

A Suggested Program in Creating Animation through (Paint 3D) Program for Middle School Students

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Abstract

Key words

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Introduction

Art education is considered one of the academic subjects contributing to building the learner's personality in terms of skills, social, and mental aspects. It affects the learner's emotions to stimulate his imagination and develop his innovative skills, thus it contributes to the self-satisfaction of the learner through his ability of innovation and aesthetics appreciation in his surrounding environment. Art education is keen on preparing the learner to integrate into work emotionally and encourages appreciating of the importance of his productivity, which is created by expressing his emotions, that helps to build self-confidence and enhance the productivity of the learner, benefiting from all tools and materials used in the production of artistic paintings. (Mahmoud, 2017, page 11)

Computers were introduced to the educational process since the beginning of the twentieth century, and with the advent of technology, the teacher began to get acquainted with its tremendous potential in the educational process and use it to reach its desired goals, and the art education teacher was no less skilled in

harnessing the technological capabilities to motivate his students to innovate in their artistic production through its various programs, the teacher can use the computer to explain the educational goals that he seeks to reach, and he can provide them with the concepts and experiences necessary to stimulate their innovation process, which we will address in this proposal, Insha'Allah. (Al-Atoum, 2012, pages 147-148).

Research Problem

The researcher believes that technology and the computer in particular have a significant impact on contemporary art through its many advantages such as accuracy, speed, quality and cheap, so this prompted the teacher of art education to use it in an attempt to stimulate the innovative processes of his students, which the researcher is trying to benefit from through the problem presented as following:

What are the expected results of the proposal to use Paint 3D program to create animation for middle-graders?

Objectives

The objectives of the proposal are revolved around the following points:

1. Take advantage of the technical capabilities in Paint 3D program.
2. Stimulate the innovative process for middle school students.

Importance

The importance of this proposal lies in an attempt to take advantage of all that is new in computer programs to enrich the innovative process through art education.

Study Approach

In this proposal, the researcher has used the descriptive analytical approach in order to describe the program and its capabilities and analyze the ways to take advantage of these capabilities in creating animation that suits the abilities of middle-grade students.

Terminology

The researcher has limited the terms of the proposal to the following:

The Innovative Process:

As (Al-Adli, 1993, page 61) defines it "The stage of the thought and its crystallization , organizing relationships among objects and researching methods of producing (thought) to (come into being concrete) in an innovative form, i.e. embodying imagination and ideas and organizing them in an innovative image.

And the researcher defines it as: Every applicable idea resulting from merging the imagination with mental processes, and aims to add new and useful in any field, thus, it contributes to a developmental transformation that will advance the field in which the innovative process was carried out.

Animation

(Saleh and Mustafa, 2001, page 4) define it as "a set of consecutive drawings with slight changes intended for filming and presentation in the form of a movie". Hence, it shows us that the basis of animation is traditional drawing, but with the technological development that affected many among the fields as it affected the animation. (Al-Jundi, 2019, page 209) mentions that the process of producing animation has become more accessible and easier with the appearance of many drawing and animation programs, whose tools are characterized by ease of use, accuracy and speed

in achievement, which the researcher believes may help teachers use Those programs are in art education.

Paint 3D Program

It is a program that was derived and developed from its original program, Paint, which was revealed by Microsoft during Microsoft's Windows 10 conference, as (Sayed, 2016) added about the program that it is "a new version of the famous Paint program in Windows devices called (Paint 3D), the new program allows the user to easily create 3D images and share them through several methods, including Microsoft's Surface Pen. Microsoft wants to provide the ability to create 3D content for all users with the ability to share it on social networks, and Microsoft said during an event Service and Windows 10 report that more than 100 million users use Paint every month.

Digital Technology and Art Education

The technological revolution started at the beginning of the twentieth century and affected all educational fields, including the arts, so the artist began using technology to create new arts that express himself and help deliver his message to the public, which produced an innovative kind of art that was not there before, which is digital art, which means every artistic production that went out of technological development, whether sensory, audible or visible. With its features such as speed, accuracy and infinity, digital art has attracted many artists to become one of the most common arts since the beginning of the twentieth century to the present time. (Qabous, 2009, page 7)

The teacher of art education began to recognize the advantages of technology in teaching as a multiple source of knowledge, then used it as an educational method and then began to discover the advantages of its programs such as speed, accuracy and mastery in artistic production. He also noted its impact on the development of thinking and innovation among students, and despite the challenges faced by the art education teacher in introducing digital art into educational curricula, this is because computers are not always available in schools, and insufficient and inconsistent qualification for the art education teacher in the field of digital arts and how to benefit from them in applying lessons (Al-Atoum,

2012, pages 148-149). Nevertheless, the researcher believes that digital art has proven itself by entering the textbooks of art education in public education, and the enormous efforts made to face these challenges and try to overcome are still in line with the educational vision in the Kingdom of Saudi Arabia, which supports the digital transformation in education.

