

## NEW QUALITIES OF USING COMPUTERS IN FINE ARTS TEACHING

NOVE KVALITETE KAO REZULTAT UPOTREBE RAČUNALA U  
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Computer generated artistic production in Slovenian primary schools leads to new qualities in spite of a less frequent use of the computers. The teachers of Fine Arts together with their pupils, research computer tools and use them in a creative way. The quality is displayed in their understanding of the specifics of artistic expressiveness of the computer tools. In the 90's of the previous century computer generated pictures and drawings of our primary school pupils were merely a pale copy of those in classical or traditional drawing techniques. In more recent times on the other hand, we encounter children's works of art which fully use the advantages of computer tools. Contemporary input units in particular open up new possibilities for artistic modeling or creation. Nevertheless, in using the latest computer technology the teacher also has to be aware of the educational goals in teaching Fine Arts and organize his pedagogical work to be in agreement with the basic contemporary Fine Arts Education aims from the didactic, content and organizational point of view.

*Sažetak*

Unatoč rijetke upotrebe računala u radu, računalom generirana likovna produkcija u slovenskim osnovnim školama, polučuje nove kvalitete. Likovni pedagozi sa svojim učenicima istražuju računalne alate koje zatim na kreativan način upotrebljavaju. Kvaliteta se ogleda u razumijevanju specifičnosti likovnog izraza nastalog upotrebom računalnih alata. Devedesetih godina prošlog stoljeća računalni crteži i slike osnovnoškolaca bili su blijeda kopija crteža i slika klasičnih likovnih tehnika. U novije vrijeme susrećemo dječje likovne radove, u kojima su u potpunosti korištene prednosti računalnih alata. Upravo suvremene ulazne jedinice otvaraju nove mogućnosti likovnog oblikovanja. Podrazumijeva se, da učitelj i kod upotrebe najnovije računalne tehnologije mora imati u vidu ciljeve likovne kulture i svoj pedagoški rad koncipirati tako da didaktički, sadržajno i organizacijski teži temeljnim ciljevima obrazovanja u likovnoj kulturi.

**INTRODUCTION**

The systematic introduction of computers to the subject of Fine Arts began in 1991 with the Petra Project in eight Slovenian primary schools. The number of participating schools had risen to 28 in the following year, and in 1997, almost half of all Slovenian primary schools have joined the project. Later on, the Petra Project became a project of encouraging the elementary computer literacy among children, and also enabled the teachers to more individually organize the process of computer artistic creation. By means of various computer tools, the learners were able to solve the Fine Arts assignments, mainly from the field of drawing and painting.

Each systematically planned pedagogical process is based on the anticipated goals, and these should not be neglected when we investigate the use of computers and other media or innovations in the educational processes. If we look at the goals of Fine Arts from the perspective of modern computer technology, we find out that our Fine Arts teaching is based on exploring and developing creativity and expressional talents of our learners. This means that we have to start from the developmental stage of each learner's mental motor functions, as such development is closely connected with the artistic

expression at each of these stages. Another purpose of the subject of Fine Arts is to introduce the learners into the world of artistic culture, to make them artistically sensible, to educate them, and to provide them with basic artistic knowledge about Fine Arts. "Each artistic assignment included in the teaching plan includes a learning content or subject and with this associated theoretical artistic problems. Every learning unit includes a theoretical artistic problem, which can be investigated in the appropriate exercise. The same principles form the foundation for using computers in the subject of Fine Arts" /1/.

**PREVIOUS EXPERIENCES WITH COMPUTERS IN THE SUBJECT OF FINE ARTS**

Most of the so far accepted theories tried to include computers into the artistic and creative processes, without jeopardizing the specific artistic and didactic principles. It is necessary to preserve the foundations of Fine Arts, where every single assignment has to be cautiously planned and based on thorough knowledge of human visual and emotional capabilities.

