

Studio Art Education Today:

the Impact of Digital Media and Technology on the Pedagogical Structure

Andrew Phelan
Professor and Director
School of Art
University of Oklahoma, USA

Abstract

The teaching of studio art education in the United States is in the process of undergoing dramatic changes as the result of a technological revolution that has affected the arts, and is at the core of a significant societal transformation. Traditional sources of information such as books, magazines, newspapers, radio and television, are now being supplanted by electronic means on the Internet or via DVD's or CD's. This article will largely focus on the impact of those subsequent inventions and innovations on art and design and the teaching of art. It also discusses the role of the Post-Modernist aesthetic as well as new structures and opportunities for the display and dissemination of the art created in the new technologies and how those affect the teaching of art.

For most of the 20th century the teaching of studio art education in the United States was heavily dependent on ideas developed early in the century at the Bauhaus, with most U.S. art and design departments adopting the Bauhaus approach by mid-century. While studio art education of the 21st Century will continue to pay homage to the Bauhaus, the challenge to 21st Century studio art educators will be to develop a technologically based alternative to the industrial based

Bauhaus methodology.

Both technology and social conditions have considerable influence on the artist and on the techniques that the artists are taught as students. As changes occur, in technology and/or with art forms (or communication), the training required to be a professional is adjusted accordingly. The author believes the advent of the technological revolution has immense implications for the faculty of art and design schools. These considerations fall largely into three areas: 1) course and curricular changes, 2) initial and continual investment in technology, and 3) the hiring of faculty with new expertise.

Classes once devoted to teaching and mastering one set of manual skills (drawing for example) may well be devoted to teaching and mastering a new set of conceptual, perceptual and manual skills. This is true in many areas of the arts; film students no longer edit film on a flatbed editor but in the computer in Final Cut Pro, photographic prints now are manipulated in Photoshop rather than dodged under the enlarger or chemically pushed in the developing tanks. Sculptors may design sculpture pieces virtually and transmit their concepts electronically to a digitally controlled machines where prototypes are constructed.

The aesthetics of Post-Modernism have legitimized the use of processes such as “appropriation” in art making and many of its terms provide a conceptual and aesthetic framework that allows for artists and critics to describe both the incorporation and the use of those technological processes in the making of art which may well supplant traditional methods of creating images such as drawing.

The author argues that the new technology requires the development of a new structure of teaching for studio art education curriculum. The new model will also require teachers trained in the new technology and new pedagogical techniques to incorporate the new approaches to the professional programs. While the future is less than clear, insights about where art will go in the future can be found in electronic and virtual exhibition spaces.

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designers, Post-Modern art education*

Introduction

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Schools and departments of art and design in the United States, whether they are professional schools (such as Pratt Institute, Parsons School of Design, etc.) or university art departments largely define their mission consistent with the rest of higher education, as educating graduates who will become productive useful members of society. For art and design departments, this means offering programs to prepare students for careers such as graphic designers, film/video makers, fabric or fashion designers, product or industrial designers, photographers and other areas sometimes referred to generically as the “applied arts”. They also educate students in the traditional fine arts, and in doing so, they teach traditional methods and skills in the making of art such as oil painting or sculpture. However, many more students enroll in the areas of design and the applied arts, than do in the traditional fine arts areas such as painting, sculpture, ceramics or printmaking. As a result, (with a few exceptions) the aims of university art departments and professional art and design schools in the United States remain largely pragmatic and sensitive to the marketplace, striving to educate students for professional careers. This tradition is largely the legacy of the German institution, the Bauhaus, whose history we will touch upon briefly in subsequent paragraphs. (A very few, largely private, single purpose art academies such as the New York Studio School or Studio Incamminati in Philadelphia, approach the teaching of art from a vision grounded in the humanistic and romantic ideals of the past with a focus on traditional artistic skills.)

As a result of the pragmatic, professionally oriented approach, the teaching of studio art education in the United States is in the process of undergoing dramatic changes, not as the result of an aesthetic or philosophical transformation, but as the result of a technological revolution that has affected the arts, entertainment and communications communities and is at the core of a significant societal transformation.

Although the complete picture is quite complex, the basic and fundamental reason for the changes in studio art education are because of the impact that digital technology has had on the making of art as well as on the complex structure of the dissemination of information and communication in contemporary society. In addition

to traditional sources such as books, magazines, newspapers, radio and television, information is now disseminated by electronic means on the Internet or via DVD's or CD's. Artists and designers are working in and with the new technology. While the traditional media still retain adherents and people continue to read books, newspapers and magazines, more and more get information, entertain themselves and communicate with digital technology in the forms mentioned above. Product makers increasingly use automated methods in the creation of products. In short, art and design production has been affected by the digital revolution and, as a result, the teaching of studio art education has also been profoundly influenced by the onslaught of digital technology.

