UCDA DESIGN EDUCATION SUMMIT

PROCEEDINGS

MAY 22-24, 2017
KUTZTOWN UNIVERSITY
KUTZTOWN, PENNSYLVANIA

KUTZTOWN UNIVERSITY

UCDA DESIGN EDUCATION SUMMIT

PROCEEDINGS

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The **UCDA Design Education Summit**—UCDA's national conference solely for design educators.

Hand and Machine focused on the return to traditional techniques in design education and its contrast with digital design. Presentations spanned between traditional "hand-made" techniques to cutting-edge interactive and experiential design.

UCDA is famous for providing professional development in a relaxed atmosphere. Our speakers shared innovative ideas and welcomed participation in an ongoing dialogue about the critical issues facing the design education community.

Now in its twelfth year, this conference continues what we hope will be an ongoing community created specifically for design educators with many opportunities for your own professional participation and development.

A program of the University & College Designers Association
ucda.com

"If a man empties his purse into his head, no man can take it away from him. An investment in knowledge always pays the best interest."

—Benjamin Franklin

KUTZTOWN UNIVERSITY

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1 Integrating Non-Traditional Materials into the Design Process

Todd Barsanti
Sheridan College

Abstract

In May 2016, I attended a one week residency for design educators, hosted by Design Inquiry (designinquiry.net). The residency was held at The Poor Farm, on Vinalhaven Island, in Maine.

I used the opportunity to work out some communications that had been percolating since I completed my Master's Degree in Environmental Studies five years ago; a series of posters that communicate ways in which our patterns of consumption are not sustainable. Beyond the output, though, I was interested primarily in documenting the process of creating communications using non-traditional materials.

For six days, I mucked around in the mud, experimented with materials, got very dirty, and forced myself to experience design through new perspectives.

After teaching in a Bachelor of Design program for 10 years, I now focus on design foundations in an Art Fundamentals program that attracts students trying to enter a range of visual arts programs, including, but not limited to design. I help students understand why design processes and design thinking are relevant, regardless of the path they take out of our program. In re-writing the curriculum for foundation design, I have made choice of media for each project a part of the design process. I encourage students to explore a variety of media; from traditional painting and drawing, to 3D construction, to digital outputs, both static and motion-based.

By introducing options from the outset of their processes, I direct students to always think beyond initial ideas, support their experimentation and curiosity, and introduce them to a kind of systems-based thinking.

In this presentation, I will speak of my experiences in Maine, as well as show examples of how student work can be both hand made and machine made, given project parameters that are flexible.

Integrating Non-Traditional Materials Into The Design Process.

Todd Barsanti, MES
Professor, Sheridan College
Oakville, ON

As a design educator with 20+ years of industry experience, overlapped with 15+ years of academic experience, I have witnessed many changes—not least of which, in *myself*.

As a part-time design educator, I taught a nice range of design courses. From Typography to Information Design, from Corporate Identity to Packaging. For ten years, I sharpened my own understanding of all of these topics while working with students to help them wrap their heads around the concepts as well. By the time I was ready for full time academia, I thought I had a pretty good grasp of the creative mind and how I could help students navigate their way through course content.

What I later came to realize, is that I probably more accurately had a pretty good grasp of the creative *designer's* mind.

In 2012, I accepted the full-time role as Course Lead for a 2D Design course, within the Art Fundamentals program at Sheridan College. The student profile within this program is quite different than those I had become accustomed to. Art Fundamentals is a 1-year, post-secondary certificate program, meant to give students practical understandings of various visual arts and also to help them build a portfolio as they apply for the degree and diploma programs they ultimately would like to get into. Because of Sheridan's reputation, we attract students from around the world who are often referred to the Art Fundamentals program if they are not-quite-ready for their first choice of program.

Each September, we have an intake of 400 students into our program, with another 100 as part of our January intake. Students take courses in Colour Theory & Painting, Life Drawing, Drawing Systems, 3D Design, and 2D Design. While some students coming in to our program have an interest in pursuing graphic design, most come with dreams of getting in to Sheridan's Bachelor of Animation program.

In working with students who had not yet made up their mind about pursuing a career in design—as I had become accustomed to, in the decade before taking on this role—I learned quickly that there are certain vocabularies and conceptual understandings that I had come to take for granted as an educator of visual communications. I realized that instructions given to complete tasks needed to be more explicit and detailed, and that expectations of student output had to be contextualized within the broad scope of expectations of our student body.

This became a lot of work. And it forced me to have a better understanding of all of the concepts I was trying to convey in class so that I could more easily help guide students through concepts they did not necessarily grasp naturally. Add to this that our program has a very high percentage of students who require academic accommodations; students struggling with various anxieties, mental and physical disabilities, and even several students each year who would be classified as being on the autistic spectrum.

Ultimately, I am a much better teacher for my experiences. But I had to come to a better understanding of my students and focus less on my own needs as an academic.

Art Fundamentals students come to design projects with a much broader range—not only of expectations, but—of abilities. In teaching design projects to design students, I look back and realize that there was a certain level of complacency on my part, as well as on the students' part, about project expectations. I did not question the projects I was assigned to deliver, nor did the students push very far outside of pre-conceived expectations.

In Art Fundamentals, students are looking to do work they can put in their portfolios and don't always see the merit in having to take a course in graphic design. Some students are looking to do illustrations, some want to learn software, but ultimately, all just want to be pushed and stimulated.

Before I was able to change the curriculum for 2D Design, students were all forced to complete projects in similar ways, using the same media—often, paint. Those who were good with this media, thrived and succeeded, those who struggled, did not. I decided that choice of media had to become a part of the design process for each project. Those who wanted to paint, could paint. Those who wanted to draw, or work digitally, could do so. This opened up the opportunity for students who needed specific media explorations in their portfolios to treat design projects as potential portfolio pieces, regardless of the program they were applying for.

This also opened up the opportunity for me to expose students to media options they might not have considered previously.

By embedding media options into the design process expectations for each project, students were forced to explore multiple media directions before settling in on the most appropriate one for their concept. As long as the final output is two-dimensional, I encourage students to explore as many media options as possible.

An interesting thing happens as the first semester unfolds. Ultimately, students gravitate towards doing work in media that they have some familiarity with. Whether it is a comfort level with paint, or pencils, or a particular piece of software, most students stay within their comfort zones on the first couple projects as they are still primarily concerned about the grade they will receive for their output.

I relish the full class critiques on those first few projects. Most everyone has done a very nice job on their project, but an awakening begins to happen when someone completes their project using a different media than the majority. You hear comments like: "I didn't know I could use _____" or: "I hadn't even considered using that media in my project, but it works so well in yours!"

These sorts of revelations lead to discussions about other media that might be possible, media that might be beyond the students' initial instincts, and ultimately, media that might not be considered traditional media at all. Students begin to realize that perhaps there are opportunities in the project description, opportunities in the directions they to explore non-traditional materials in a way that might actually make their communications more successful.

As a for instance; in the third project of my 2D Design foundations course, we introduce colour for the first time and limit students to working with plant forms to communicate abstract concepts. Students are encouraged to study the form and colour of various plants and are asked to use those forms in three separate layouts. The compositions have to communicate themes of Love, Horror, and Adventure respectively and should look like they are a part of a system. While most students will paint or draw their plants (some digitally, some traditionally) the odd student, each year, will question if it's possible to simply use actual plants within their compositions? To which the answer is: of course.

When you allow students to begin working with non-traditional materials, you also have to accept that their process is going to come together in a very non-traditional way as well. Students may start with initial sketches and thumbnails, but ultimately, the bulk of their learning and decision-making is going to come while interacting with the materials. During this phase, it becomes imperative that the student document every stage of their process and this can be done by taking notes or doing more sketches, but it is probably more productive to simply document the process through photographs. These photographs don't have to be high quality. Photos taken with smart phones are more than sufficient for submitting digital images that will show the professor what their process entailed.

I have never shied away from showing examples of student work from previous years as examples to current students about ways to approach a project. I have no concerns about plagiarism because I will be guiding students through their processes on a weekly basis and I see only benefits from speaking critically about previous projects and letting students know where previous projects fell short, as well as where they succeeded, and I find this is a good way to get stronger projects submitted year after year. But when introducing a new project, or proposing the concept of working with non-traditional materials in the first place, it can be difficult to show examples of relevant work.

In my own design practice, I admit to not having much to show in the way of working with non-traditional materials myself. As I began to really wrap my head around some of the concepts I was encouraging students to explore, it became apparent to me that I needed to try these techniques out for myself.

In May, 2016, I attended a one week residency for design educators, hosted by Design Inquiry (designinquiry.net). The residency was held at The Poor Farm, on Vinalhaven Island, in Maine. For six days, I mucked around in the mud, experimented with materials, and forced myself to experience design through new perspectives. I decided to try to create three posters on a subject that is close to my heart.

I have a Master's Degree in Environmental Studies. My research during my master's studies revolved around the integration of sustainability issues into the design classroom. I was also trained by former US Vice President Al Gore, as part of his Climate Reality Leadership Corps, and now volunteer my time to give talks on the effects of climate change. Choosing to design posters that

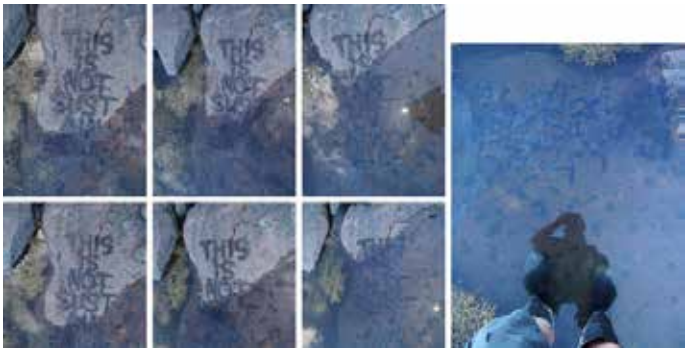
promote sustainability within different industries was something I had had in the back of my mind for some time. I also saw it as an excellent opportunity to work with non-traditional materials to promote these messages. I decided to try and visually represent the dichotomies that exist within our patterns of consumption. Each poster would combine materials that present a strong juxtaposition between products and unsustainable modes of production.

The posters are primarily typographic and the words *This Is Not Sustainable* are the most predominant elements in each layout. In one poster, I created letterforms out of lightbulbs placed on a bed of coal to illustrate the unsustainable use of coal as a means for generating electricity. In the second poster, I cut letterforms out of beef and placed them on corn feed as a representation of industrial farming. In the final poster, the letterforms were painted with (water-based) oil onto a rock surface that was consumed by the rising tide as an illustration of the unsustainable use of oil and its devastating impact on the planet.