Explanation of Paint 3D program

Paint 3D program is characterized by the ease of the tools and the clarity of their uses, in



Figure (1)

The Official Logo of Paint 3D Program

order to learn more about the technical capabilities and features that made the researcher choose this program to become the artistic production tool in the submitted proposal, the following explanation is provided:

In Figure (1) we see the official logo of Paint 3D program which is included in the tenth edition of Windows (from Microsoft, which is named Windows 10.



Figure (2)

Home Screen

In Figure (2) we see the home screen of the program and note that it collects the advantages of the old program (Paint) in the two-dimensional drawing, which is clear to us in the toolbar above in the screen, see Figure (3)

Figure (3) Top Toolbar



The toolbar from the right includes the menu icon ((Menu, under which the main program commands are listed, such as (New, Open, Save, Save As, Print, Share), then we note the brush icon which includes several options of brushes such as: Pixel Pen) With pixel quality and it is characterized by uniform thickness during its use in drawing, (Water Color) is characterized by giving the effect of watercolors in reality, (Oil Brush) is characterized by giving the effect of oils in reality, (Marker) is similar to the effect of the pens actually mark, and (File) meaning the bucket is characterized by its ability to fill spaces with color, (Spray Can) its effect is characterized by using the spray in color spraying. (Crayon), which means wax pens, is characterized by its realistic simulation of the effect of wax pens, (Eraser), which has the ability to erase the effect of all types

of brushes used in the program, (Pencil) is characterized by simulating the effect of the realistic pencil, at the bottom of the brushes there is an icon (Thickness) which is responsible for the size of the brush, and below it the icon (Opacity) the depth or density which is responsible for the level of transparency in the brushes.

Below comes a semi-fixed list in all options, contains the (Custom) icon, under this option, several effects can be added to the colors used, such as: (glossy matte effect, matte color, unpolished metal, and polished metal). Below it is the color icon, which provides a large number of color options with additional options when clicking on the icon that has a positive sign (+), see Figure (4).

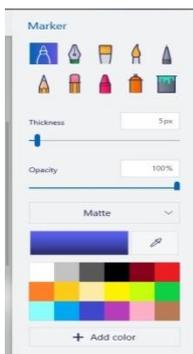


Figure (4)
The Brushes List Options



Figure (5)
2D Shapes List

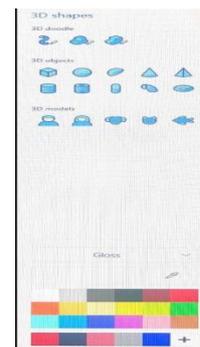


Figure (6)
3D Shapes List

We find in the list of two-dimensional shapes (2D Shapes) icon (Line and Curves), under which a number of options for drawing lines, and below it the icon (2D Shapes), which provides a number of ready-made shapes under the two-dimensional system, and when choosing these shapes, they are distinguished by the appearance of a list of additional special commands in the form that include (color fill, shape selection, thickness of the shape, transparency level, metal and glass effect). Below it comes the (Make 3D) option, which allows converting drawn 2D shapes into 3D. And finally, we find (Rotate and Flip), which provides several options for flipping shapes in all directions. See Figure (5).

three-dimensional shapes, and below it there is an icon (3D Objects) which provides a number of three-dimensional geometric shapes, then the icon (3D Models) Which provides a number of human and animal shapes drawn with a 3D feature, and then we find a list of colors and their effects at the bottom, see figure (6).

As we see in the option (3D Shapes) icon (Doodle 3D) which provides a number of free

It is followed by the option (Stickers), some options of technical stickers such as stars and cloud, and we also find in the (Textures) icon, which means the texture and provides a number of natural textures such as stones, wood, sand, etc. Also, we can insert an image from outside the program through the (Custom Stickers) icon, see Figure (7).