In Europe, there is another artistic educational tradition and that one is more frequently constructed from a fine arts heritage that traces its lineage to the French academy and/or the Beaux Arts tradition and, as such, does not focus so much on pragmatism since the 'applied arts' are often found in technologically oriented institutions of higher education (polytechnics) or in free standing schools of design. So, while the European design schools have been affected by the digital revolution, the effects on teaching in the European art academies has been much less dramatic than in the United States, and so this article will concentrate on the approach in the United States.

The Bauhaus Influence

For most of the 20th century the teaching of studio art education in the United States was heavily dependent on ideas, principles and structures developed early in the century at the Bauhaus, a German institution that evolved in 1919 from the remains of the Saxon-Ducal School of Arts and Craft and the Weimar Art Academy. Headed by the architect Walter Gropius and supported by a group of stellar teachers (many of whom subsequently achieved legendary status), including Johannes Itten, Laszlo Moholy-Nagy, Josef Albers and Paul Klee, the Bauhaus developed an innovative curriculum and approach to the teaching of art that differed radically from the previous model of the

academy. Primary among the innovative ideas embraced by the Bauhaus, was the idea that the artist and designer should work in concert and harmony with industrial practices and materials. Among the innovations developed there was the concept of the preliminary year where the elements of art were studied as separate entities much the way scientists study the atomic structure of materials (Phelan, 1981). It also embraced the then emerging industrial and technological models of production and sought to educate artists who would work within that model. The organization of the curriculum reflected that pragmatic philosophy and was organized into such specialties as graphic design, industrial design, ceramics, architecture, etc., but absent in this model were traditional areas such as painting and sculpture! While the Bauhaus had a relatively brief existence since it only lasted until 1932 when it was finally dissolved under pressure from the Nazis, it did have a revolutionary impact. And, its influence was spread internationally as the artists, designers and architects involved fled Nazi persecution by immigrating to many countries, with most going to the United States¹. There the Bauhaus influence was pervasive with most U.S. art and design departments adopting the Bauhaus structure and approach in the 1950's and 1960's when higher education in the arts expanded dramatically.

The Challenge

This author believes that while studio art education of the 21st Century will continue to pay homage to Bauhaus concepts and structures, the challenge to 21st Century studio art educators will be to develop a technologically based alternative to the industrial based Bauhaus

1 There are many books available on the Bauhaus for those interested in learning more about this historically important institution. As starting points, the author suggests the following classic sources:

Wingler, H. M. (1976). *The Bauhaus* (W. Jabs and B. Gilbert, Trans.). Cambridge, Mass.: M.I.T. Press.

Franciscono, M. (1971). *Walter Gropius and the Creation of the Bauhaus in Weimar: The Ideals and Artistic theories of its Founding Years*, Urbana: University of Illinois Press.

The article by the author, Phelan, A.(1981,Sep.), "The Bauhaus and Studio Art Education," *Art Education*, 6-13, provides an analytical view of the impact of the Bauhaus on the then current curricular practices followed in the United States.

methods.

In 1983, this author wrote about the effects that four new developments were having on studio art education. The developments were: 1) the emergence of a new aesthetic called Post-Modernism, 2) the availability of relatively inexpensive video cameras, 3) the (then) nascent development of powerful personal computers, and 4) the development of an alternative structure for the display, distribution and marketing of art. In that article, the impact that those developments would have on the teaching of studio art education was explored. (Phelan, 1984) While the projected implications of those influences proved to be remarkably prescient, what was not fully explored in that article was the impact that digital technology in the form of, digital cameras, digital video cameras, scanners, color ink jet printers and the internet would have on studio art education, largely because some of the technology had not yet even been invented at that time! This article will largely focus on those subsequent inventions and innovations, yet will also reference the role of the Post-Modernist aesthetic and the new structure and opportunities for display and dissemination of the art created in the new technologies.

Before beginning that task, we need to remember that the artist – defined broadly here as inclusive of not only artists, including painters, printmakers and sculptors, but also illustrators, photographers, film/video makers and designers, – desires to learn those techniques that are most appropriate to his or her creative concepts. And, those techniques allow the artist to create the kind of image they desire to create. (That also places the artist in the position of having his or her vision being limited by those techniques that they have learned.) Both technology and social conditions have considerable influence on the artist and on the techniques that the artists are taught as students. For example, as changes occur, in technology and/or with art forms (or communication), the training required to be a professional is adjusted accordingly.