In each case, I documented my process from initial notes and sketches, to photographic documentation, to digital production. The final posters are quite large at 36”x72” (3 feet wide and 5 feet tall) and have a nice impact on the students when I bring the actual printouts into class for presentation purposes.

My week at the Design Inquiry residency was a productive one. With no connection to the internet or cell phone coverage, it was easy to focus on my work. Without familial responsibilities, I was able to work uninterrupted from dusk until dawn each day. I am indebted to my wife who facilitated this excursion and accepted full responsibility of our then 3- and 5-year-old children as they spent the week exploring the mainland coastlines of Maine.

In the evenings at the Poor Farm, I was able to recap my days with the other design educators who had signed up for the residency and we all compared notes about the projects we were working on and discussed our progress. I would highly recommend the experience to all design educators looking for an opportunity to give themselves over to a project. Being able to reflect on the process in real time, with peers, was a very productive aspect of this process and I believe it helped me to refine my concepts and explore possibilities I might not have otherwise.



This experience helped to solidify many of my ideas about collaborative working environments and gave me further examples for students about the benefits of sharing their work with their peers. I talk at length with my classrooms about how we all grow to become better artists/ designers/ creatives by working with others, as opposed to guarding our efforts and working in proverbial bubbles.

The reactions I have received from students about the work I put in to the posters has been overwhelmingly positive. Students appreciate that I am also producing work using the same strategies and techniques I promote in the classroom. I believe it adds a level of credibility to the process when they see that I do not simply dictate that students *should* do this sort of work, or that I am *suggesting* that they try it. Rather, they see that I can back up my suggestions with actual understanding of the level of work that will be involved at the suggestion of working with non-traditional materials. Not only have I experienced this sort of work on my own, but I have lead by example when it comes to documenting the process and not taking short cuts along the way.

In my own processes in producing these posters, I made mistakes. I encountered road blocks that required me to think of alternative ways of trying to achieve my end goals, and it is ultimately this sort of problem solving activity that cannot be reproduced by simply sitting back and *imagining* what the end results will look like. One of my ultimate goals in teaching a foundations-level design course, is to try and instill a work ethic in my students that encourages them to look beyond their initial concepts. That in pushing themselves to come up with multiple solutions for any given problem, they will inevitably come up with stronger results.

When you are working with non-traditional materials, when you are forced to interact with materials and explore the possibilities that are inherent in the objects you have at your disposal, you are forced to make decisions you could not possibly have foreseen before interacting with those materials. I freely admit to my students that I am no genius and that chances are, despite all of their late-teen confidence and self-absorption, that they probably are not geniuses either. That all too often, the creative and visual arts are seen as disciplines practiced by naturally gifted individuals who are so creatively gifted, that ideas simply pop into their heads. But that in reality, their most significant successes will come, quite simply, from hard work. From being able to *think on one's feet*, from having the ability to recognize when a project is going in the wrong direction, or a solution simply might not work, and having the confidence and work ethic to be willing to make changes and re-work that which you have in front of you until it *does* work. That moments of genius/ sparks of inspiration/ ah-ha moments are actually few and far between.

Working with non-traditional materials to create visually stimulating communications forces students to look beyond their areas of comfort, to look past their initial concepts, and to create work that is genuinely different from anything they have ever seen or done before. And in so doing, they are expanding their scope of what they see as creative work and they are also expanding

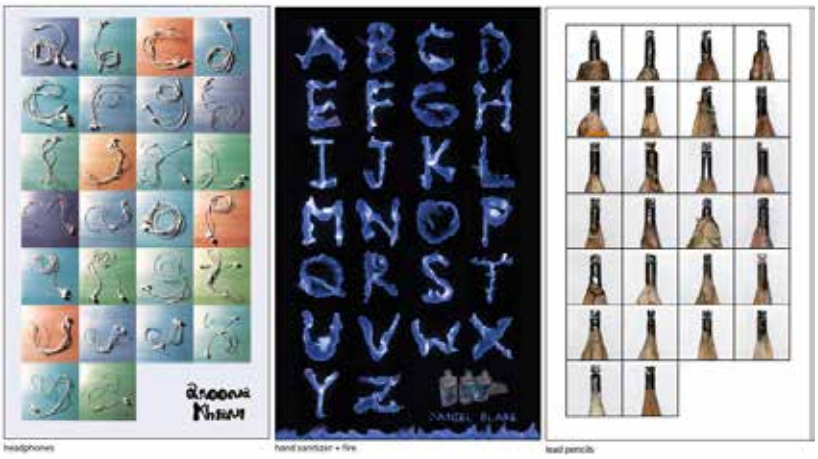
their understanding of what they themselves are capable of producing.

The visual arts are often limited to paint, and drawings, and—increasingly—digital work that is driven by the capabilities of software. In getting students to work with non-traditional materials, not only are they expanding their understanding of visually stimulating work, they are also expanding their own pre-conceived ideas of what they themselves are capable of creating.

In the final project of the first semester of 2D Design students follow up their experiences with plant forms and colour, to create typographic compositions that involve one word. The goal of the project is to define the word through the composition and the way the word is illustrated. As with all projects, students may draw or paint their layouts, but this becomes an easy exercise to push them to consider working with non-traditional materials. Students much choose a verb or, adjective, or descriptive word. Nouns are not permitted. If a student were to choose the word spill, then the question becomes: *what spills*? A glass of water, milk, or juice. Oil spills. You might spill a drink on your shirt, you might spill it on the table, or floor.

As they begin to explore the possibilities, I encourage them to work with the actual materials and see if they cannot create compositions using non-traditional materials.

At the beginning of the second semester, as an introduction to their first project (the creation of an alphabet) we do an in-class exercise where I ask students to create a composition of their own name on their desk, using only objects they brought with them to school that day. They have 30 minutes to complete the task and I encourage them to use the full 30 minutes. It is too easy to put three pencils together to create a capital A. Using the full 30 minutes requires them to look at the objects they have at their disposal and to try various ways they might create the same letterform.



The alphabet project still allows for students to play to their strengths, and those who wish to create portfolios for their respective program choices can still do so. Students wishing to pursue animation might create an alphabet out of cartoon-style characters. Students with strong illustration skills might illustrate letterforms using inanimate

objects, or interesting textures and forms. But there is still plenty of opportunity to use non-traditional materials and to photograph the results. I have seen students experiment with constructing their letterforms out using wood and nails, as well as with toothpicks and jewelry. I have seen experimentations with shaving cream, food items, and even fire.

As long as students are exploring a *breadth* of different ideas from the outset, as well as going into a *depth* of explorations once one direction has been settles upon, then I am happy for them to experiment with multiple solutions. Breadth and Depth are the two main criteria I use to break down the expectations I have for submitted process work. The numbers will vary from student to student, but they all have a very specific understanding of my expectations when I frame their process in this manner.

Following the alphabet project, I share my experiences in creating the posters on sustainability. The timing in the semester is good because they have already been exposed to the idea of working with non-traditional materials, but they now get to see how I have applied the technique to something that might be considered a more commercial output. A visual communication with a specific message that is driven by the media choice in the final composition.

The project that follows the alphabet project is the creation of a poster that promotes social good. Students are able to choose the subject of their poster and it becomes a nice opportunity for presentations and discussions in class about current events and topics that concern them. In this project and the one that follows—an introduction to information design—I have found that most students will move away from working with non-traditional materials, finding it easier to work with photographic or illustrated images. But I am not looking to force them to work in any media they don't feel is currently appropriate. As with all projects, explorations are expected in the process leading up to the final layouts, but as long as the *breadth and depth of explorations* includes various media experimentations, I am happy.

We close out the final semester with a quick, two-week project where students are asked to design an album cover. Students are asked to choose a dollar-store item from those supplied to them in class and to use it in the creation of their album cover artwork.

Students may photograph their object, they may include it in an illustration, they may even use it to create the artwork itself by using it as a tool to paint with, for example. The name of their fictitious band and the album name are generated through randomized online procedures so that they do not waste time coming up with the ideal words or phrases. Focus is squarely placed on the generation of images and typographic experimentation. This project is meant to be fast and fun and students often report having enjoyed the process of this project the most, when reflecting on their experiences in the semester.

In encouraging students to work with materials they might not gravitate towards naturally, I hope to engrain a sense of curiosity and experimentation into their creative processes. I admit to being at somewhat of an advantage in teaching Art Fundamentals students, in that I do not need to place much emphasis on the learning of software, or the finer points of typographic layout. I am still able to touch upon standard learning outcomes of any foundations course in graphic design by introducing the students to the elements and principles of design, but knowing that students will get more formalized training once they get into their programs of choice, I am a bit more free to allow students to experiment and have fun with their creative outputs in my class.

Lastly, in the five years since I started teaching in Art Fundamentals, we have seen the number of students choosing to pursue graphic design after completing our program steadily increase year-after-year. I have also heard anecdotally that students in the Bachelor of Design and Bachelor of Interaction Design programs at our school who have come through Art Fundamentals are consistently at the tops of their classes in those respective programs.

I have found it liberating, as a design instructor, to incorporate choice of media for each project into the students' design processes and I see working with non-traditional materials as an extension of this practice. While I recognize that my situation may be somewhat unique amongst design educators, I do wish I had tried some of this methodology while teaching in more traditional graphic design programs and my hope is that my perspectives and stories resonate with some readers of this paper.

2 You've Been ~~Chopped~~ CROPPED: Opening the mystery basket of resourcefulness and play in design education

David Kasparek
Messiah College

Abstract
Students easily relate to and enjoy popular culture. As a design educator, I connect students to new concepts, practices, and processes by drawing on media, ideas, and experiences from popular culture. In the fall of 2016, I developed a class event for the first-year undergraduate course Visual Literacy that was inspired by the resourcefulness in the HGTV cooking show *CHOPPED*.

The class activity, renamed CROPPED, mimics the structure/competition of the TV show *CHOPPED,* but in the new context of design. Students receive "mystery" portfolio items such as found images, type-specimens, and kitschy objects/images. Students integrate and transform each of their surprise items into an art/design artifact within a set amount of time with access to a "pantry" of art supplies. Students were challenged to communicate a specific theme or idea like Humor, Humility, or Monumental that was given to them at the beginning of each round.

