analysis of selected models of the artworks of the pioneer's artists of kinetic art.

And a description for the concept of the design of tridimensional woven and steps for the implementation of the concept of vacuum and then experience the process to identify the students of the various technical and artistic qualities that can be achieved by considering the foundations and rules of design and considering the diversity of materials and structures and different textile methods.

### **Procedural Objectives of the Unit:**

The researcher identified the procedural objectives for teaching the proposed unit as follows:

#### **First: Knowledge Objectives:**

Having the student after completing the study of this unit the ability to:

Recognizes the kinetic art and its types (mechanical movement - the movement of the viewer itself - movement of the forces of nature - movement discretion - the actual movement).

lists the types of structures and methods that can be used to design the tridimensional woven to achieve the necessary movement and vacuum.

Know the meaning of artistic values.

Explains the elements and foundations of the design and how to highlight the technical values of plastic construction of a good design of the tridimensional woven that highlights the value of the movement and vacuum.

#### **Second: The Technical Objectives:**

Synthesize the synthesis between the structures and methods used.

The design changes to formative variables suitable for the elements of motion and vacuum to achieve the spatial and temporal dimension of the tridimensional woven.

Highlights the role of design and its relation to the philosophy and thought of movement art.

Distributes the roles between the structures and the methods of weaving and the role of movement and vacuum in the implementation of the tridimensional woven.

Develops a vision and solutions to the technical problems that face it.

### Third: Affective Objectives:

Respect and appreciate manual labor.

Considers the accuracy and cleanliness in the implementation of the tridimensional woven.

Evaluate the technical value of the textile models by reaching an innovative work of art to develop the visual perception of the students.

Tastes the artistic technical values (line - feel - movement - rhythm) resulting from the use of the characteristic of movement and vacuum and different textile structures.

Show his opinion in the experience of using the idea of creating a metal tridimensional woven and ways to deal with it using the element of movement and vacuum and the appropriate selection of textile structures used.

### Unity Concepts:

**Actual Movement:** The word animation refers to a dynamic word derived from the Greek word meaning power or energy (Lutfi Mohamed Ali ,1978, p.22).

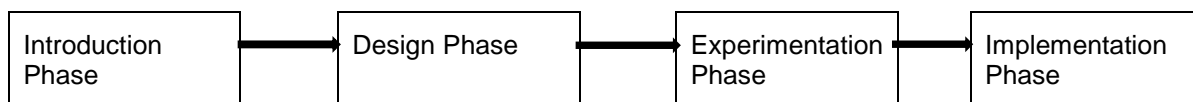
**Artistic Value:** Refers to the value that lies in the work of art, whether in its content or form, which depends on the value of the work and its level (Abdul Ghani Al-Nabawi Al-Shal ,1984, p.9).

**Synthetic structures:** How to construct the woven on the loom by attaching longitudinal filament threads with horizontal thread yarns (Abdel-Moneim Sabri, Reza Saleh ,1975, p.56).

**Models:** Are shapes that have three dimensions visible and calculated and occupies space and have a mass give a distinct entity of the size occupied by (Robert Gillam Scott ,1968, p.13).

**Tridimensional Woven:** Is the visible visual entity from all sides and represents a space in the vacuum and the internal spaces form a relationship between the parts of the object and represents the outer vacuum a set of relationships (Hind Fouad Ishaq ,1996, p.21).

**Unit Content:** It is developed through several steps and its main ideas, ranging from the whole to the part and its path is guided by 4 main phases:



### 1- Introduction Phase:

**The first and second lecture:** A historical introduction to the beginnings of kinetic art throughout the ages (8 hours).

**The objective of the lecture:** To introduce students to the idea and philosophy of kinetic art, its most important elements and forms, and the roots of kinetic art throughout the ages.