Let us look at the impact of that comment by examining one of the most basic aspects of the visual artist, the creation of visual images. Until the invention of photography in the 19th Century, the only way to represent the visual world was to draw or paint it on a wall, on paper, on canvas or to create a three dimensional representation of that

image using wood, clay or stone. For most of history, but particularly in the 14th and 15th Century European Renaissance, the artists learned how to draw, paint and sculpt visions of the perceptual reality that they found around them. The concern with the secular (perceived) reality was because the focus of society had become secular and had moved beyond the medieval preoccupation with the spiritual. Those Renaissance artists strove to capture and represent a specific place and time in the ongoing narrative of secular life. The focus of art on the perceived world around us remained central to artistic creation until early in the 20th Century. Thus drawing, or more specifically the skill of representing the world on a two dimensional surface such as paper or canvas became highly prized and artists and art education devoted a great deal of time learning and refining the skill of representational drawing. Not only did this involve representing people or objects, but it also involved placing them in a defined, geometric space by the use of principles of perspective as developed by Filippo Brunelleschi, then subsequently codified and described by Alberti. Drawing remained a primary tool of the artist to capture an image and much of the instruction given artists centered on developing a high level of skill in drawing.

This remained true even after the invention of photography, and this skill remained central to image making until the 1930's although the artist soon learned how to utilize photographic images in the creation of art. Since photography remained largely black and white (tonal) until then, it didn't present a challenge to illustration or to painting. Thus, professions like illustration continued well into the latter half of the 20th century, relatively unchanged, and as a result, the education of the illustrator or the painter remained constant for a remarkably long period of time even as designers embraced new methodology since, for the most part, drawing retained its primacy in the education of artists.

The Pedagogical Implications of Digital Technology

As stated in the previous paragraphs, the author believes the advent of the technological revolution has immense implications for the

faculty and those schools dedicated to training artists, designers and even art educators who must now consider major revisions to the educational process. These considerations fall largely into three areas: 1) course and curricular changes, 2) initial and subsequently, continual investment in technology, and 3) initial and subsequent change and renewal of faculty with new expertise. And, unfortunately, many times it seems that all of these challenges will need to be addressed simultaneously!

In regard to the first challenge, that of curricular change, the structure of most undergraduate BFA programs (in the US) are still largely set at four years in length, and contain approximately 125–135 credits. This relatively fixed length of the art educational program means that to enable changes to accommodate the teaching of the new technology, certain existing things in the curriculum will be abandoned when the decision is made to add new things. This substitution of the new content for the old is accomplished by either substituting new courses for old ones, or revising the content of existing courses. But in either case, those changes will largely consist of structural change within the course structure or within given courses. What is given up in this process of change? Usually, it is simply that which is determined to have the least amount of relevance. And, this is not new, this has been happening for years. For example, type is no longer "set" by hand, but is done in the computer so the skills needed have changed and those taught reflect the changes. (Indeed, why teach students the lay of the case –of type– with the capital letters in the "upper case" location? So the term "upper case" remains part of the lexicon but it now has another meaning – and how we teach typography reflects that change.) But, it is not exactly a simple matter of replacing one set of course concepts with another and substituting one manual set of skills with an alternative library of skills to match the new concepts. What is needed is a skillful evolution of the curriculum where the new technology blends with the traditional skills even as it gradually replaces traditional materials. This most probably will eventually lead to a radical restructuring of the course content taught in the major areas, because, there is no way to infinitely expand the curriculum and so the changes will be within the BFA.

A second and very large consideration in the consideration

of change is the cost factor of investing in, and then preparing for upgrades; that is to say, the investment in new technology (computers, scanners, cameras, printers, etc.) and including software, is significant and most importantly, should be considered continuous! That is to say, once the initial investment has been made, subsequent investments will also be required, often as costly as the initial one, at regular intervals in order to keep pace with the technology changes. While most educational institutions do have a process that allows them to prioritize capital purchases of equipment, many educational institutions do not have a budgeting structure that easily accommodates the need for expensive and ongoing upgrades. Even more difficult is building a case to convince upper level (non-art) administrators that the department or school of art and design is almost as technology intensive as are departments such as engineering!