By researching and following the creative work of art in our pri-

many schools, we came to the conclusion that computers are suitable for solving many artistic problems from the field of painting, drawing and designing, but on the other hand are not acceptable for all of the assignments or even illustrating various kinds of motives. Mimetic painting of still lifes including the local colors is definitely irrational, because we have numerous more suitable "classical" painting techniques, which will give much better results. It is reasonable, however, to insert the already painted still life (from digital camera, scanner) into the interactive art program, and by the help of computer tools transfer it into a totally new artistic sign. Moreover, using computer tools in order to achieve imitations of classical techniques (pastel, aquarelle) is wrong, and reflects the misunderstanding of the essence of computer application, which hides in the specific artistic computer language. It would be the same if we tried to imitate a typical computer language by means of charcoal or wax-colors. Nobody does this! Therefore it is obvious that computer as a tool is not appropriate for drawing or painting larger figural compositions or landscapes with spatially arranged architectural elements. Such motives can be easily and more purposefully used in various painting techniques that we use in kindergartens and schools. However, it is rational to use computer tools for coloring the inserted figural drawings, as it is often done by many illustrators and creators of the comics. "Computer tools are therefore used for artistic creation in the subject of Fine Arts in such a manner, that the artistic expression of the product that results from the creation process remains computer based. The computer graphics, which tend to stay computer based, will show all the advantages of this media and eliminate its deficiencies" /2/.

Today, when we are planning artistic creation with computer tools, we are fully aware that creative activities cannot be dictated, but have to spring out of learners' inner motivation, where including computers into individual artistic assignments should not turn into computer science, but should be understood as a tool for solving specific artistic assignments. These tools or computer programs have to be chosen according to the learners' capabilities. Excessive instructions during the creation processes can jeopardize creativity. Therefore, we need to carefully consider the main didactic principles. When making a layout of artistic creation in the computer classroom, the teacher articulates the lesson through individual phases, the same as he does for the ordinary Fine Arts lessons. Thorough knowledge of the computer programs for drawing and designing should not be the aim of Fine Arts, but merely a tool for achieving goals of educational artistic work.

#### FROM QUANTITY TO ARTISTIC QUALITY

After many years of enthusiastic computer generated artistic production, when the available information technology barely managed to cope with all the wishes and needs of the learners in primary schools, and when the computers from Petra Project were scarcely capable to digest the modern and more extensive programs, the initial enthusiasm had vanished. At the beginning of the 1990's, the national exhibitions of children's works of art were full of creatively designed drawings and paintings, generated by computer tools and imprinted on paper – the so-called computer graphics. During the last few years, we noticed that the trend of children's computer graphics participating at national exhibitions is in decline. The same can be claimed about the Virtual School Exhibition Grounds, which is placed on the server PeF Maribor.

Even though we find less computer generated works of art at exhibitions today, they are however of the very best quality. Teachers of Fine Arts, who explore the functions of computer tools and use them imaginatively, understand the real purpose of these tools and

their expressive artistic powers. More modern children's works of art fully exploit the advantages of computer tools. The specific computer designing functions (reflection, cloning, negative-positive, cutting, etc.), which are now included even in the simplest computer programs (Painter) and used to decorate children's works of higher quality, are today supplemented by works of art, which further elaborate the many possibilities of modern computer programs. Especially the use of contemporary input units (scanner, digital camera, film camera, etc.) offers new opportunities of artistic designing. But even when using the highly developed technologies, the teachers should conceive their work in a way that is in agreement with the principles and basic goals of the modern Fine Arts teaching from the didactic, content and organizational point of view.

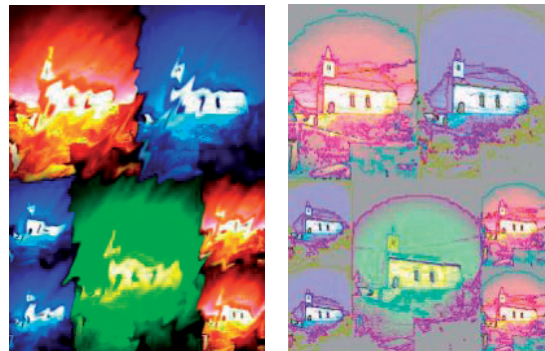


Image 1: Girl - 15 years of age. "The Little Church". Variation of the topic. Computer graphics.

