

# Using a computer to teach hand-drawing

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## **Abstract**

Education is an active process where the teacher attempts to apply various methods to make the taught material suitable for students' perception. Wide-spread use of computers allows, and calls for a whole new method in teaching the subject of drawing. Computer software widens the possibilities in making lectures and seminars more impressive and easy to follow, as well as improving students' skills more effectively. With the ever increasing popularity of distance learning, there is a growing need for material that is accessible online. E-learning is an important tool for a student studying by himself. By using computer animations, it is easy to create a step-by-step demonstration of how to solve a certain problem [1].

*MSC: 97C80*

## **1. Introduction**

“Art does not evolve by itself,  
the ideas of people change  
and with them their mode of expression.”  
/Picasso/

The goal of visual education and teaching knowledge of the arts is to acquire visual reception, cognition and communication, impart essentials of the arts and an aesthetic view, demonstrate devices of visual expression and improve students' vision. The instructor's task is to demonstrate methods of visual communication, possibilities of representation and expression and to shape visual way of thinking and analysis. Creative imagination should be enhanced in a way that after analysing relations of form and function, material and structure, students should be capable of innovative thinking and creativeness.

Education is an active process, where teachers apply various devices to make the material to be taught suitable for students' perception and observation. As the capabilities of available devices improve, so should the methods of teaching make

the best use of them. No tool can ever replace an instructor, but tools can enhance the efficiency of education.

Computer-based creative work has many potentials in teaching drawing. Teacher presentations, frontal work and student lectures are more spectacular if potentials of IT devices and softwares are utilized.

## 2. IT devices applied in visual education

Instructors search for new devices to support traditional methods in visual demonstration. There is a rich variety of available devices and softwares. Office software packets containing Paint and PowerPoint are available in all educational institutions, thus every student can have access to these softwares.

Softwares like Adobe Photoshop, Corel Draw, 3D-max, PageMaker, Adobe Premier, Illuminatus, MovieXone, etc. are in close connection with teaching drawing and primarily assist graphic, painting, typographic and animation tasks. These programmes are useful even if a few of their potentials are utilized.

The question remaining is which device or software is to be used to solve the respective visual problem.

## 3. Some examples of applying IT devices

### 3.1. Drawing

The goal of teaching drawing is to help deeper understanding of the material and grasp the essentials, to make the process of memorization more effective and make the material easier to recall and finally serve aesthetic education.

Traditional methods of visual demonstration in a classroom are the following: drawing on the blackboard, printed hand-outs, course books, posters, pictures on the wall, slideshows and using a video or an overhead projector.

Drawing on the blackboard is done by the teacher during a class. Drawing and teaching are conducted simultaneously. Drawbacks: it consumes a considerable amount of time, produces only a single drawing and former phases of the drawing cannot be reviewed.

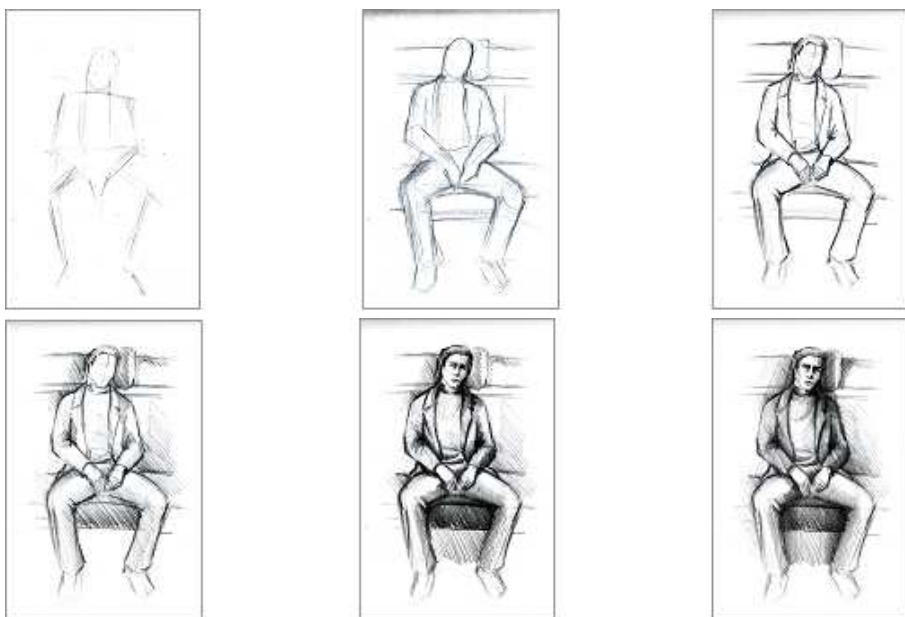
Displaying pre-drawn material includes projected drawings, slideshows, hand-outs, large pictures on walls and posters. Drawbacks: students cannot observe the way a drawing is created, these methods do not allow further modifications on a completed drawing.