**Lecture:** Students are asked about the idea and philosophy of kinetic art, "the concept of actual movement in modern art, and the movement of parts of work from one point to another at a given time by industrial forces such as motors and movable and magnetic light such as air" (Hind Fouad Ishaq ,1996, p.39).

Students know about the most important elements of physical movement (force, mass, space, time), and the absence of one of these elements is sufficient reason for the absence of actual movement.

Determination of the most important forms of physical movement, including: linear straight motion - rotational motion - movement of movement - articular movement - changing movement - pendants).







An analytical descriptive study of some of the art collections across different civilizations. "The primitive artist's practice of painting was a form of recording or overcoming fear. It may be a struggle with the same

life that the rhythm understands and wanted to record in different ways. Inside the caves the purpose is not to entertain as much as it is a magical ritual to overcome the killing and control of the animal "(Sami Rizk Bashai and others ,1992, p.17).

Ancient Egyptian art has many features but it emphasizes in many of its branches on many systems and rules in which it seeks to express the motion through its painted murals, engraved or papyrus, or in the repetitive engineering system of some units, where the rhythmic or dynamic Children such as bees, snakes, chicks, and puppets.

Coptic, folk and Islamic art has been known for its diversity in decorative units, floral motifs, geometric lines, and stellar dishes. It was "based on statues, symmetry and exchange, as well as the soft and geometric lines and the multiplicity of spaces in their distribution and diversity" (Abu Saleh al-Alfi ,1973, p.19).

The students are presented with some of the works of art of the movement throughout the different ages (primitive - ancient Egyptian - Coptic - Islamic - popular - ..... ) and a collective discussion is exchanged between the students to express their opinions or observations.

		
Ancient Egyptian Art	Ancient Egyptian Art	Primitive Art
		
Folk Art	Islamic Art	Coptic Art
<b>Fig. (1): (6) The art of movement throughout the ages</b>		

## 2- Design Phase:

**Third and fourth lecturer:** Movement schools in modern art and classification of the technical trends of the actual movement in the work of artists of kinetic art (8 hours).

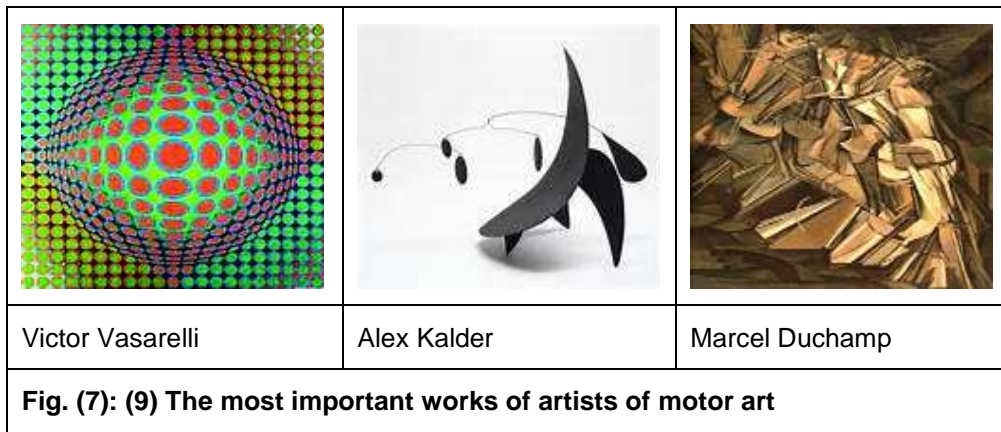
**Lecture Objective:** Define the students of the technical movement schools in modern art (futuristic - constructivism - visual deception) and the types of driving force used by the pioneers of motor art and their most important work and try to design a design emphasizes the art of motion. An attempt to draw a design that emphasizes the thought of kinetic art by following the rules of basic textile design.

**Lecturer:** The emergence of attempts at expression in the early twentieth century plastic art with different ideas and tools that were not previously used to achieve the element of time for plastic art to express movement.

