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New Technologies for Education in Visual Arts and Design

by

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Summary

We first examine how the notions of visual art and design have developed. Then we look at the revolution inspired by new media and technology in art, giving the example of David Hockney. We end with an example of the use of the Internet and multi-media in art education.

Stamenka Uvalić-Trumbić

Greetings and Introduction:

Ladies and Gentlemen: It is an honour to give this lecture. Our title is *New Technologies in Visual Arts and Design Education*

I shall begin our presentation by exploring how the notions of visual art and design have developed over time.

We then examine the revolution inspired by new media and technology in art, giving the example of David Hockney as an artist who has embraced technologies ranging from the iPhone to multi-camera video to give new dimensions to the interpretation of nature.

Sir John will then give an example of art education and look at how the UK Open University used the Internet and multi-media, through its Art Explorer programme, to reach large numbers of students in the teaching of art history.

What are the Visual Arts?

First then, what do we mean by the Visual Arts? Wikipedia defines visual arts as follows:

"The visual arts are art forms that create works which are primarily visual in nature, such as ceramics, drawing, painting, sculpture, printmaking, design, crafts, and often modern visual arts (photography, video, and filmmaking) and architecture."

It adds that design education is "teaching of theory and application in the design of products, services and environments."

However, these definitions should not be applied too rigidly as many artistic disciplines (performing arts, conceptual art, textile arts) also involve aspects of the visual arts and design.

In the 21st century the concepts of arts in general and visual arts in particular have acquired new meanings. Art has become a freer concept that can embrace different forms and media of expression. The work of Andy Warhol and Nam June Paik are just two examples.

We shall explore how technology is changing the way visual artists work as well as the way art is taught. Indeed, the use of new technology imposes a multi-disciplinary approach on both artists and educators because technology has its own dynamics and demands specialist knowledge in its users.

The example of David Hockney

An artist who has embraced technology in a compelling way is David Hockney, who has divided his career between England and Los Angeles.

Hockney was nearly 70 years old when he began to experiment with technology, so demonstrating that using technology in the visual arts is not the preserve of young people. Indeed, Hockney believes that the ability to paint increases with age and he often quotes the Chinese proverb that "painting is an old man's art". We wonder if that saying still resonates in China generally.

Hockney is also a good example of the other theme of our presentation: multi-disciplinarity. He is primarily known as a painter, but is also an accomplished draughtsman, video photographer and stage set designer. His acclaimed designs of sets and costumes for the opera Turandot in San Diego and Beijing show his versatility.

Although Hockney is described in art history books as a great contributor to pop art in the 1960s, it is his recent work that inspires us to use him as an example.

The headline "David Hockney illuminates Paris" appeared in a Paris newspaper in 2010 to announce his exhibition of 'paintings' of flowers using only the iPhone and the iPad as media. It featured 200 works and it was the first time – according to the artist – that an exhibition had been sent to a gallery entirely by e-mail. The exhibition was all about "light and projection" but also expressed the artist's love for drawing, giving intimate miniatures of flowers, more evocative of Van Gogh than of pop art.

"I like to draw", Hockney told an interviewer in 2009, "I draw flowers every day on my iPhone and send them to my friends, so they get fresh flowers every morning". An art critic wrote that the iPhone images presented "intriguing

explorations of colour and line. The British artist achieves stunning effects of texture and light on the iPad"

Hockney has embraced the opportunities offered by new technology to create art and has taken up drawing on computers since getting an iPhone. New media for artists have both advantages and disadvantages, but the speed allowed here in applying colour is something new. Swapping brushes in the hand with oil or watercolour takes time.

Some might have considered this Paris exhibition somewhat eccentric. However, the exhibition that opened the 2012 season in London at the Royal Academy of Arts, *David Hockney: A Bigger Picture*, was an altogether different event. It was a large-scale exhibition of the artist's exploration of landscapes and attracted long queues.

The value of this seminal exhibition was that it brought together Hockney's use of new technology – iPad, iPhone, digital camera and video with his large paintings of landscapes in his native English region of Yorkshire through different seasons.

In addition to the oil paintings, watercolours and sketches, the exhibition included a display of his iPad drawings and a series of videos produced using 9 high-definition cameras, which were displayed on 18 screens and provided a stunning visual journey through the landscapes that have inspired his large canvases.

We noticed that most visitors sat through the whole 30-minute video presentation spellbound. One critic remarked that: "these videos made me realise that I had never really looked closely at a tree before".

I hand over to Sir John for the last part of this short talk.

Sir John Daniel

Teaching Art and Art History

What Stamenka has said about Hockney provides a natural transition to our next topic: art education.

