Moving Forward:
Graphic Design Teaching And Technology

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ABSTRACT

Technology has significantly altered how both students and teachers value core design principles. In teaching design today, the computer has almost replaced the basic tools of the trade. New technology does provide simultaneous control over different components of a design, but computers are nothing more than a calculator, a machine, and if operated on properly yield quick results. Computers are not designers. Currently, one misconception in the design field is to use the given template of a software to complete a design. In reality, a template is only a guide/grid that aids in reaching the final outcome, merely a tool for sculpting the masterpiece. And designers as well as design teachers should keep that in mind.

In teaching design students must be encouraged to delve into their own creativity instead of relying on computers to do so, and should learn when and how to use computers. Students must be taught visual literacy and must be able to recognize true creativity as opposed to the 'fad,' because just knowing how to use a particular software program does not make one a designer. The design teacher should show respect for technology and its ever-changing advances, but moreover, should foster creativity that respects the design processes and principles.

Change is an inevitable process. One must respect change. Changing technology has advanced beyond expectations within a matter of years. The challenge lies within incorporating both technological and traditional design values into the curriculum so that students can learn to respect both. Adapting technology into teaching methods is essential in learning the design process, but we should not ignore the time-tested traditional rules of design because they are upheld no matter what technology is in current use. And we must not forget that the prime objective is to communicate, and to communicate clearly.

Keywords: graphic design, design education, design process, technology.

Just a few months ago, during the annual city summer fair, I was introduced to a variety of people, a common experience in such an environment. As any introductory conversation would go we would discuss who we were, or where we are from. It was more of a reality-check than a surprise to learn that every time I told someone I was a graphic designer, they would say, "Oh, you must be working with computers."

In our ever-changing world, graphic design aids in communicating our ideas, concepts, and information through visual form. Designers follow a systematic approach also known as the design process, or design methodology, in a way in which this process becomes the design itself. The process brings order and clarity to information and above all reveals the ultimate

message of a design - visual communication. It requires a creative imagination as well as scientific insight as a graphic designer values both the aesthetic and functional principles that the final design communicates. Yet, the design process should not be followed as a rigid route as there are many opportunities for the designer to take risks, to experiment, to "kiss the edge."

More often than not, it is almost impossible to visualize graphic design without the influence of technology. It has become an absolute. In fact, the whole world is moving forward along with changing technology that one has to move with it and there is no way out. Computer technology has become so user-friendly in that almost anyone anywhere can access and operate its tools. It has become a platform for unlimited outreaching in surprisingly lesser time. Advantageously, it conserves time, energy, and effort. From the design perspective, developing and visualizing the concept in a shorter time period has eased the process of judging design development for further refinement at different phases. There is no longer the chaotic epiphany of discovering a flaw at the very last stage of a design. Rather, the end result can be comfortably altered right before the final outcome. Even options and alternatives can be created and questioned quickly and revised.

Technological innovations have now provided designers a completely new medium through which experimentation and exploration into the areas of interactive and interface design can be fostered. It has made our task more simplified, shortened, streamlined, and economic. In the everyday world such electronic communication has provided an effective and simulative mode of study that allows freedom from constraints such as monetary factors, as well as individual growth at one's own pace. It has blurred the defined boundaries from one culture to another, and has unified the globe.

It seems though, that almost anyone can become a designer as long as they can access a computer and design software, resulting in the visual chaos we see today. However, solely mastering the tools and tips of a particular software program and simply embellishing an idea into visual form does not make one a master designer. Acquaintance with such tools is feasible without any education in design.

The computer has almost replaced the basic tools of the trade like the pencil, brush, ruler, and right angle. I can still recall the days when as a student we were required to bring in various grades of pencils, were taught how to use them as a tool, and practiced for what seemed like hours upon end on how to draw a straight line with even tonal value. The objective was simply to train us in mind and hand coordination skills. Now, it seems like design has taken on a predictability and sameness primarily because it offers ready-made solutions. The computer does provide simultaneous control over different parts of creating a design, but it is nothing more than a calculator, a machine, and if operated on properly yields quick results. I call it the "magic box" that says "your wish is my command." Many designers take advantage of the available software and design programs thinking that that is the beginning of their process of ideation, which is far from the truth. I have also observed that when introduced to an assignment, students directly begin working on the computer without any thought of sketching their ideas or concepts on a sketchpad or an unlined piece of paper. In reality this software is a guide or a grid, merely a tool for facilitating the end result of the ideation that has already taken place in the mind. Designers should delve into their own creativity instead of relying on the magic box to do so. We must remember that computers are not designers.

A few observations comparing the changing scenario:
- The ergonomic aspect: It is difficult to imagine reading ten to fifteen pages of text on a computer screen continuously when compared to reading the same in printed form.
- Traditionally, designers worked on somewhat horizontal surfaces and now we work on the vertical plane.