Many schools have emerged, including **the future school** and its main goal is to search for the dynamics of the painting where it agrees with the scientific theories and most important Einstein's theory of relativity, which was the cause of a radical transformation in the art of painting. The artist used the color and line and shape to increase the movement in the image (Nemat Ismail Allam ,1983, p.164), which expresses the fourth dimension in the painting. And one of the most important artists of the future "Marcel Duchamp" and the most important of his work bicycle, wheel revolving and naked steps down the stairs.

**The construction school** was concerned with the fourth dimension through the three-dimensional shape, a geometrical movement that combined its concept of geometric abstraction with its use of modern industrial raw materials. Its most important artist “Alex Kalder” provided a solution to the problems of motion using the driving force of air as a moving natural energy and launched his works “Mobiles” (Edward Lucie, Smeth ,1975, p.144).

**The school of visual** deception is one of the most important areas of plastic art in the realization of the animation movement. Because of the gradation in the size of the geometric shapes in addition to the distribution of the lists and the products, a sense of movement is generated through the relation of the shape to the ground (Mahmoud Al-Bassiouni ,1983, p.263). Among his most famous works are “Victor Vasarelli” whose most important work is geometric formation. The movement consists of reduction and expansion.



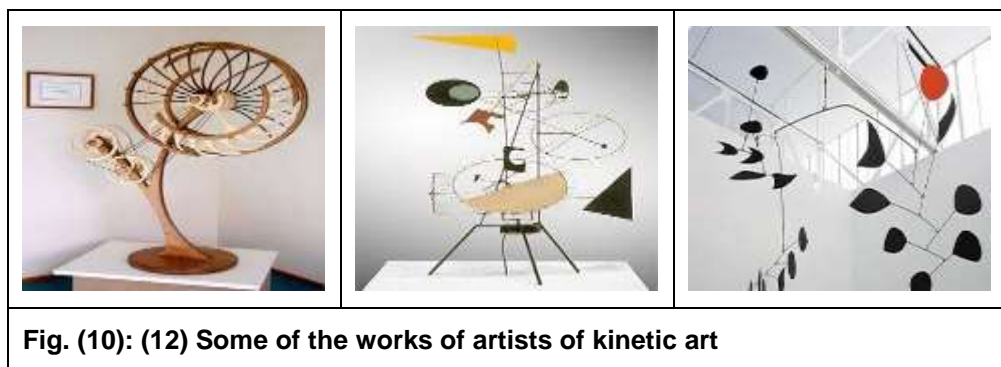
**Adds the technical trends of the actual movement in the work of artists of kinetic art through:**

**First: Natural driving forces:** The work of artists depends on the use of air, fire, water and natural magnetic forces, and the most important artists: “Kalder - Lubac - Obertin - Vasila Keys”

**Second: Scenes:** And depends on the movement of the viewer in front of the work within the artwork and participation in the composition of the artwork. Among the most important artists: “Ptjrn - Oto”

**Third: Industrial driving force:** The works of artists are based on the use of electric-motor-powerful, industrial magnet and ultraviolet lighting. Among its most important artists: “Schofer – Fazlakis – Puri”

Pencil designs are designed as a textile object based on motion and vacuum properties, with solutions to problems faced by students during design.



**3- Experimentation Phase:**

**The fifth and sixth lecture:** Textile applications that achieve the movement of inspiration on the surface of the woven (8 hours).

**Lecture Objective:** Enriching the surface of the tridimensional woven with the plastic values of the structures and methods of weaving to achieve movement and vacuum.