At the end of each round, three senior judges (select by the faculty) "cropped" students from moving on to the next round based on the following criteria:

1. Concept and Communication of the theme
2. Form
3. Presentation/Craft

The familiarity that students had with the show *CHOPPED* introduced a playful and humorous experience to what could easily be an unfamiliar and challenging creative process.

Key themes of this presentation include:
- The pedagogical design of the activity enhanced students' experience and creative process and fostered resourcefulness.
- The limitation of materials promoted a hands-on design process. A welcomed alternative to many students' default digital design process.
- One deviation from the *CHOPPED* format was that students worked in collaborative teams. The activity brought a communal energy and connection in the class — all students are first-year Studio Art majors — and hopefully sowed the seeds of future creative collaborations and friendships in the department.

3 Faster, Cheaper, and More Convenient

What has been gained or lost.

David McGill
Azusa Pacific University

Abstract

The theme "Hand and Machine" for the 12th annual UCDA Design Education Summit, provoked my recollections from Woody Allen's film, Midnight in Paris, in which the characters romanticize past eras. As I ponder the mindset of my students and those younger than myself, I have to ask if they are romanticizing the "pre-digital" history of design. Or, because of the influence of the "Machine" in publishing, have designers and educators lost sight of some essential creative aspects germane to our vocation.

During the first 15 years, of my career in design, I witnessed and participated in the transition from "Hand to Machine" in both corporate and educational institutions. Faster, cheaper, and more convenient machines changed the industry. Years earlier, in design school we practiced the discover design solutions through stream of conscious sketching. The sketches became bookmarks to places in your imagination, providing recall of initial ideas. At some point, we encountering what athletes call "muscle memory."

In Design "muscle memory" refers to simply eye-hand coordination, prevalent in improving the subtleties of physical and ocular synchronization demanded for productivity in design. This artistic muscle memory is derived through repetitive "eye- hand behaviors" providing a foundation for creativity in design. Much as practicing auditory scales, the musician develops the foundation for improvisation. The visual arts maintain a similar set of foundational practices to facilitate creativity.

This presentation will survey the transitional "Hand and Machine" history in Media Design from the perspective of faster, cheaper, and more convenient. Following research will focus on in-class "Hand" activities that continue to aid in the understanding and development of design fundamentals. Acting as a catalyst for right and left-brain functioning, these efforts and understanding can assist in the discovery of creative solutions in visual communication.

4 Operating System Design Project: The Successful Integration of Interactive Design & 3D Printing

Robert J. Thompson
Youngstown State University

Abstract

The interactive design portion of the Graphic & Interactive Design (G&ID) curriculum in the Department of Art at Youngstown State University offers students an immersive experience in the most current interactive design practices, strategies, and technologies. This curriculum challenges students to express themselves creatively in conceptual and technical ways that reflect the growing needs of the industry while pushing student inventiveness. As a consequence of these goals, this curriculum offers a unique agility for student projects across several courses. This is best exemplified by the "OS Project."

The first half of the Operating System ("OS") Project is assigned during the Junior-level Intermediate Interactive Design course, where graphic design students are given one month to invent their own operating system concept, design the graphic user interfaces in Adobe Photoshop, and present their work to the local technology community and the rest of the world by way of YouTube live-streaming. The second half of the OS Project is assigned in the Senior- level Advanced Interactive Design, where each student will have to continue their OS Project into the next logical phases: an animated walkthrough prototype using Adobe Animate, a click- enabled interactive walkthrough built out of HTML & CSS and/or using Adobe Experience Design, and a 3D model of a mobile smart tablet device modeled in Rhino 3D that is then 3D Printed with Makerbot 3D Printers and fitted with a touch-capacitive Adafruit screen, which allows for an end user to touch-interact with their interactive walkthrough prototypes – effectively creating their own operating system on a working tablet of their own design.

This presentation will offer details on the creative process, production phases, successes and failures, and identify a streamlined method to introduce 3D Printing into an interactive design curriculum.

5 storydoing

Abstract
Stop telling them about the problems of the world. Start showing them how to make a change.

Summer Doll-Myers
Kutztown University

Ann Lemon
Kutztown University

The world of advertising has moved beyond a "hard sell" of products, services and organizations.

Storytelling was once the way a brand, nonprofit organization, or candidate set itself apart from competitors. Top advertising agencies would craft elaborate stories that would make consumers fall in love, get angry, laugh themselves to tears, or break their hearts, all in the name of a brand. It worked. It was effective. But consumers are no longer passive audiences - they want to be part of the narrative.

There is a new buzzword emerging in this competitive field: "Storydoing."

"In an age where just communicating your brand isn't enough...businesses need to think about brand building from the bottom up." –Danielle Tiedt, CMO, YOUTUBE

Consumers are overwhelmed with problems, and telling them about solutions isn't enough. Agencies, and the creatives who work in them, are now expected to help their clients "do". How? By using creative problem-solving to make, do or invent something that attracts attention, causes action, creates an emotional response, and generates talk and free media exposure. Find a problem; answer it.

This way of working opens up possibilities for teaching design thinking, teamwork, and collaborative problem- solving in new ways. We introduced this idea to Advertising students with a brief to increase gender equality. Storydoing has now become our method in several advertising courses. Students are challenged to come up with a social or business problem and then...solve it. This approach requires a great deal of creative thinking and research. They are required to create a campaign deck or a case study video showing how the problem and solution would roll out on behalf of a brand or a group.

The process and several student examples will be shown.

Professors Summer Doll-Myers and Ann Lemon
Kutztown University of Pennsylvania
Communication Design department

Teaching by Storydoing

Synopsis:
The designer of 2015 is solving COMMUNICATION problems.
The designer of 2025 will be solving BUSINESS problems and SOCIAL problems.

The world of advertising has moved beyond a “hard sell” of products, services and organizations. “Storytelling” was once the way a brand, nonprofit organization, or candidate set itself apart from competitors. Top advertising agencies would craft elaborate stories that would make consumers fall in love, get angry, laugh themselves to tears, or break their hearts, all in the name of a brand. It worked. It was effective. But consumers are no longer passive audiences - they want to be part of the narrative. What a brand DOES is more important to consumers than self-serving messages.

This shift requires design educators to evolve from teaching brand communication (static ads or moving – in both senses – images), to teaching creative problem-solving and business-building.

Fig. 1: deciding on a problem
Students and professor work together to choose a problem to solve.

Teaching by Storydoing

By Summer Doll-Myers and Ann Lemon
Kutztown University of Pennsylvania Communication Design

INTRODUCTION

Today, advertising does not build the whole story of a brand

"Ask CEOs whether their company's products are differentiated, and 80 percent will say yes; in stark contrast, just 10 percent of customers agree." (Ryan)

In today's hyper-connected world, the most engaging, carefully constructed communication can be quickly undone in the "real world" by a bad Yelp review, or an embarrassing customer service failure. One has to look no further than the United Airlines "brand promise" of "Friendly Skies," (Fig. 2) in unfortunate juxtaposition with the actual treatment of customer Dr. David Dao, who was forcibly dragged from his seat and beaten in an attempt to confiscate his seat on an overbooked flight. The resulting PR nightmare for United is ongoing (Fig.3).

Advertising can only confirm what consumers already know to be true about a brand.

Fig. 2: Brand story
Image: mcgarrybowen,
United campaign re-launch 2013.

Fig. 3: Brand reality
Photo: Joshua Lott / Getty / AP Images.
66740459

The new challenge in brand communication is no longer crafting stories, but creating change itself: "Storydoing" vs. "Storytelling". Believe it or not, today's Fortune 500 companies often turn to consultants, including their ad agencies, to understand what customers believe about

the brand, need and want – and to develop new ways of ACTING to meet those customer wants and needs.

> "In an age where just communicating your brand isn't enough...businesses need to think about brand building from the bottom up." –Danielle Tiedt, CMO, YOUTUBE.

Consumers are overwhelmed with problems, and *telling* them about solutions isn't enough. Whiter teeth – lower insurance premiums – better customer service – all these advertising claims become a blur unless they are "lived", or passed on by a trusted friend as news.

Agencies, and the creatives who work in them, are now expected to help their clients "do". How? By using creative problem-solving to make, do or invent something that attracts attention, causes action, creates an emotional response, and generates talk and free media exposure. Find a problem; answer it. Forget about shooting a lovely print ad!

An early example is the development of the Nike + app and sensor (Fig. 4) by the advertising agency R/GA. Charged with uncovering a true customer benefit and communicating it, after much research, the agency proposed, not an ad campaign, but a new product enhancement – a sensor and corresponding app that would track steps, miles, and other fitness data from the wearer's shoe (this preceded Fitbits and Apple Watch by a decade). Instead of a flashy commercial starring the feats of Michael Jordan, Nike innovated by offering the customer a truly useful tool, and let word-of-mouth spread the news (of course, they also introduced the new product with a series of ads).

Fig. 4: Nike+ shoe insert, show, and app logo
Image: R/GA

Other agencies including Crispin Porter + Bogusky also have changed their process. Creative director and innovator Alex Bogusky required his creative teams to present each advertising idea in the form of a Press Release – rather than doing an ad (which interrupts the news), they

were charged with creating something hilarious, fascinating or useful (Which IS the news). Teams responded with ideas like “The Whopper Sacrifice,” where Facebook users were asked to "unfriend" 10 people and receive a free Whopper in return (“Who would you sacrifice for a Whopper?”) and the “Whopper Freakout” (Figure 5) – both of which made national news, as well as spreading like wildfire virally.