Phase drawing is used as a supportive method when teaching a subject. It visually displays the essentials of the material to be taught and offers an algorithm to help learning and memorizing.

### 3.1.1. Example: Creating and presenting a drawing

One way to start: using Wacom Tablet, a device linked to a computer, with a graphic software to draw and saving each phase of the drawing (choosing what kind of material, drawing tool and paper to use).

Another way to start: drawing with a pencil on the chosen kind of paper and scanning each phase of the drawing. Both methods can produce phase drawings.



Studying this illustration will give students a basic idea of how a pencilwork is created as well as the possibilities a computer and Photoshop can open up. Preparing only a single drawing students can observe how the aesthetic value of the same drawing can be affected by the drawing tool, the colour of the material and the colour, quality and texture of the paper.



Students who are interested in creative activities should experience an endless variety of methods and ways to make progress. This will improve their perception,

visual memory, judgement, creativity, ability to create art on their own and artistic sensitivity. This method can be applied well in any type of educational institutions.

### 3.2. Theory of colours

During the teaching-learning process one has to take into consideration the level of students of different age groups and applying recurrent knowledge and skills on a higher level. Technical tasks and illustrations should not become art for art's sake. After settling the essentials, we have to gain knowledge of the characteristics and effects of colours since our goal is to learn how to put theory into practice.

#### 3.2.1. Example: Repainting a photo

Paint is the programme that everyone can access and apply easily.

1. Sets of colours are to be made by colour blending.
2. The colours of the photo are to be expressed by the colours blended by students.
3. A detail of the photo is to be enlarged and the colours of this area are to be studied.
4. Colours and tones observed are to be blended and used to repaint the photo.

Benefits to be gained from using a computer: the possibility of free experiment is given, different versions can immediately be seen, playfulness comes to the fore, colour blending and using the new colours can endlessly be repeated and restarted on the same area. Colour sensitivity, perception of colours rich in details and perceptibility of students can be improved by this technique.

#### 3.2.2. Example: Manipulating a picture reproduction

Using Photoshop in presentations is recommended as early as in primary school. High school students can use the programme on their own: they can experiment with colour effects, change their characteristics and create contrasts and harmony of colours.



Utilizing the potentials of the programme, the colours of the picture can easily and quickly be changed. Tones, saturation, brightness and the quantity of the given colour are modifiable.



As pictures can quickly be deleted and modified, free experiment comes to the fore. Students can be motivated by personal involvement and manipulating their own work. The programme has a considerable role in improving students' ability to create on their own.



### 3.2.3. Example: colouring facades and parts of streets

In higher education there are only special drawing lessons which are compatible with a certain field of study. Putting theory into practice should primarily be emphasized.

Students have already acquired theory of colours, however, they are not aware of its importance related to their field of study. (the role of colours in modifying sense of weight and spatial effect)



Colours can be used to enhance and diminish sense of weight of different surfaces. Buildings may gain a different character by changing the colour of parts of the building. Rows of streets usually consist of buildings of different weight, which can be integrated by experimenting with colours.



Students who are interested in creative activities should experience an endless variety of methods and ways to make progress. Computer programmes speed up the application of these potentials: blending colours, colouring surfaces and demonstrating the effects of different materials. This will improve their perception, visual memory, judgement, creativity, ability to create art on their own and artistic sensitivity.

#### 3.2.4. Example: colouring interiors

Colours can be used to modify spatial effect. For example, while on side walls this effect is created by the tone of colours, on ceilings saturation and brightness have greater importance.



### 3.3. Space, spatial positions

Example: Spatial position and the light and shade relation of bodies and sets of bodies



Programme applied: 3D-max. 3D-models of bodies and sets of bodies are put into the computer. They can be rotated at will and placed anywhere in relation to an imaginary camera. The model can be illuminated, its texture modified. If the suitable brilliance, texture and camera position has been found, a serial of pictures or a video can be prepared.

When analysing a set of bodies according to certain aspects, everybody will be able to see them from the same aspect and with the same illumination. The sets of bodies studied in the classroom can also be used at home.

## 4. Discussion

The application of IT devices considerably improves students' perception, visual memory, judgement, creativity, ability to create art on their own and artistic sensitivity. This is the main goal of visual education.

## References

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