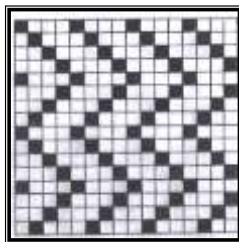
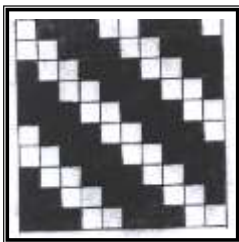
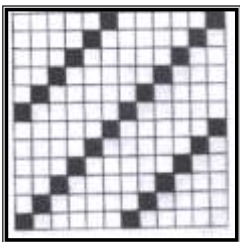

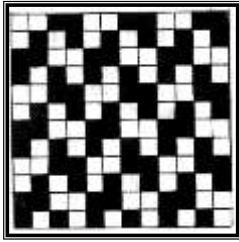

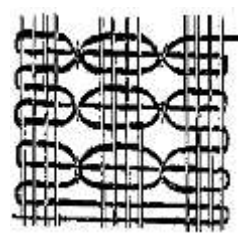
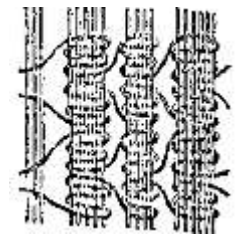

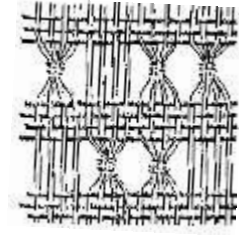
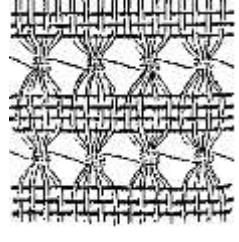
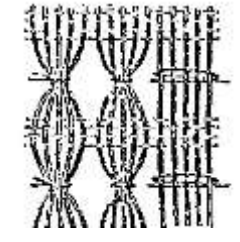


**Lecture:** Introduce students to the technical and artistic aspects of some simple textile structures and textile methods that achieve movement on the appearance of the surface of the tridimensional woven.

Some of the most important compositions that achieve movement on the surface of the fabric: the twills (right - left – right/left – Shaded- Broken - Cut diamond).

The most important textile methods that achieve movement on the surface of the woven: the method of corrugated bosom (regular and irregular) - the method of assembling the threads of the meat in packages (regular and irregular) - the method of assembling threads in bundles (thread - separate) and the collection of the delivery in places without the other.

The work of a practical statement on the frame is simple to practice the performance of structures and methods of textile required with solutions to the problems faced by students during implementation.

			Textile Techniques
Right/left twill 1/3	Left twill 2/3	Right twill 1/5	
			
Cut diamond twill weaves	Broken twill weaves	Shaded twill weaves	Methods of Textile
			
Yarn gathered in regular packages to warp spaced	Regular curved wefts	Irregular curved wefts	
			
Assembling the warps in places other than the others	The method of assembling the warps in bundles with a continuous thread	The method of assembling the warps in bundles with a separate thread	
<p><b>Fig. (12): (24) The most important structures and methods of weaving that achieve the movement of Aramaic on the surface of the woven (Nahla Ahmed Hamdi El-Deeb ,2010, pp.50: 52), (Sawsan Mohammed Younis Hinawi ,2002, pp.34-36)</b></p>			

#### 4- Implementation phase:

**From the seventh lecture to the fifteenth lecture:** The actual implementation of the tridimensional woven (32 hours).

**Lecture Objective:** The possibility of the student to implement the tridimensional woven and make it fully.

**Lecture:** Emphasis is placed on the importance of employing techniques in the appropriate places where technology is the ability of the artist to form the mediator in an appropriate way to reach the influence of expression using tools and materials used to achieve its purpose (Rose Raft Zaki ,1995, p.23).

Executing the theme of the idea and calculating the movement element. The experiments carried out are based on 3 types of physical movement of the tissue. It is as follows:

- **The first type is the actual movement through the mobiles:** We find that the weaving work is integrated between the shape and the vacuum so that the vacuum enters as an essential element in the survival of the textile work where it is suspended to move the air and when moving the air, it shows the repeated linear shapes through the structures and the textile methods, which increases the value of the textile work aesthetically.