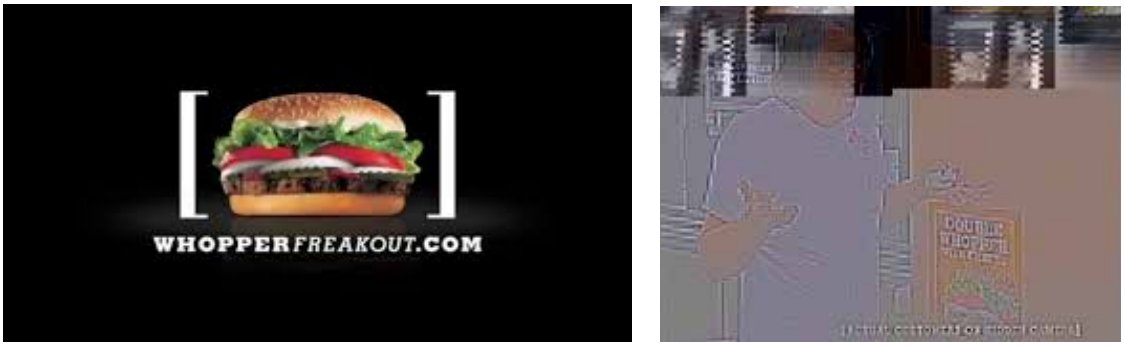


Fig. 5: “Whopper Freakout” video
Image: Crispin Porter + Bogusky

> “The premise of the "Whopper Freakout" campaign is as enchanting as it is perverse: Burger King employees claim corporate overlords have stricken the belly buster from the menu one day so Academy Award-nominated director Henry-Alex Rubin (*Murderball*) can document fast food junkies twitching and spewing when they find they can't have it their way. Day two of the experiment saw competitors' sandwiches replace the Whopper and again, hungry fans got riled up and professed their love, before the King himself appeared to make things right. The results of the big BK joke contributed to an eight-minute webfilm full of brand evangelism, focus group-y responses ("Level of 1-10, how pissed would you say you were...?"), bewilderment and good old fashioned hunger-induced American crankiness. Customers storm back to the counter demanding their beloved Whoppers when they realize they've been served Big Macs or Wendy's burgers, only to have the counter attendants remind them that BK doesn't serve "fried" burgers. Other more wistful BK-goers give folksy Whopper-tinged anecdotes about family bonding and passage into manhood.” (AdAge)

“Don’t make an ad,” Bogusky charged. “Make a thing, and then make an ad about the thing.” (Maravilla) What he means by that, is that an agency’s job is now to “make a thing” – to invent , build, say, or stage something that will *create news* in order to compete for attention against every form of content – editorial, advertising, and otherwise – in the entire world, online and off, at any given moment. A tall order - and one that is not usually solved by, for example, a newspaper ad.

CHANGING EDUCATIONAL APPROACHES

How do we teach these out-of-the-box thinking skills to undergraduate art majors?

This way of working opens up possibilities for teaching design thinking, teamwork, and collaborative problem-solving in new ways.

At Kutztown University, our Communication Design seniors are prepared with the typical graphic design classes in all the fundamentals – design principles, digital skills, typography, image-making, branding, page design, strategy, and so forth. They have taken introductory advertising design classes to learn about research, target market and competitive analysis, developing unique product insights and creative strategy, practice copywriting and art direction, motion design, storytelling, sequential imagery, and even digital marketing and social media advertising. In other words, they know how to come up with a "selling" idea, and create interesting and compelling ads to tell the story (Fig. 6). They are practiced story*tellers.*

Fig. 6: Traditional ad campaign
Image: Award winning subway poster ads created by student Ciara Sweeney are an example of a traditional "storytelling" style

But in their senior year, we began to ask students to take all they have learned and forget it temporarily – to instead focus on inventing something that actually SOLVES A PROBLEM.

Story*doing* has now become our method in several advertising design courses. Students are challenged to come up with a social or business problem and then...solve it. This approach requires a great deal of creative thinking and research, in addition to all the usual communication techniques of strategy, design, writing, and media selection.

It takes a while for students to get used to this thinking, but once they catch on, solutions start pouring out.

The assignments

In years past, our 8-week senior level course entitled "Senior Seminar: Nonprofit/Corporate Advertising" required students to create a multi-media campaign for a corporation, usually consisting of a combination of traditional media such as print ads, television commercials, direct mail, etc. The results were interesting, and often focused on an aspect of corporate "do-gooderism," launches of new products, an employee program, etc.

But, in response to the new media environment, increased transparency and a large amount of skepticism about the claims of corporations, this approach started to feel outdated.

The new assignment is focused on *Corporate Change* (storydoing, not story telling).

The process for this project , 4 weeks long from start to finish, was:

1. In teams of two, find a Fortune 500 Company
2. Identify or define problems with the company (Fig. 7)
    a. What do people not like about it?
    b. What is it lacking?
    c. How could it be more helpful?
    d. How could it repair any damage it has done?
    e. How could it be a better corporate citizen and make the world better?
    f. What technology does it have that can help problems of others?
3. Find a way to FIX THE PROBLEM, by creating a list of 10 solutions (in an elevator pitch format) to share with the class (Fig. 8)
    a. Could it invent a new product, technology or app?
    b. Could it offer a more helpful service to customers?
    c. Could it define the company mission and take some action?
    d. Could it contribute to a social cause?
4. Chose 1. Write a press release that will announce this new solution to the world. (Fig. 9)
5. Convert the press release to a script/storyboard that explains the problem and shows your solution. No more than 2 minutes.

6. Consider other ways to announce the solution – this could incorporate traditional or social media, press coverage, a launch party, an event, or some other means of attracting attention.
7. Create any materials you will need for case study video (program name, product mockups, illustrations, diagrams, etc.)
8. Shoot/ animate/ compile stills using iMovie, premier, or AfterEffects.
9. Record voiceover from written script and find royalty-free music and sound effects for audio.
10. Upload final edit of video to Vimeo.
11. Present final case studio video to class.

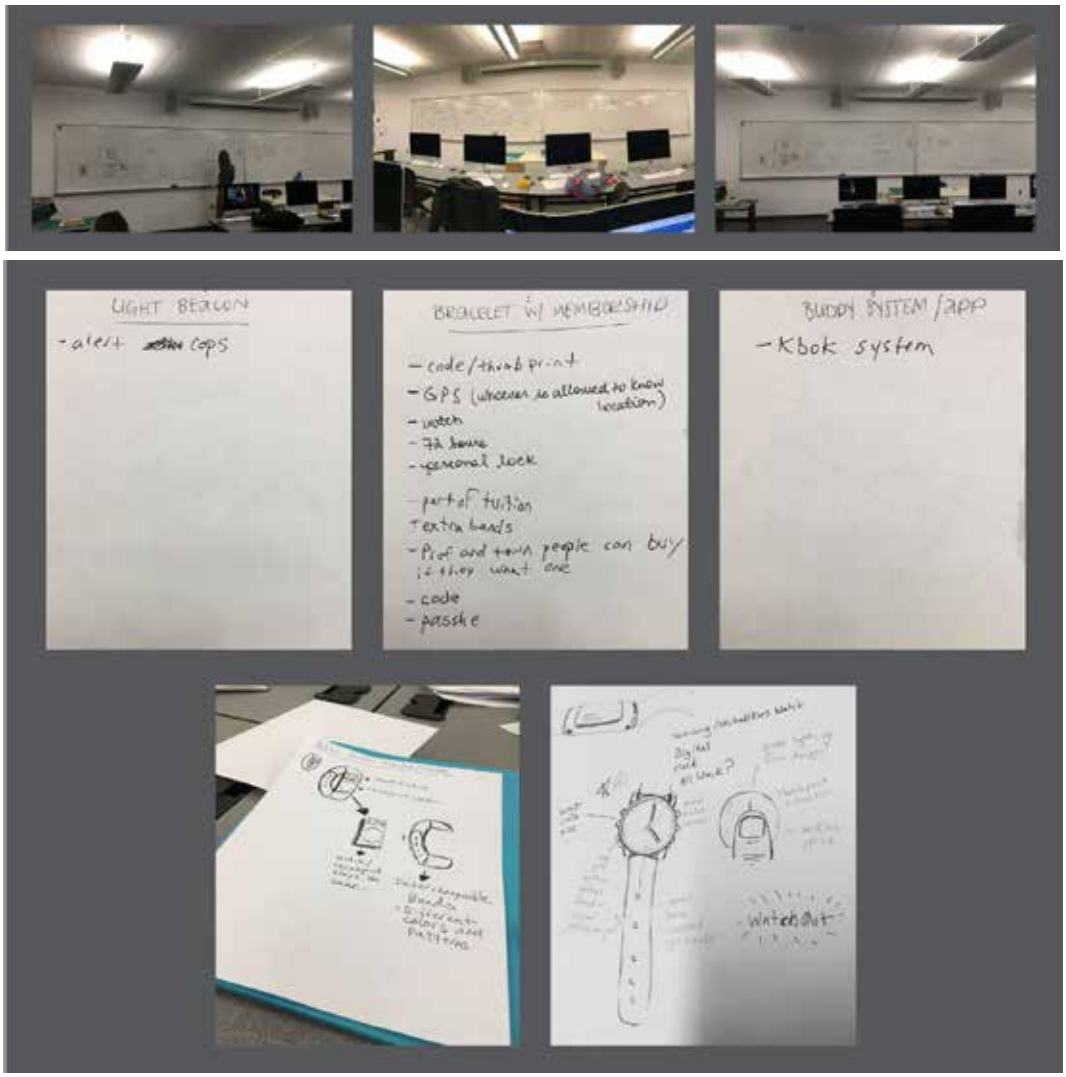
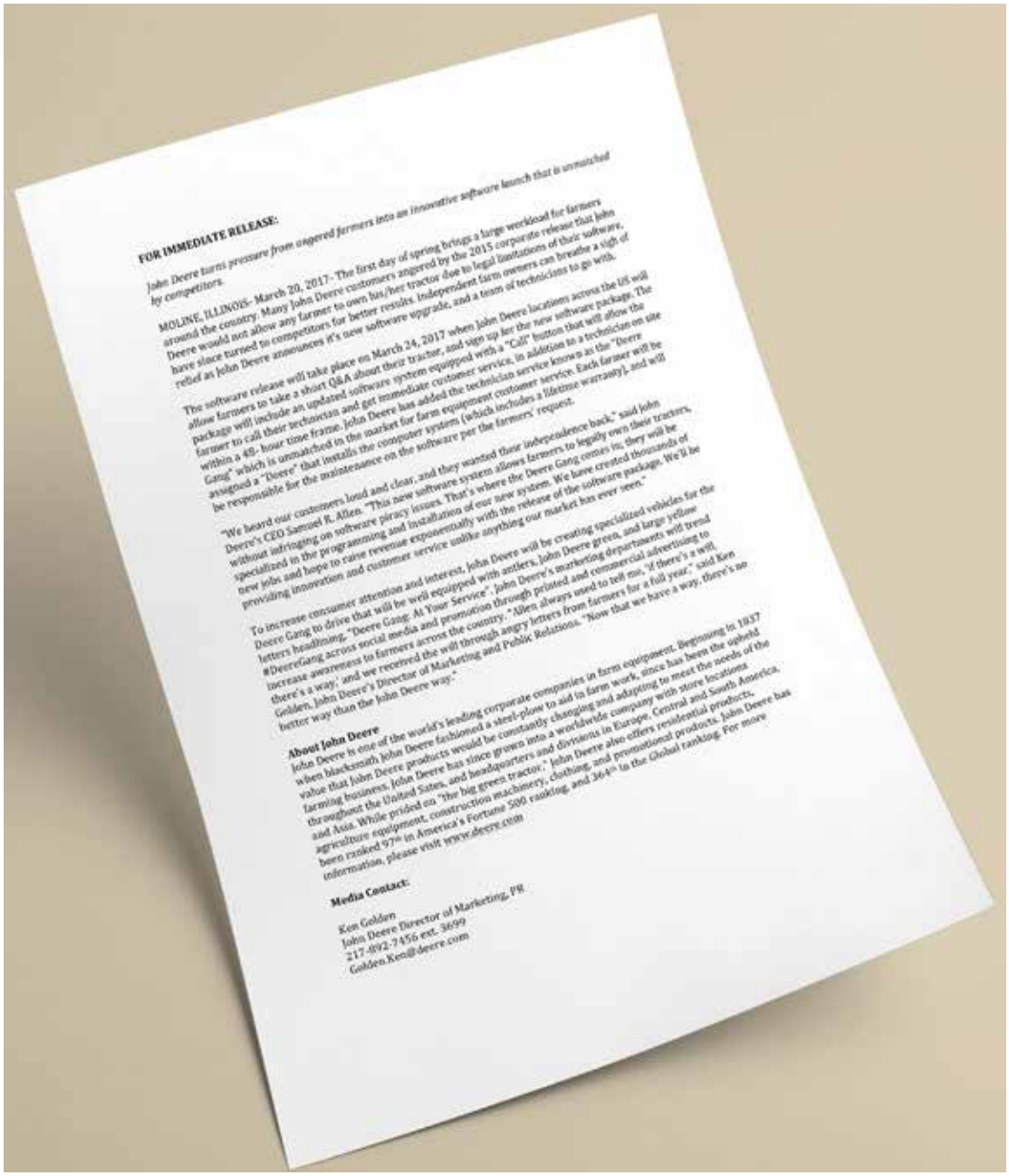