Third, the faculty with an appropriate background to teach the technology based courses will have to be identified and appointed. Some may come from existing faculty willing and able to learn new ways of teaching their specialty, but many will need to be new hires and they will need to be prepared to undergo continual re-training and renewal almost every time a new software or hardware upgrade is introduced into the educational program. This may mean that they manage to learn the technology in an ad hoc manner, but much more preferable is a system that includes time for this critical activity as part of their instructional teach load. There are certain situations where the introduction of a new professional application becomes the norm and in order to teach students applicable skills, faculty must learn the new material on relatively short notice. The hiring of qualified faculty is, in itself, a challenge since most hiring opportunities will be made upon the retirements of existing faculty. Most likely, this means that properly trained faculty will be hired on a piecemeal basis and that has implications for the introduction of any new curricular structure or content.

In the above paragraphs, we have largely focused on the professional sequence of the curriculum, but the Foundation program is not immune to the impact of technology. While the concept of the foundation program –those first year programs based largely on the Bauhaus concept of the preliminary course – largely remain intact and

focused on traditional areas of concern (line, color, form, 2D and 3D design, etc.), the actual contents of many Foundation programs have undergone – or are about to undergo – a dramatic shift. Here too the changes outlined above will need to be instituted and while the structure may remain relatively unchanged, the content of that first year must be dramatically modified. For example, the primacy of drawing is being seriously challenged and it appears that it will increasingly occupy a less significant place in the curriculum than it previously occupied. However, other concepts, previously unavailable because of technical limitations are now being introduced in the first year.

For example, in Foundation programs such as the one at the University of Oklahoma, concepts of kinetics are being introduced since most of the easily and economically available 3–5 mega-pixel digital cameras available now include a burst mode or limited video capabilities. So now it is clear that new ways are available to teach students how to observe nature, and, not only should the foundation program teach students how to draw, but also how to capture perceived reality in a time base way with digital technology that will not only capture a moment in time (which is what a drawing does) but moments of time. As a result, the teaching of skills in the foundations courses is rapidly changing.

Conclusions

From the above, it is clear that classes once devoted to teaching and mastering one set of manual skills (drawing for example) are now, or will be, devoted to teaching and mastering a new set of conceptual, perceptual and manual skills. This is true in many areas of the arts; film students no longer edit film on a flatbed editor but in the computer in Final Cut Pro, photographic prints now are manipulated in Photoshop rather than dodged under the enlarger or chemically pushed in the developing tanks. Likewise, sculptors can design a piece of sculpture virtually and then transmit it electronically to a digitally controlled milling machine where a prototype is constructed. In addition, many sculptors now use sound and video to manipulate space and the environment. Yet, many sculptors currently teaching sculpture have

skills largely focused on more traditional techniques in carving stone, using clay, or fabricating art using materials constructed by gluing welding or forming using resins or other physical materials. With a new paradigm of sculpture already upon us, as current, traditionally trained teachers retire, replacements having a new set of skills will be hired, and the course content of sculpture will change.

To take another example of how a professional area (indeed a profession) has changed, we should briefly examine the area of cartooning and its related sibling, animation and how they have changed during the past half-century. In the early years of the 20th Century, cartoons in the daily papers were standard fare in most newspapers (they still are in some papers), and were widely popular with children. Today, instead of looking at the comic section of the newspaper, children mostly watch cartoons on television. Initially television cartoons were created “Disney style” using legions of illustrators and the methods that that Walt Disney initiated for the cartoons on film by simulating visual movement through highly detailed drawings showing minute changes of arms, legs, etc. Jobs as animators were plentiful and those with good skills were easily employed. Today television cartoons are increasingly (if not entirely) created digitally using animation programs, rather than being drawn by hand. Consequently, this means that the training of animators has changed dramatically. While drawing skills retain some cache, far more in demand are students who understand the methodology that allows images to be created, then colored and in some instances given three dimensions and placed in motion! Instead of spending many hours drawing and or being enrolled in classes learning traditional drawing and rendering skills and coloration techniques, students wanting to be animators now spend that time developing skills on the computer mastering the various animation programs. The teaching of animation has changed dramatically! So has the teaching of photography, the teaching of all the design areas (including graphic, industrial, interior, and fashion design), of film and video and indeed, it does appear that the impact of digital technology has had a deep impact across all the areas of art and design.

In some ways, while it is remarkable how much has changed in the world of art in the twenty plus years since that 1983 article was

written, it is also remarkable that it has taken this long for many of the changes to become so visible. However, by now, it is abundantly clear that the advent of digital technology has had a huge impact on the creation of art and design as well as on the teaching of art and design, most particularly on the so-called applied art and design areas, those that are regularly employed by business and industry such as graphic, industrial, interior and fashion design as well as on illustration, photography, and film/video.