Photos from (25): (28) Mobiles

- **Type II: the actual movement through the intervention of the viewer in the artwork:** Becomes a positive role for the viewer in moving the components of the work of art or the management of part of it or piston through which the movement and in all cases, became a part of the work of art involved in the formation or management.

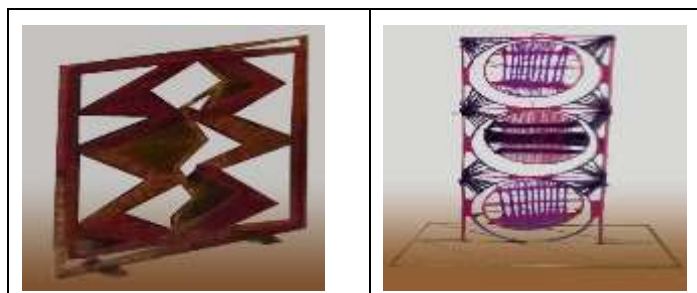
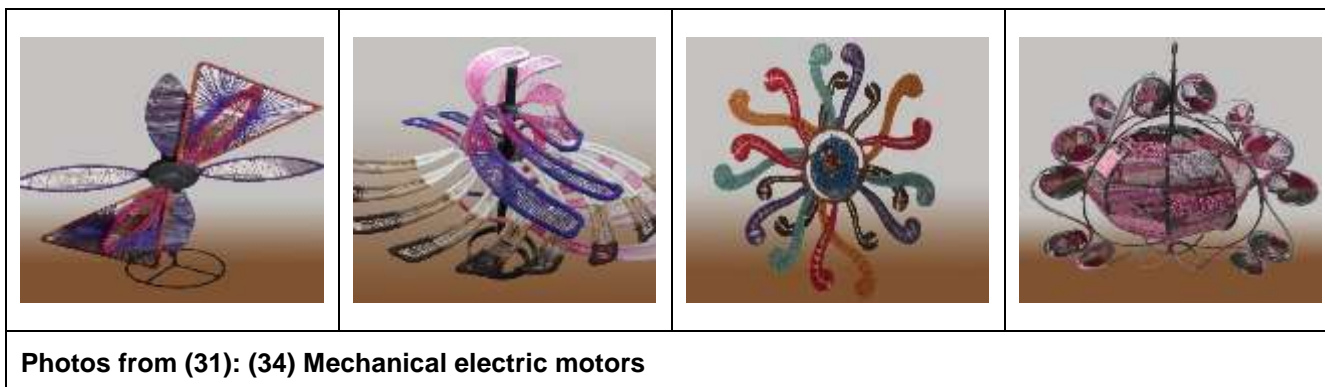


Fig. (29), (30) enter the viewer into the artwork

- **Type III: Actual movement by mechanical power:** The mechanical forces are selected as a source of movement through the electric motors and transmissions of the joints, gears, conveyor arms, horizontal and vertical axis. The motors are hidden inside the artwork so that they do not become part of it, and the movement remains the most important in the works of art.

Draw the design to be implemented and study how to move it and contact the electric motor and then direct implementation.





### Unit Evaluation:

A dialogue and discussion session is held with the students at the end of the presentation of the textile models to find out the artistic values and their aesthetic effect and the amount of each student's numerical values on the tridimensional woven, while presenting the pros and cons of each textile model.

### Research Results:

The introduction of a new form of textile weaving through the multiple types of physical movement, which achieves a new vision of the design of the tridimensional woven.

Modern trends in art have benefited from scientific theories and technological advances, affecting the various fields of art, handmade textiles.

The development of the curriculum of art education, especially textile works, through innovative designs for textile models based on the actual movement.

### Search recommendations:

To take care of the development of workshops for the college to help students develop their ideas for the tridimensional woven.

Continuous experimentation to reach ideas that have a significant impact on the creativity of college students by taking advantage of the data of the modern technology.

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