The use of digital camera as the input unit offers various possibilities. The digital photograph that was inserted into the computer can be artistically remodeled by the help of different programs (PhotoImpact, PC Paintbrush, etc.). Intervention colors on the photograph and especially its cloning enables numerous composition games. The products that are made in such a manner are quite different, therefore authorial, and point to the exploration of computer programs and exploitation of these tools for artistic purposes. When arranging the composition, the learners are also in touch with many other formative characteristics of the work of art (color congruity or contrast, difference between big and small, etc.).

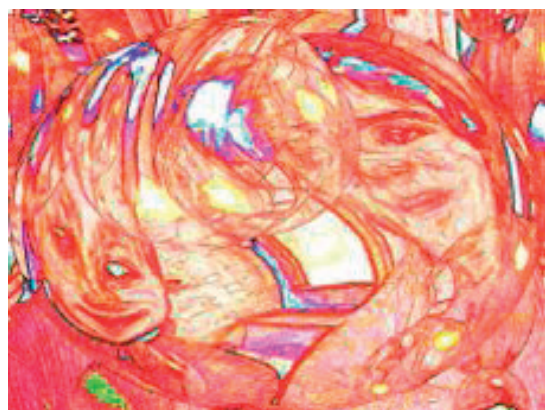


Image 2: Boy – 14 years of age. "Self-Portrait". Computer graphics.

The interesting use of computer tools and exploitation of the specific computer language with the pre-programmed functions, offer the learners the undreamed opportunities for formative artistic in-

vestigation. Digital photographs, transmitted into the computer, can be transformed into completely new artistic creations by the help of different computer programs (e.g. Photo-paint). The additional color interventions and the pre-programmed but controlled picture deforming, enables an artistic game that yields quality results.

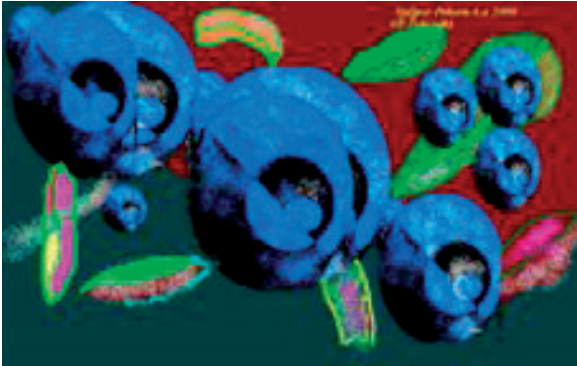


Image 3: Boy – 12 years of age. "Blueberries". Computer graphics.

Even the simplest computer programs for artistic creation (Painter, PC Paintbrush) are appropriate for the learners who attend the higher grades of primary school. By the help of these, they can clone and compositionally arrange the formed sign into a completely new image, which points to certain fundamental characteristics of the computer creation logic. The additional use of some simple tools (brush, sprayer ...) and various possibilities of color changing, enable the learners' artistic game, which results in interesting and quality computer graphics.

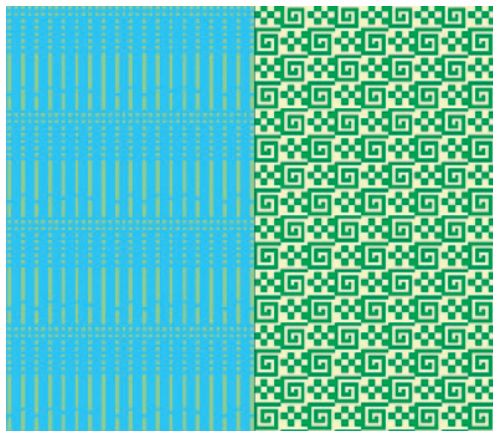


Image 4: Girl – 13 years of age. "Sampling". Computer graphics.