Fig. 7-8: Brainstorming solutions to a campus safety problem.
Images: Summer Doll Myers



FOR IMMEDIATE RELEASE:

John Deere turns pressure from angered farmers into an innovative software launch that is unmatched by competitors.

MOLINE, ILLINOIS- March 20, 2017- The first day of spring brings a large workload for farmers around the country. Many John Deere customers angered by the 2015 corporate release that John Deere would not allow any farmer to own his/her tractor due to legal limitations of their software, have since turned to competitors for better results. Independent farm owners can breathe a sigh of relief as John Deere announces it's new software upgrade, and a team of technicians to go with.

The software release will take place on March 24, 2017 when John Deere locations across the US will allow farmers to take a short Q&A about their tractor, and sign up for the new software package. The package will include an updated software system equipped with a "Call" button that will allow the farmer to call their technician and get immediate customer service, in addition to a technician on site within a 48- hour time frame. John Deere has added the technician service known as the "Deere Gang" which is unmatched in the market for farm equipment customer service. Each farmer will be assigned a "Deere" that installs the computer system (which includes a lifetime warranty), and will be responsible for the maintenance on the software per the farmers' request.

"We heard our customers loud and clear, and they wanted their independence back," said John Deere's CEO Samuel R. Allen. "This new software system allows farmers to legally own their tractors, without infringing on software piracy issues. That's where the Deere Gang comes in; they will be specialized in the programming and installation of our new system. We have created thousands of new jobs and hope to raise revenue exponentially with the release of the software package. We'll be providing innovation and customer service unlike anything our market has ever seen."

To increase consumer attention and interest, John Deere will be creating specialized vehicles for the Deere Gang to drive that will be well equipped with antlers. John Deere green, and large yellow letters headlining, "Deere Gang: At Your Service". John Deere's marketing departments will trend #DeereGang across social media and promotion through printed and commercial advertising to increase awareness to farmers across the country. "Allen always used to tell me, 'if there's a will there's a way,' and we received the will through angry letters from farmers for a full year," said Ken Golden, John Deere's Director of Marketing and Public Relations. "Now that we have a way, there's no better way than the John Deere way."

About John Deere

John Deere is one of the world's leading corporate companies in farm equipment. Beginning in 1837 when blacksmith John Deere fashioned a steel-plow to aid in farm work, since has been the upheld value that John Deere products would be constantly changing and adapting to meet the needs of the farming business. John Deere has since grown into a worldwide company with store locations throughout the United Sates, and headquarters and divisions in Europe, Central and South America, and Asia. While prided on "the big green tractor," John Deere also offers residential products, agriculture equipment, construction machinery, clothing, and promotional products. John Deere has been ranked 97th in America's Fortune 500 ranking, and 364th in the Global ranking. For more information, please visit www.deere.com

Media Contact:

Ken Golden
John Deere Director of Marketing, PR
217-892-7456 ext. 3699
Golden.Ken@deere.com

Fig. 9: Writing a press release helps to clarify whether the idea is newsworthy.
Image: Megan Witt

THE RESULTS HAVE BEEN EXCITING.

Student Adam Noone came up with this useful invention that would be hypothetically created in collaboration with Polar USA (maker of fitness watches) and Google. Name “Peripheral” (Fig. 10) it consists of a watch-like wristband for the child, and a paired app for the parent’s phone, as a solution for busy parents to enable more free-roaming outdoor play. “Peripheral is the best way to keep an eye on your children while multitasking. Using GPS technology, Peripheral allows you to track the locations of your children while allowing them freedom to play.”

One of the most difficult things for college students to do is to imagine the wants and needs of people that are different in age, life stage, gender, privilege, etc. For some reason, approaching assignments as problems in search of solution rather than “ads” helps broaden their perspective and enable more interesting solutions. For this project, not only did Adam design an interesting app, he developed a distinctive logo and look for the video and the product itself.

Fig. 10: “Peripheral” app launch video.
Image: Adam Noone
Winner, Graphis New Talent Annual: Gold (2017)
See the full video at **https://vimeo.com/163949664**

The next example of story-doing is a “passion project” for Fed-Ex, that focuses on the company's missions to find ways to help better our world (and to overcome a major corporate PR problem: wasted cardboard boxes). In this clever solution, Fed-Ex would partnered with multiple other cause-driven companies to support everything from pets in need of rescue, to struggling parents who need baby supplies, all while simultaneously recycling boxes.

Once they identified the problem (cardboard waste) the students quickly thought of many possible solutions. The breakthrough came when they realized that FedEx could offer their resources to back ALL the charities rather than narrowing the solution to one particular cause.

For this video, the students told their story in a cut-paper, stop-motion style of animation.

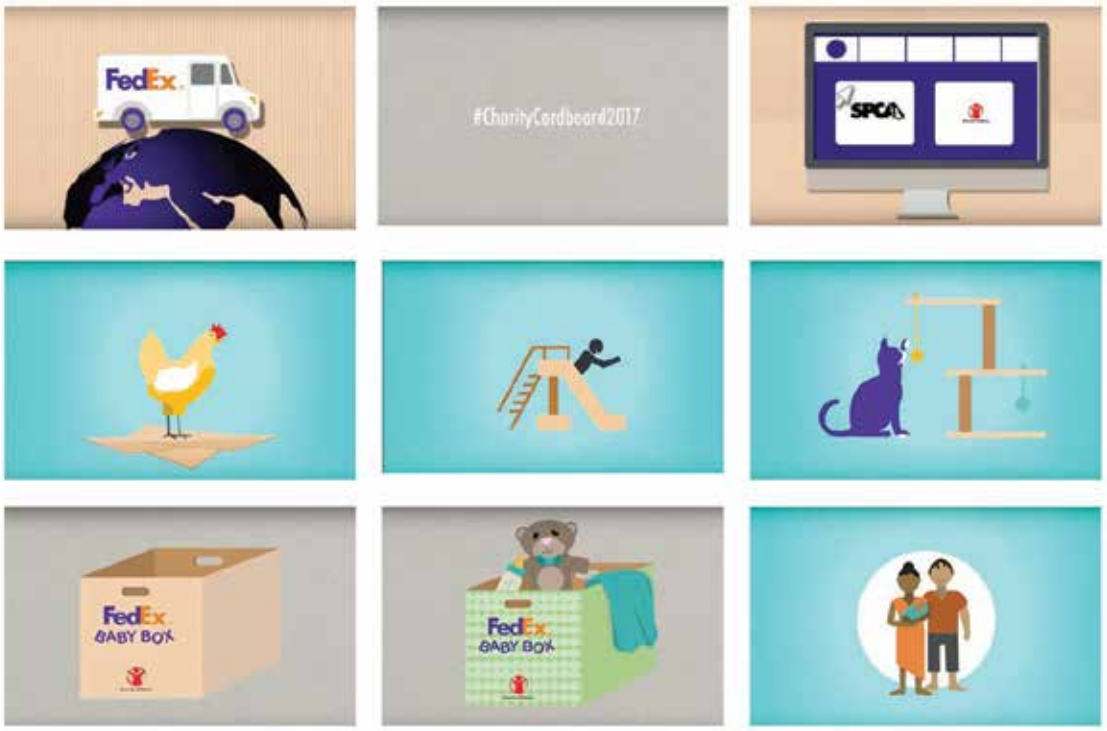


Fig. 11: “Fedex Charity Cardboard” commercial
Image: Vicki Norman and Becky Macdonald
Winner of Graphis New Talent Annual: Gold (2017)
See the full video at **https://vimeo.com/193377868**

Another student solution that deals with postconsumer waste in a clever and practical way was “The Pepsi Lock Bottle” (Fig. 12). This reusable, refillable bottle was invented by seniors Phil Gemmell and Shannon Cowie.

The bottom of each bottle would feature a beveled Pepsi logo that acts as a key, which unlocks paired vending machines. When unlocked, the machine vends a premeasured serving and enables customers to mix their own flavors. This simple invention could let Pepsi start a major trend, be a better corporate citizen, and reduce global plastic waste.