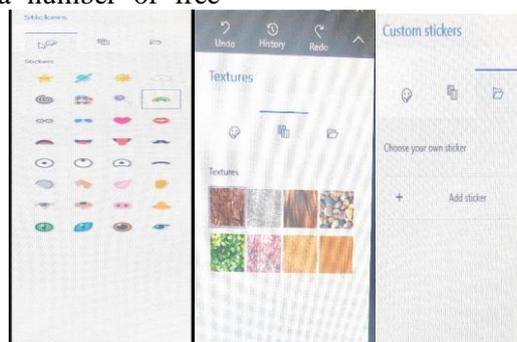


Figure (7)
Stickers List Options

And in the option (Text), which means writing, we find two options for writing either with a two-dimensional feature, or a three-dimensional feature with the ability to choose the type of the font, its thickness, color, location, and add a line under the writing, see Figure (8). In the (Effects) option, the color of the lighting can be controlled

through the Filter icon and its direction via the (Light Wheel) icon (see Figure 9). And in the option (Canvas) we can show the background panel and hide it, and we can also control its size and quality type through the icon (Resize Canvas) see figure (10).

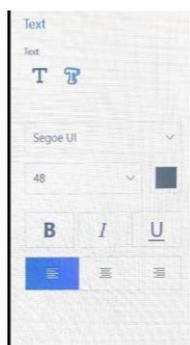


Figure (8)
Writing List options

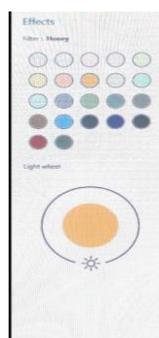


Figure (9)
(Effects) List

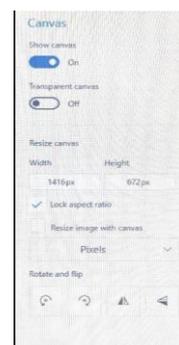


Figure (10)
(Canvas) List

Then next the option to paste, the option to undo the last step taken in the program, and then comes the option (History), which allows tracking the steps of the artwork from its inception by running it as a video. The researcher believes that it is a very useful feature for the teacher of art education, as it allows him to evaluate the student according to follow the instructions and the teacher may be able to infer the student's way of thinking, which helps him in the process of stimulating his innovative thinking. Paint 3D program has more advantages than this such as the ability to take a screenshot of the same program and others; however, the researcher suffices with this amount of explanation according to its need to clarify the characteristics of the program appropriate for art education lessons, as the diversity of effects and simulations of realism also saves time and effort and gives multiple options that the teacher of art education may not be able to provide to his students in real life, either because it is expensive or because it is not easily available, which we may not find solutions to using Paint 3D program because it is available free of charge on most computers, for this reason, the researcher sees the preference of choosing it for the submitted proposal.

The Innovative Process

Innovation is considered one of the most important factors in the development and interest of societies, as it is one of the signs of keeping up with the developments of the current renewed era. Through the innovative process, we can develop our way of thinking and our concepts in an attempt to reshape the mind to produce everything that is authentic, whether it is felt like producing artistic work, or what is associated with the creator himself as creating a new way in human

relationships such as finding an original way to stimulate students 'thinking. The innovative process helps to develop oneself and expand mental capabilities and thinking that leads to innovation. (Noah, 2010, page 38).

Innovation is the goal and tangible successful outcome of the innovative process in any area of life that the learner can recognize through various senses such as sight, touch, hearing, smell, or taste. Tangible innovations are distinguished by different levels of talent that show the creator's capabilities in serving his society through what he produces of useful innovations, and this depends on the creator himself affected by his surrounding cultural, social, economic and educational environment, which is considered one of the most important factors affecting the innovative process. (Muhammad, 2000, page 81)

Innovative Process Skills

The researcher believes that the innovative process depends on several skills including (fluency, flexibility, and originality), and its definitions mentioned at (Al-Shamari, 2019, page 191) as following:

-Fluency: It is the amount of multiple intellectual productions that provides many options on a specific topic, regardless of success or failure, the goal here is to produce ideas, and then the assumptions of their success are tested.

-Flexibility: It is the opposite of mental immobility and aims to generate unconventional ideas that may conflict with pre-established traditional ideas as it looks at the topic from its many aspects and tries to find ideas that suit each side.

- Authenticity: It aims to look beyond the idea and find new relationships for the ideas and exciting ways to apply.