Digital technology has had a commensurately large impact on studio art education and has created some huge curricular revisions, even as some programs have been reluctant to embrace the process. But, it is clear that with the advent of things like digital scanners and photography, we have undergone a huge transformation in the way we create, gather and manipulate visual information. This is also demonstrated in the art world, where the concept of the “appropriation” of images has gained both legitimacy and popularity². What “appropriation” means is the use and often transformation by artists and designers of images that originated elsewhere. Those images, largely captured by the use of digital technology such as slide or film scanners, or flatbed scanners, are able to recreate images created by others as almost perfect replicas! These images may be drawings, paintings, photographs, illustrations, etc. It can, in fact, be argued that in many ways, the use of appropriation, digital photography and video have largely usurped drawing as the primary ways in which visual images are now created. Consequently, it may well be said that the aesthetics of Post-Modernism have legitimized the use of those processes in art making. That is to say that Post-Modernism and many of its terms provide a conceptual and aesthetic framework that allows for artists and critics to describe both the incorporation and the use of those technological processes in the making of art. (One must recognize that historically, the possibility of “appropriation” was very limited until the development of scanners, etc.!)

On the matter of alternative spaces, the focus of the 1983 article was to identify those organizational and physical alternatives to commercial gallery spaces such as PS 1 (that space still exists in

2 “Appropriation” is a term generally understood to apply to situations where an artist uses another artist’s image(s) for his or her own purposes.

Queens, New York) or other entities that maintained their existence using something different than the economic model of the gallery as a display of art objects for ultimate sale. As they moved away from the idea of the gallery as a showroom for sales, the concept of the exhibition space changed. (O'Doherty, 1986) That has happened, but more and more with digital art, the 'art object' is often ephemeral and so the use of virtual space is frequently the most appropriate way for the artist to display his or her creation. Performance art, whether live, or combined with digital technology (or recorded digitally) are increasingly dominating international and national art exhibits³. And, if the work is displayed in more traditional exhibition spaces, such as galleries or museums, the display work will be ephemeral and the means of preserving the work will be in its digital format. Thus virtual space, including that existing on the web, may have no fixed physical location. This is yet another aspect of the creation of artwork that occupies digital rather than physical space and so may be shown, displayed or enjoyed in a multiplicity of places and spaces. Art created to exist in virtual space has a different set of characteristics than does art created of physical materials. For example, in the not so distant past, most artists used very high quality, stable materials and strove to use the best technique so as to create art works that would have some permanence and would last for many years. That implied the teaching of a high degree of manual craftsmanship as an integral part of the teaching of art courses. Now artists seeking to create art works that will have a long life have new problems and must consider the creation and storage of work in an appropriately durable (technologically speaking) format. For example, art created on the now rapidly vanishing analog video format will need to be converted to a digital format in order to have future generations view it!

However, with all this discussion of digital technology and its impact, it also must be said that there are some art processes and ways of making art that cannot be done digitally – and probably will never be done digitally. For, example it is almost impossible to imagine that

3 One has only to pick up a current issue of one of the major art publications such as *Art News*, *Art in America*, etc., to see the dominance of digitally created or live performance art pieces. For example, in a recent issue of *Art in America* (2006, Feb.), only one of the feature articles dealt with traditional art and that was a historical piece!

watercolor painting, oil painting or ceramics can be done digitally. That will probably mean that the teaching of traditional art making processes will continue as long as artists use the traditional creative media and materials. That means that there will be a traditional curriculum that continues to exist, although probably of decreasing importance. Many students are still going to continue to want to learn how to paint in acrylics or the more traditional oils, and some photographers will want to learn how to make silver based photographs. But, artists working in these traditional media may well create a hybrid approach and use digital technology in indirect (or other) ways as they go about creating the final work using traditional materials.

But, all in all, the new technology will require a new structure to the studio art education curriculum, it will require teachers trained in the new technology and it will require new pedagogical techniques to incorporate the new approaches to the professional programs. Where art will go in the future is any one's guess, but it is certain to follow the aesthetic possibilities offered through technological innovation, so art educators eager to see what the future form of studio art education will look like should keep abreast of the developments that are found on-line or available there. Because, as in 1983, where the future of art could be sighted in the alternative exhibition spaces for artists who were interested in showing the then new art created by evolving technology, today the future of art can be found in the virtual spaces of digital technology!

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