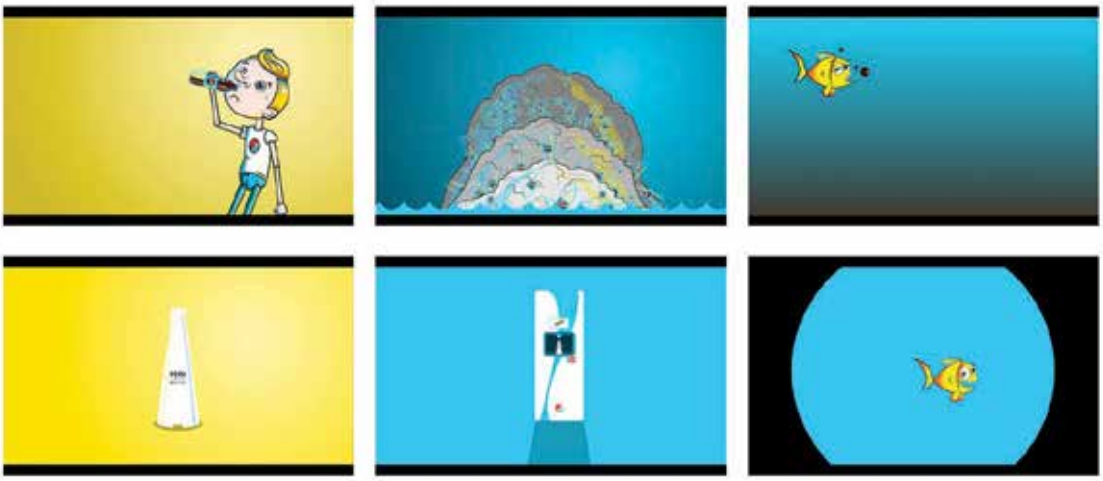


Fig. 11 Pepsi Lockbottle
Image: Phil Gemmel and Shannon Cowie
Winner of Graphis New Talent Annual: Gold (2017)
See the full video at **https://vimeo.com/205316950**

Increasingly, companies are investing in publicizing their corporate social responsibility work for charitable causes. But some students chose to take on a purely nonprofit organization or social cause rather than a corporate message. The problem-solving approach could be applied in creating messages for government organizations, social media posts for nonprofits, or public service announcements from media organizations.

One team took on the current debate over vaccinations. “Get Factsinated” takes a neutral approach to the vaccination question by acting as an informative campaign. This infographic video presents facts and situations suggesting what happens when people vaccinate, as well as what happens when they don't.

Fig. 12: "Get Factsinated"
Image: Pat Coyle
Winner of Graphis New Talent Annual: Gold (2017)
See the full video at **https://vimeo.com/193396960**

Taking on a large project in a large group:

For our first attempt at using the Storydoing process, we had students pair off in teams of two, but were surprised by their willingness to work together as one large group and the productivity of shared brainstorming sessions (as would happen in a studio or Charette situation).

So, for another course section that had an unusually close group, and a small class size of seven students, the group discussed various problems and options and chose to work together as one large cohesive team.

As always, the problem for team projects is twofold – a) scheduling time for group work and b) figuring out how to assess the students as a team. The first obstacle was solved by accomplishing most of the planning and ideation time during class studio hours, as well as delegating out-of-class tasks and communicating via a class Facebook page. Tasks were divided according to students talents and interests, and the final project received both individual and team points.

Maria Scileppi is the Director of 72U, the Los Angeles advertising agency 72andSunny's creative residency program. "72U is a 12-week program designed to take participants to the next level creatively and professionally while making things that matter in culture." Speaking at the 2016 OneClub Education Summit, Scileppi identified the two most important qualities for creative employees: rapid problem-solving and the ability to work as part of a team.

The seven-person collaboration in class is an accurate replica of a real-world project team. The problem the students settled on solving also meets the 72U goal of "making things that matter in culture." The tech-based solution is based on one class member's actual experience of calling the campus police when confronted with a late-night walk home alone, and hearing that the police can't do anything to protect pedestrians.

Their script reads "Students walking home alone or to their car at night should not feel endangered. If you have ever felt threatened, or experienced a twisting feeling in your gut on your nightly walk home, your solution is GooglePal. This campaign partners the Pennsylvania State System of Higher Education with Google to introduce a student safety watch at college campuses throughout Pennsylvania. The watch ensures students get home feeling secure and unharmed."

Fig. 13: "GooglePal"
Image: Ciara Sweeney
Illustrations by: Ciara Sweeney, Alexis Manduke, Brandon Cody, Taylor Kreamer, Luda Ronky, Alyssa Tooley and Morgan Mahoney
Animation by: Ciara Sweeney and Luda Ronky
See the full video at **https://vimeo.com/214732276**

AN UNCONVENTIONAL COMPETITION – AND UNCONVENTIONAL SOLUTIONS

In January 2017, a new advertising competition for students (snarkily named "the Young Shits Awards") was launched (see youngshits.com). Each month, a young creative at a prominent agency creates an assignment, posts a brief online, and judges the entries, due the following month.

The fast-paced turnaround mimics the pace of a real agency assignment, and the prize is an interview and mentoring session with the judge(s). One first prize (face to face interview) and two runner-ups (online mentoring and portfolio review) are chosen each. In June 2017, on our first try at entering the competition, two Kutztown students nailed the second place prizes.

The competition brief itself is evidence of the shift towards "storydoing": the assignment was to "create an anti-Muslim-Ban activation based around a product innovation." In advertising lingo, this means "Invent a new product that will motivate a person to take action against, or raise attention about, the Trump administration's Muslim Ban."

The brief further explained:

> "Choose any type product you want. It can be a cologne, item of clothing, an app—whatever makes sense. Just put an interesting, creative spin on it. You can also approach the functionality of the product any way you want—it could be designed specifically for use by people affected by the ban, or simply make the point that it's unjust. Obviously, we don't expect you to create the product yourself (though you can, if you're able), especially if it's complicated. Just show us:
>
> • A detailed write-up of what it is and how it works
> • Some images that show us what it looks like
> • An example or two of how you would promote it (e.g. a short video, posters, a mock-up of a website, etc."

In past eras, a competition to raise awareness about a social issue or cause would likely have asked students to create a poster, a television commercial, or a newspaper ad. Today, the goal is to create a product that is so newsworthy it becomes a viral sensation.

We took on the competition in our second semester Intro to Advertising Design class (3rd year students), coaching students through this somewhat challenging brief. Our process was:

1. Discuss and see examples of brand activation products and innovations.
2. Divide into teams. Student teams researched and presented information on
    a. The competition and previous winners.
    b. The actual wording of the Muslim Ban.
    c. Articles and statistics about the effect of the ban, including effects on families, on society, on immigrants, on non-Muslims, and on travelers.
    d. Muslim contributions to the United States economy, society, history, etc..

3. As a class, we made a large brainstorming sheet full of reasons to oppose the ban, from emotional appeals like “it divides up parents and children” to factual arguments like “1 out of 7 doctors in America are Muslim.”
4. With a partner, students came up with 3 specific reasons to oppose the Ban.
5. Using those reasons, each team developed 10 ideas for products, described in a sentence or two.
6. Students presented ideas to another team and to professor and narrowed to best 3.
7. Students wrote more detailed descriptions and did sketches of 3 ideas.
8. The single best idea from each student was selected.
9. A full description and finished rendering of product was done.
10. Students then sketched 10 thumbnails of ways to promote their new products.
11. The best advertising ideas were also rendered as finished mockups.

The two winning entries are shown below.

“The M-Ban Sneaker” was developed by Leo Zelino. Leo focused on the inconvenience the Ban places on airport travelers – whether they are Muslim or not. When the ban was enacted, people ended up spending hours in long lines in Customs and Immigration at airports worldwide (Reuters). Leo’s solution was to design a sneaker especially for unpredictable international traveling. The “M-Ban” sneaker contains an expandable, lightweight folding blanket made of micro-thin cloth for sleeping in airports. It has extra cushioning for standing in long lines. It even contains a sample of 100% United States dirt in the sole so you are technically “never off of American soil. “

Fig. 14: Sneakers for airports
Image: Leo Zelino

The other winning entry was the “Doctor Me” kit by Brian Almond. The kit is a parody product meant to illuminate the fact that one out of every seven doctors in the United States is Muslim. This helpful product allows people who may find themselves short of a doctor, due to the immigration Ban, to doctor themselves! Instructions for self-operating, surgical tools, bandages, and even self-administerable anesthetics are included.

One can imagine the coverage by local newscasters as people discover this product on shelves across the country, and the amount of free media the ensuing commentary would earn.

This month’s brief is to create a campaign that encourages “nap positivity” – to change American attitudes towards napping, which has been proven to have many health benefits. We can’t wait to see what the students come up with.

Fig. 2 D.I.Y. Doctoring Kit
Image: Brian Almond
See the assignment and projects at: http://www.youngshits.com/

THE STUDENT EXPERIENCE

So, how did the students react to this new way of thinking about advertising and media, and new approach to communication solutions?

"The Storydoing project allowed us to try and create something beyond a simple statement or a narrative experience. Deciding upon a problem proved to be more challenging than arriving at a solution." - Andrew Cygan

"Coming up with a problem teaches you to think in ways you wouldn't normally. The simple fact that we are tasked to think about problems outside of our own lives is new. It's hard to put yourself in that mentality but doing that effectively makes for great solutions and strong concepts." - Adam Noone

"The Storydoing project is a twist on what we are familiar with. Instead of building a brand image through traditional ads we had to convey something that would create an action that could potentially generate free media impressions." - Heather Zabroski

"For a concept to encourage action, we as a group needed to list possible reasons a viewer would be willing to participate. Problems, solutions and then benefits to create the overall positive appeal to the brand." Vicki Norman

"Creating a campaign through the act of 'story-doing' vs. storytelling required me to adapt to a completely different creative mindset than I was used to. Identifying a problem to which there are very few solutions is hard as it is; coming up with a solution to said problem is harder, but even more rewarding. I think the key to making a successful campaign is making the audience feel like they're part of the solution too." Patrick Coyle

OK, so, fun in the classroom. But does it work "on the job"?

Anecdotally, as we check in with our graduates who are working in the agency world, we have heard of the following briefs from clients:

• Designer Amanda Schatz at Quaker City Mercantile was recently charged with drawing attention to Hendricks Gin – last year's invention by the brand was a giant, cucumber-shaped blimp that makes appearances at events. The team created Hendrick's playing cards, a picnic-friendly British Gin-delivering Taxi, a Penny Farthing bicycle riding experience, and a program of tastings and special menus at restaurants, which all dovetail with Hendrick's positioning as "an unusual pairing of cucumber and rose."