Hockney is enthusiastic about technology. But he believes that children need to draw and should be taught to draw before working with computers. He says, "I used to point out, at art school you can teach the craft; it's the poetry you can't teach." He quotes another Chinese proverb that to be a painter "you need the eye, the hand and the heart. Two of the three won't do."

An example of a successful application of technology to art education is a system called Art Explorer that we introduced when I was the president of the

Open University in the UK in the 1990s. The Open University teaches at a distance and by British standards is a large university with 200,000 students.

I wanted the Open University to take full advantage of the Internet in its teaching. So we asked our best researchers to help the University to use multi-media technologies in its teaching. I was surprised when the Arts Faculty, rather than the Science Faculty, became the first department to seize this opportunity. I shall describe the application that it developed: Art Explorer.

The vital first step was to begin with the needs of the learners. A major challenge in teaching art and design is to get the students onto the same wavelength as the teachers. To have useful discussions, students and teachers must share similar conceptual and perceptual frameworks. But beginning students do not have these frameworks and the teachers have often forgotten the days when they did not have them either. If students do not ‘see’ what experts see they cannot understand the experts’ arguments.

Art Explorer was based on an analogy with dreams and aimed to help beginning students of Art History develop a richer understanding of their perceptions of paintings.

It used the interactivity of multi-media to bring together the personal perceptions of students and the shared conceptual frameworks of the experts. To do this Art Explorer had students work with paintings, starting with their down-to-earth perceptions of works of art and their feelings about them. It also aimed to make the study of art fun – but purposeful fun.

The analogy with dreams led to the design Art Explorer as a series of episodes, which is the natural style of multi-media. It exploited the non-sequential character of multimedia to involve students directly in making sense of their own activities.

There were four major episodes in Art Explorer. Each created different experiences to encourage students to look closely at paintings. These brought together the private experience of the learner with the purpose of the expert teacher. All instructions were spoken and animated: audio was supported by visual sequences, which simulated the activity described.

The first episode challenged students to express their own ideas. Students were asked to look at 12 paintings and to type in words that describe them. They could type in whatever they liked, but often had to look quite hard to produce more than a few words about any one painting.

The student here chose the category 'Modern' and sorted the paintings on that criterion. Then the computer came into play: it had been storing students'

words of description and analysing them in various ways. These data were now used to challenge students to elaborate and refine their own concepts and to re-examine the paintings.

As they proceeded students were given activities that pushed them to reflect upon their own work; for example, to develop more robust categories for discriminating between paintings.

Episode 2 is more dramatic. It surprised students with what they can do and encouraged them to be curious about what they could see. It was designed to be fun as well as attention grabbing and had a strong element of 'play'.

The paintings in this section were 'live'; meaning that parts within them could be moved or changed in various ways by the student.

Parts could be moved both within and across paintings and students could change the size and axis of various ingredients. It would have been impossible for students to do these things with traditional teaching media.

Students were given visual puzzles to solve that required them to look more closely at details as they changed the paintings in various ways. To solve the puzzles learners needed to consider how artists have handled the ingredients at their disposal. Thus learners were drawn gradually towards thinking about paintings as *made* objects, rather than as mysterious phenomena, and gradually self-discovery blended with guided discovery.

The emphasis throughout Art Explorer was on student activity, but perhaps this sequence - where learners experimented with their visual understanding by manipulating their perceptions - was particularly vivid.

Episode 3 pursued this theme in a more disciplined way. Thus students continued to work with the basic idea that a painting is a made object, but were supported more firmly as they examined this idea.

The emphasis was on interactive tasks, but students were guided very carefully towards an expert understanding of the ways in which paintings work their effects. For example, students could experiment with flat shapes and try to work out how to arrange these flat shapes to suggest volume. In each case, students' experiences were related back to particular paintings. The aim was to exploit multimedia to help students understand their perceptions more fully by directly 'handling' them.

Finally, Episode 4 took students to another practical issue: the notion of function. Students were provided with various ingredients (flowers, people, some background and so on) and invited to build these into a design for their own painting. However the painting they constructed has to serve a function,

and students were given a choice of commissions (for example an advertisement or an illustration of a proverb).

This practical task re-invoked many of the ‘illusionary’ issues raised in earlier episodes but required an engagement with the problem of how to achieve the desired illusionary and emotional effect *and* meet the demands of a commission.

This student has illustrated the English proverb ‘pride comes before a fall’.

I have tried to show you how Art Explorer supported students as they developed their *own* language for describing paintings. It aimed to relate the students' ideas to some of the concepts that constitute the discipline of Art History.

The design of Art Explorer began and ended with students in mind. The Open University was convinced that the most fruitful way of designing with educational multimedia is by concentrating on a teaching need.

We shall end there. We hope that these examples of the use of technology in creating and teaching art have given you some insights for your work in design education.