Numerous computer tools also offer a chance to experiment with the simple artistic sign, which can be multiplied and changed into a simple pattern. The multiplication with cloning is a specific computer function, which can hardly be achieved in any other artistic technique and its use is most welcome as far as computer creation is concerned. Multiplying and gradating the freehand line, which is drawn by the computer mouse, also produces the interesting artistic solutions. Changing and adapting the line thickness and intensity of the black color (gray tone scale) additionally increases the internal tension of the work itself. Such works are planned and are reminiscent of the computer designing in the 1950s. The computer graphics present the conscious approach towards constructing the work of art, and at the same time, expose the exceptionally creative playing with the basic art element – the line.



Image 5: Girls – 13 years of age, pair work. "Multiplication and Gradation of the Line.". Computer graphics.

We can achieve similar artistic creations by cloning, multiplying and gradating various artistic signs (silhouette) according to size and intensity of gray tones. By the help of compositional arranging and positioning (larger shapes at the lower margin, smaller shapes towards the upper margin) we create the spatial perception of the graphics.



Image 6: Girl – 14 years of age, Trees. "Multiplication and Gradation of the artistic sign". Computer graphics.

The conscious photographing of the chosen motive and the computer transformation of the produced digital photograph is one of many interesting options of computer creation. The first creative step is the selection of the motive in nature, what follows is the adaptation of the appropriate corner and setting of the photograph, and then the choice of the most successful digital photograph. The learners independently decide which photographs they want to remodel. The goal is not to retouch the photograph, but to make an artistic intervention on it. Learners can change colors on the photograph, add some new elements or cover and cut the existing parts by the help of different computer tools. Photographs are therefore only a foundation for further artistic creation.

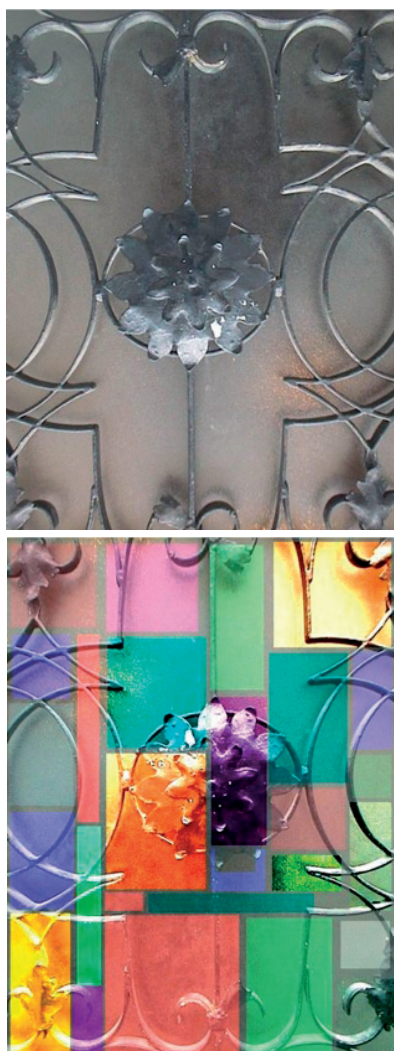


Image 7: Boy – 14 years of age. "The glass door". Digital photograph and computer intervention into the digital photograph.

## CONCLUSION

During the last few years it has been noticed that the national exhibitions of the children's works of art contain less and less artistic works, created by the help of computer tools. Many of the Fine Arts pedagogues and class teachers have mastered the basics of computer science during their regular studies or through the programs of continuous advanced professional studies for teachers. Irrespective of the relatively high interest of the class teachers and Fine Arts pedagogues in these educational programs, no transmission of the mastered knowledge into the classroom was identified. It was discovered, however, that despite the lower number of works lately exhibited, and their quality is on a much higher level.

Many of the world and domestic exhibitions have shown that the purposeful use of computer tools for artistic creation stimulates

the Fine Arts creative and formative development of the children. The temporary situation in Slovene primary schools reflects the reduced use of computers in the subject of Fine Arts, but the quality of the created works is much higher, though. The field of Fine Arts will have to reconsider how to convince the pedagogues about the purposefulness of the computer use in the subject of Fine Arts, especially because of the positive effects that this tool has on the artistic development of the children. The class teachers remain a special problem because despite their acquaintance with the modern means of information technology, they barely use them for direct artistic creation in the classroom.

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