• Art Director Corinne Bolanos at Vayner Media recently created a social campaign and accompanying TV commercial for the Girl Scouts to reposition the benefits of being a leader.

• Graduates Nate Renninger and Wyatt Glennon recently designed a custom interactive tour for Blue Cadet Interactive that incorporated drone footage, wayfinding materials and a dedicated app for the Bethlehem Steel Stacks historic site.

• Art Director Danielle McShea helped designed the name, brand and even a custom copper-tubing bathtub-style bar tap to launch “Taft’s” restaurant in Cincinnati, named for President Howard Taft, who allegedly got stuck In the White house bathtub.

As creative whiz Alex Bogusky writes, “The old rule was to create safe, ordinary products and combine them with mass marketing. The new rule: create truly innovative products and build the marketing right into them. Today, it's within the product itself that a brand has the most leverage with consumers. So where should companies start? They must take their brands back to their foundations and realize that the message is not the product, but that the product is the message.” Students enjoy thinking like inventors, brand-builders, and social entrepreneurs.

“Having a clear and distinctive story is critical in building a brand today. However, there's a distinction to be made between broadcasting your story--storytelling--and living your story, or story*doing*. Understanding the difference between the two and making that shift toward the latter is fundamental to building a business.” (Ryan)

We believe that our new way of teaching advertising seminars by using the storydoing approach strengthens their skills in teamwork and problem-solving, raises the conceptual level of the projects, and that our students will be able to use these skills in everything from branding themselves and their own portfolios, to work for paying clients and – who knows? – by “doing” so, they just may change the world!

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6 Rediscovering the Visual Intersections of Graphic and Fabric Design

Moon Jung Jang
University of Georgia

Erin Moore
University of Georgia

Abstract

This case study reflects an effort to understand a design approach using handcrafted methods in graphic design and Japanese textile methods. It focuses on rediscovering the relationships between graphic and fabric design in design education. This study was set up in a graphic design course that introduced various ways of creating images by utilizing different media. Specifically, it aimed to understand how an image could be translated into graphic form and textile and to teach fundamental design principles and the interactions between colors in patterns.

In the course of translating images, this study was developed in stages. First, the students chose objects and analyzed them in terms of their actions, expressions, and behaviors. Then, while the students explored motifs, they were introduced to a dyeing method, Shibori, including techniques that involved folding, stitching, and binding a fabric. Next, they explored dye-colors and created textile patterns by repeating the motifs. In this stage, students were encouraged to achieve a variety of hues in the desired proportions. After making the textile, they also explored digital tools such as Adobe Illustrator to translate the motifs into digital compositions. As a result, the students were able to compare two different ways of creating patterns: hand-dyeing and digital tools.

The design outcomes resulted in hand-made, abstract, and illustrative patterns, gradient color interactions, and textural effects. The best results demonstrated empathy for the behaviors of the objects and the benefits of each process. In terms of design education, this study allowed both educators and students to understand the meaning of craft and its process and to embrace imperfections as part of the design. Finally, it allowed them to practice creative ways to integrate content, form, and materials by rediscovering the intersections between graphic and fabric design.

7 Creating a Student Run Pop-Up Shop

Karen Kresge
Kutztown University

Abstract

In college, design students constantly make things that are the product of their own creative vision. Once they enter the field, their focus becomes completely client driven and far less imaginative. I worked with a small group of graphic design students to start a pop-up market called "The Rais." In Pennsylvania Dutch, this means "the journey." The idea is to teach young designers at the start of their journey that they should be making things that will satisfy their own creative aspirations and allow them to develop techniques and skills. They learn that there is an appreciation for highly original and creative work, and there are people who will pay for the beautiful things they make.

Most of the work in The Rais is hand made by students: screen printed t-shirts, tote bags, hand made buttons, letterpressed sketchbooks, coasters and one-off objects. Posters, postcards, and greeting cards are printed in our service bureau. Not only do the students design and produce the beautiful work that we sell, they also source the materials, create a budget for the finished pieces, price the work and man the shop. The shop itself was designed and branded by students. It pops up at important department events, preview days, and before holidays in several locations across campus. We hope to start an online store. The students have learned surprising lessons about marketing, branding, pricing and managing money that they would not have learned in the classroom. The pride and satisfaction that they take away from the experience makes The Rais the beginning of a life-long journey of making, learning and creative fulfillment.

This presentation will give design educators the tools to be able to create a profitable pop-up shop with their own students. I will walk them through our process from conception through branding, building the store, creation of merchandise, curating and quality assurance, sourcing materials, making sales, book keeping, marketing and the logistics of maintaining inventory and storing the displays.

8 Web + Typography: Weaving Together Tradition and HTML/CSS

Laura Franz
UMass Dartmouth

Abstract

Professional designers solve communication problems. Successful designers think and make. Thus, design educators face a challenge: teach the traditional communication theories and practices from our field, cover the new skills and technologies of our ever-changing profession, and do it all within a two- or four-year timeframe.

One way I face this challenge is to weave together tradition and technology.

For example, in a web typography class, students read and discuss formative writings from the field (Warde, Tschichold, Keedy, Jacobs, Kalman, Müller-Brockmann, Weingart, McCoy, Vienne) supplemented with visual examples of work related to each article/essay. Meanwhile, students design three versions of their resume (classical, swiss modernist / international style, new wave / postmodern) — responding visually to the writings.

Students then build each of the three resumes in HTML/CSS, creating responsive pages that change layout based on browser/device.

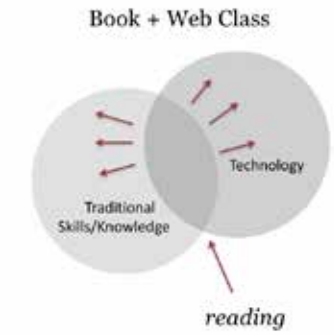
Reading theory while designing for print provides a vocabulary for discussing the connections between the theories and designing for screen. Building web-based versions of documents designed for print provides the opportunity to discuss differences (orientation, type size, fluidity of layout, sequencing of information, and so on) between the two media.

Finally, the assignment requires every student to stretch their comfort zone. They must make all three versions of the resume — even if an approach is "boring," "rigid," "too hard," or "not the way I do things."

I've taught the assignment for two years, modifying it to improve my students' experience. If this presentation abstract is accepted, I will share what has worked best for me in terms of: leading student discussion of the readings, helping students make connections between theory and their own typographic layouts, and preparing students for the HTML/CSS portion of the assignment. I will also show student work / results of the assignment.

Web + Typography: Weaving Together Tradition and HTML/CSS

Laura E. Franz, Professor, CVPA at UMass Dartmouth



Challenge

Design instructors face a challenge: teach the traditional communication theories and practices from our field, cover the new skills and technologies of our ever-changing profession, and do it all within the same two- or four-year time frame.

One way I face this challenge is to weave together tradition and technology.

In the past, I've looked for an area of overlap between the two, such as promoting readability. This "area of overlap" becomes a common theme used to help students apply skills learned in one area (e.g. print) to influence the other (e.g. web).

This approach worked well when I taught a book + web class. Students learned about grids, hierarchy, and other typographic systems in one medium, and applied them in the other. For example, when students learned to create typographic systems using h1, h2, and h3 in HTML and CSS, they understood systems of hierarchy (and paragraph styles in InDesign) much better!

Two years ago, in order to increase the amount of time spent on web design, my book + web class changed to a pure web typography class. My "area of overlap" method wouldn't work. Without the book project to reference, I couldn't let traditional skills naturally influence web skills (or vice versa).

I now have to weave tradition and technology together more tightly, flipping between the two almost every class period.

Theory + History

I start the semester with a 45-minute, super-condensed history of type. From the development of the movable type press, to the enlightenment, to the industrial revolution, to WWI and between the wars, to WWII and the migration of designers to NYC, to the rise of the personal computer and postscript printing, to usability design as a profession. This very broad overview of the field gives students a context for the readings assigned.

Students spend a couple of weeks reading and discussing formative writings from the field. Each essay is supplemented with a handful of visual examples discussed or referenced by the author. The 2016–17 reading list (in order they were assigned):

Tibor Kalman, et al, *Good History, Bad History* (1991)

Beatrice Warde, *The Crystal Goblet or Printing Should be Invisible* (1932)

Jan Tschichold, *Principles of The New Typography* (excerpts) (1928)

Jeffery Keedy, *The Rules of Typography According to ~~Crackpots~~ Experts* (1993)

Josef Müller-Brockmann, *Grid and Design Philosophy* (1981)

Wolfgang Weingart, *My Way to Typography* (1960s and 70s excerpts) (2000)

Katherine McCoy with David Frej, *Typography as Discourse* (1988)

Véronique Vienne, *Soup of the Day* (excerpts) (1995)

Karrie Jacobs, *On Typishness: This is My Theory. My Theory is Wrong.* (1989)

Making

At the same time students are reading and discussing, they are also making. They write and design three versions of their resume: a classical version, a swiss modernist or international style version, and a new wave or postmodern version.

Students then build their resumes in HTML/CSS. This requires them to shift their thinking from paper to screen, as well as practice using their new skills writing syntax for the web. Each student builds all three resumes, creating responsive pages that change layout based on the browser/device they are viewed on.

Make Connections

The point of weaving together reading and making, print and web, is to help students see connections. Reading theory while designing for print provides a vocabulary for discussion. For example, we still talk about the different ways people read:

Reading leisurely: what is a "text to frame" layout, and how does it help readers (placement of hands/thumbs while reading); reading closely means hierarchy can have low contrast; Warde's analogy of a "clear-glass window" that allows the reader to see through the text to the story.

Skimming text: how can white space be used as an element in the page (no longer relegated to the frame); how white space, high contrast hierarchy, and asymmetry can be used to guide the eye; Tschichold's theory that there was too much to read in 1929, so the typographer's job was to use these elements to guide the eye!

il/legibility: some typographers experimented by pushing the limits of readability, yet found text was still readable; others claimed, "if you can't read it, it's not for you"; Jacob's statement that in the world of desktop publishing, anyone can make good type. Precision is an amateur's game.

Finally, building web-based versions of documents designed for print provides the opportunity to discuss differences between the two media: the availability of print vs web fonts, "page" orientation (tall to wide to tall again), type size (9 pt vs 15 px), fluid vs static layout, sequencing of information, and so on.

Unexpected Benefit

I created this assignment to meet goals I had for the course. What I didn't expect was how much this project requires every student to stretch their comfort zone. Everyone must make all three versions of the resume — even if they consider an approach "boring," "rigid," or "not the way I do things."