- The scale of the artwork in traditional conditions is actual, but now is virtual. The designer has no direct clarity about the actual dimensions while working on a project; the images are scaled down to fit the computer screen.
- Traditional working environments required more space. The computer accommodates a variety of tools and thus less space is required.
- Image quality changes from continuous tone to a pixilated image; from a real image to a virtual one.
- Tactile feeling or sensory aspect fades. What is created through the electronic medium is an indirect interaction with the design. Traditional methods focus on direct contact with the artwork being created.
- Previously, the design process consisted of more constraints, whereas these digital advances have reduced constraints to a minimum.
- On the other hand, there were limited options in the traditional approach while present technology has a much larger variety of options regarding the design process.
- Ultimately, the computer is just a box of tools. To use the tools, an excellent craftsman has to know when and how to use them.

We must always pay heed to the processes we have undertaken, the audience for whom the design is created, and the message that we are conveying. Design education is learning by teaching, and in this process the teacher and the taught explore together. Albert Einstein once said, "It is the supreme art of the teacher to awaken joy in creative expression and knowledge." It is our duty, as a teacher, to dedicate ourselves to our students. Are we preparing students that are just production artists or are we preparing creative designers? To address this question we must prioritize design thinking rather than technical skill. Educators are responsible for teaching design content, but at the same time we must take on the added responsibility of instructing students on how to use the computer as a tool and create appropriate strategies to enhance computer literacy in the curriculum.

It is pure fact that the beliefs and values of teachers are a product of their own knowledge, growth, and past experiences as an individual. In teaching design to students teachers should not be biased with their beliefs and values but open to embrace new technology themselves. In the 1980's when computer technology was introduced into the design profession, we in India, both practitioners and educators of design, with limited technological resources and technological knowledge, were able to incorporate technology in teaching and in practice. So to say, we must respect and adopt the change but at the same time not compromise the contextual significance of the design itself. Essentially, teachers must drive change. We should demand perfection, ask students to reach, and expect them to try.

Similarly, students need to question what their objective is upon entering design education. Do they want to be a mere technician or a competitive designer? In order to be a competitive designer they must recognize what is creative and original as opposed to that which is cool, popular, or trendy. Often, students utilize technology in fascination or excitement only to miss the primary concern-visual communication. If they are not good designers, with a solid knowledge of the design principles, the computer will not make them one, and there are no other options for it. It is not just a matter of just passively and mechanically depending on the computer, rather actively searching for originality. As a common saying goes, "what comes out of a computer is no better than what is put into it." Creative outcome is the result of continuous effort and perception of the design problem, where technology is just a medium to achieve the desired stimuli. And perception is a picture with the minds eye.

Design education must focus on delivering a life skill and balance the visual perception skills and design principles along with proficiency in advancing tools and technology. Due to the influx of digital technology and software training into the curriculum the continuity of the learning process has become rather pixilated. Learning should not happen in a "jump from one course to

another" manner without conscious effort in making a logically linked learning experience. Overall, in order to prepare confident and competent designers, the key elements for graphic design foundation studies should include perception of visual form, visual language, tools and techniques, medium and message, and culture and environment.

It is a general acceptance that a new subject area needs to be incorporated into the design curriculum to respect what the market demands, namely interactive and multimedia design courses, which are a completely different ball game. Not only do they require fundamental knowledge and skills of the already existing graphic design curriculum, but also need that students understand the concepts of kinetics, storytelling, sound design etc. It seems that now-a-days the designer is wearing very many hats-as that of a typographer, illustrator, brand identity designer, interactive, multimedia, and interface designer, and animation designer. He has taken on a multifaceted role. Yet it is quite a daunting task to prepare graduates with expertise in all these specialized areas and currently, they have only touch-base knowledge of all these fields of design.

Many of us though are still overlooking the core issue behind integrating these courses along with the graphic design program in the same time assigned earlier for only mastering the visual communication skills. The content of our curriculum has become so dense as a result of these inclusions. Can one imagine the load on the student? The teachers and the education system? What are we compromising in doing everything in the same set time duration?

The following are examples from courses reflecting design principles, incorporating new demands from industry, and new avenues to facilitate more exposure: (visuals examples)
- Typography I: Example of typographic considerations using the computer as well as hand skills to understand the importance of character spacing and addressing leading, kerning, and tracking issues.
- Typography II: Timeline Project-class where research component, combination of design history, world scenario, politics, science and technology, and art and culture, was introduced along with learning hierarchy of information and page layout.
- Graphic Design Special Topics: Web page icon studies by Ken Fredrick, an example for how new technology demands qualitative designs for electronic use.
- Design for social Causes: Senior project by Joe Napier, to impart the message of reusing plastic the student used the appropriate medium as a film.
- Visiting Artist Program: Wolfgang Weingart visited WMU, bringing outside experience into the design program.
- Annual NY City Trip: For graduating students, design studio visits and portfolio reviews in the city to give students professional exposure to the real world.

A graphic designers role in this quickly developing technological environment has become much more complex. How will he balance the design principles with digital advances? In light of these changes, how will the demanding role of a design educator play in the education system?

Twenty to thirty years ago, technology was different. Today, technology is different. Tomorrow, technology will be completely different. We need to understand that change is inevitable. At a more important note, this is the time to yield to "oncoming traffic," to slow down, watch, and then go. There is no going back. We have to move. And we have to move forward.

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