The Role of the Art Education Teacher in the Innovative Process

One of the aims of art education is to develop the ability to innovate, and this is done with the motivation of an efficient teacher who trains his students to realize formal relationships through practice, which reaches the highest level of innovation and uses all the new materials to find innovative relationships between shapes. At the present time, the teacher of art education should stimulate the creativity of his students, using the components of the modern era and the technological development he has reached, so the student can practice innovation so that he learns about its features in his social life, such as distinguishing between innovative and traditional goods. (El-Bassiouny, 2006, pages 39-40).

The innovative process is characterized by the possibility of applying its strategies from an early age to the learner; the more stimulation begins in the innovative process early, the more the learner will be exposed to it, also it increases his innovative productivity and from here comes the role of the art education teacher to increase the experiences and information that will stimulate the creative process of the learner and the teacher's use of the computer with its advantages that enable it to communicate with other cultures and make it easier for it to obtain information that contributes to increasing knowledge for different ages, the teacher can benefit from computer games as a teaching method to stimulate the innovative process of his students in a manner that is appropriate for their ages (Al-Adly, 1993, page 66).

Characteristics of Artistic Expression for Middle School Students

In order for the teacher to choose the most appropriate method for the lesson, he must know the age characteristics of his students in order to be able to expect results that come close to realism. As for Herbert Read, he called the artistic expression among students (11-14) the Suppression Stage (Al-Qahtani and Al-Ghamdi, 2003, pp. 7-8).

This stage is characterized by the many fluctuations resulting from the changes in the

adulthood in terms of physical, mental, psychological and emotional aspects, in which it is noticed the lack of artistic production among students, and shows the real capabilities of the talent among them and begins to highlight their personalities in their artistic expressions, either it follows the realistic visual expression or self-expression depends in its artistic production (Al Thaqafi, 2017, page 200). The researcher believes that prior knowledge of these influencing factors on the learner the impact of the lesson planning process and the knowledge of appropriate ways to motivate their innovative process.

(Sample of the Proposed Program in creating Animation through Paint 3D Program)

The General Framework of the Program

Level: Second year-Middle School in General Education.

The Program Name: Create animation.

Number of Classes: Four classes divided into two days, with two consecutive classes each day.

Advance Courses: Computer - Digital Art.

Teaching Method: Theoretical, practical, and applied

Determining the Educational Objectives of the Proposal:

These goals are divided as follows:

Cognitive Objectives

1. The student gets to know the history of animation and its development from two-dimensional to three-dimensional drawings.
2. The student gets to know what are the most important programs used in animation production.
3. The student gets to know the technical capabilities of Paint 3D program.

Skill Objectives

1. That the student masters the formation of shapes with aesthetic relations using Paint 3D program.

2. The student creates animation using Paint 3D program.
3. The student masters choosing the appropriate effects for the character with what he has in Paint 3D program.

Affective Objectives

1. That the student senses the relationship between art and technology.
2. The student expresses himself through Paint 3D program.
3. The student senses the value of his artistic production and the production of his colleagues.

Strategies Used in the Lesson

1. Brainstorming strategy.
2. Diaspora harmony strategy.

Teaching Aids Used

1. Computer
2. The Internet
3. The Smart Board
4. A Video Projector
5. Paint 3D Program

Expected Results from the Lesson

1. That the student learns new materials for artistic production away from the traditional painting to keep up with the changes of the time and the technological used in it.
2. The lesson reduces the time and effort in students' artistic production, which is appropriate for the characteristics of artistic expression in their age.
3. Developing the student's innovative ability to use computer programs in technical ways.

Expected Results from the Proposal

The researcher expects multiple results from the proposal that affect education, society and the economy:

1. The student benefits from technology in educational and cognitive achievement.
2. The student is able to develop his innovative capabilities through art education and to benefit from these capabilities in all fields.
3. Community benefits from technological education in the direction of the Kingdom of Saudi Arabia, which encourages digital transformation.

Proposals

The researcher came up with the following proposals:

1. The necessity of introducing computer-based learning from an early age, teaching students its basics, and graduating in the use of modern and contemporary programs in a manner commensurate with the student's age and taking his age stage into consideration.
2. Emphasizing the continuous use of appropriate strategies for each student to develop the student's skill and innovative thinking.
3. Developing education in line with the trends of the labor market and its needs, and preparing the individual from childhood with the required skills.
4. Training the teacher of art education on methods and strategies for developing innovative thinking for his students.
5. Training the teacher of art education in all that is new and modern in the artistic field and ways to benefit from it in art education continuously and periodically.

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