What I've Learned: Readings

I've found over the years (I included readings in my book + web type class too) that it's valuable to include more voices from the field. Even if it means assigning excerpts instead of full texts; students need to read/hear varied opinions.

To promote discussion, I provide a Q&A sheet with every reading. I've learned to avoid open-ended, opinion-type questions. They are too vague. For example, if I ask "tell me something you learned from this reading?" or "what was the most interesting point the author made?" the vast majority of answers will come from the first page of the reading.

On the other hand, if I ask a very specific question, such as "Why did Weingart start experimenting on the letterpress?" there is not much to discuss. The answer can be found in the text and copied onto the answer sheet. Specific questions help me know if a student has read the text, and it gives them clues about what I think is important, so I collect the answers. But we don't discuss them.

The best kinds of questions are focused, but don't have a right-or-wrong answer. My students actually respond to these kinds of questions, chiming in with their opinions! Examples include:

> "What do you think Müller-Brockmann means by 'universal validity'?"
>
> "McCoy and Frej say that 'no longer are there one-way statements from designers.' Do you agree that previous approaches to typography have been 'one-way'? Or do you think that previous approaches also had an element of 'dialogue between the graphic object and its audience'?"

These kinds of questions require students to think about a specific big idea in the reading. And, since I always add "support your argument with examples from the text(s)"the questions require students to back up their answer.

What I've Learned: Helping Students Connect Making and Readings
The absolute most valuable change I've made to this class over the last two years: I show students what the authors are writing about. Design students are visual learners. Seeing examples helps them understand in a way discussion alone can't.

What I've learned: Technology
When preparing students to build their resumes in HTML & CSS, I've found it helps most to: introduce HTML/CSS in small steps (to start, give them tasks they can finish in one sitting); build skills sequentially (require students to "go back" and review earlier tasks as needed on their own to promote self-sufficiency); and start early. Learning syntax is like learning any foreign language. It takes time and repetition.

When the students start building their responsive resumes, it's the first time I ask them to take all the smaller skills they've learned and put them together. Most feel like they *don't know anything* and want to give up. Part of the learning process is trusting they can do it. I give them a full four weeks to build only three pages (note: the post-modern page can be image-based). They need the time to get confused, figure out the problems, and move forward with the pages.

readings print resumes web exercises	web resumes	final project
6 weeks	4 weeks	5 weeks

Final Project
In the end, students finish a more complex project (research, writing, designing building) in almost the same time it takes to build the resumes. Currently, the topic is student choice. The only requirements: it must relate to typography in some way, be at least two pages (so they can learn how to style two pages from the same CSS file), be responsive, and have good type.

9 Fusing Hand and Hi-Tech for Hi-Touch

Denise Anderson
Kean University

Edward Johnston
Kean University

Abstract

Graphic design academic programs must respond to contemporary society's relentlessly growing need for digitally designed solutions. According to the Creative Group's 2017 Salary Guide, starting salaries will increase this year by more than 5% for visual designers and more than 6% for mobile and UX designers. This poses a challenge to design educators, whose students necessarily embrace an ever-changing array of technical solutions, which can lead to distraction, stress, and loss of creativity. Surrounded by multiple devices that inhibit their creative workflow, students are relentlessly tempted to multitask, which can decrease productivity and increase stress, according to recent studies.[1] "Highly physiologically arousing emotions associated with stress" rouse our instinct "to stay away from excitement and seek comfort instead,"[2] depressing, rather than fostering, creative thinking.

Two ways to provide much-needed relief are drawing and listening to music. As discussed by Robin Landa in a recent *HOW* article, "Drawing allows you to disappear into the act of creation," and "sustained focus while drawing acts to quiet any internal noise.[3]" Dedicated sketching sessions can enable a designer to focus on growing a concept without the noise of multitasking. The second, listening to music—especially beloved music—is a proven and well documented way to relax mind and body, slow heart rate, lower blood pressure, and decrease stress hormone levels.[4]

Student Marc Rosario has created a mobile app experience (currently at the designed prototyping phase) that aims to combine these two stress-releasing options to increase creativity. "Sharpen" boosts creativity through drawing, sketching, and listening to music. Brainstorming an idea within the timeframe of a song, users can take pictures of their process, upload the work to Sharpen or other social media channels, and share or solicit feedback of their work.

This paper presentation provides a two-pronged approach to this challenge of fostering creativity while responding to industry needs. It focuses on the curricular value of fusing "hand" skills outside of the computer (focused sketching, research, user testing, surveys, written reflections, and brand development) with "hi-tech" digital design (brand identity, mobile design, and prototyping). Also, it explores, through example, the "hi-touch" results of that fusion, using Marc's app prototyping project, which celebrates hand skills and entices young people to draw and sketch more frequently.

[1] http://www.nytimes.com/2008/10/25/business/yourmoney/25shortcuts.html

[2] http://sharpbrains.com/blog/2013/11/26/the-link-between-brain-stress-and-creativity/

[3] http://www.howdesign.com/design-creativity/drawing-exercises-sketch-creativity-happiness/

[4] http://psychcentral.com/lib/the-power-of-music-to-reduce-stress/

Fusing Hand and Hi-Tech for Hi-Touch

Denise Anderson and Ed Johnston, Assistant Professors
Robert Busch School of Design, Michael Graves College, Kean University

KEYWORDS:
Graphic design, mobile app, UI/UX, VR/AR, portfolio, identity design, iteration, prototyping, motion graphics, proto-portfolio, design careers, student success

INTRODUCTION

As design educators, we must pay careful attention to what our students will do after they leave the classroom. Guiding new designers into the professional world, where they can build meaningful and sustainable careers, is a critical part of our mission, and we accomplish it by providing the tools and practices that will most effectively prepare them to enter the workforce in its current state. With the rapid advancements in the design industry, and in media and technology, this goal has become increasingly challenging to achieve. How can educators keep pace with this accelerated evolution, while providing a positive experience and a relevant program that fosters students' creativity and ensures they are highly employable?

Graphic design academic programs, and the educators who devise them, must be vigilant and proactive about responding to contemporary society's relentlessly growing need for digitally designed solutions. According to the Creative Group's *2017 Salary Guide*[1] for creative and marketing professionals, starting salaries will increase this year by more than five percent for visual designers and over six percent for mobile and User Experience designers. This has led some programs to modify their curricula and to offer a larger array of technology courses, specifically in mobile design, User Interface/User Experience (UI/UX), and Virtual Reality and Augmented Reality (VR/AR).

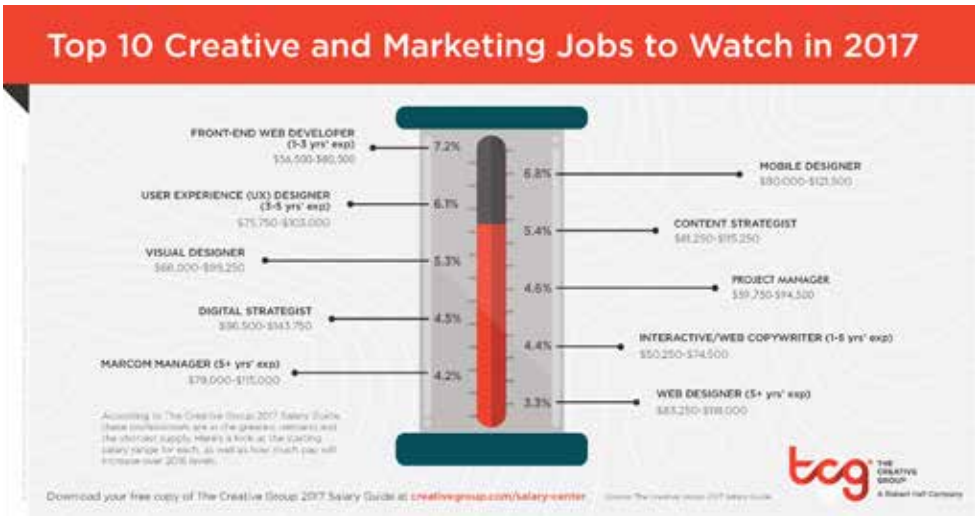


Figure 1: The Creative Group's *2017 Salary Guide*: https://creativegroup.com/salary-center

1 "2017 Salary Center for Creative and Marketing Professionals." *Robert Half*. The Creative Group, 30 Mar. 2017. Web. 09 June 2017.

Another way design educators can stay current on the changes happening in the professional world of design is to keep track of industry trends. The Creative Group's annual salary guide is an industry resource that also provides guidance on compensation and hiring, based on business and social influences.

Additionally, relationships that educators develop with creative recruiters, alumni, and practicing industry professionals serve as a valuable stream of continuous feedback. Those who actually assess, hire, and promote students in the professional world provide invaluable insights, which help design institutions improve and strengthen their programs. Professional and design educator conferences and events offer continuing opportunities and venues for learning about trending practices. At the 2017 One Club's Educator's Summit, Advertising Design Professor C.J. Yeh from FIT presented on how a growing number of companies are using artificial intelligence (the capability of a machine to imitate intelligent human behavior[2]) to design logos (https://www.logojoy.com/) and to market and advertise their goods (https://www.alibaba.com/). Both of these scenarios either eliminate or redefine design jobs[3] and further challenge design educators' ability to continuously foster their students' creativity while providing the practical tools and technical know-how to stay relevant and competitive in a fast-paced, technology-driven world.

This paper provides a two-pronged approach to the challenge of fostering creativity while responding to industry needs. It focuses on the curricular value of fusing "hand" skills outside of the computer (focused sketching, research, user testing, surveys, written reflections, and brand development) with "hi-tech" digital design (brand identity, mobile design, and prototyping). Also, it explores, through example, the "hi-touch" results of that fusion (an authentic brand experience), using student projects that combine a study of traditional design and technology. By working together, and sometimes with other faculty or professionals, Assistant Professors Denise Anderson and Ed Johnston from the Robert Busch School of Design have developed "Proto-Portfolio," a process around a single, straightforward objective for students: to create projects so believable that people think they are real (or should be).

BACKGROUND

An understanding of the demographic of Kean University students, as well as the disparate but complementary expertise of Anderson and Johnston, provides a context for the development of this process.

Kean University is a four-year state liberal arts institution located in Union, New Jersey. The Michael Graves College (MGC) consists of two schools: the Robert Busch School of Design (RBSD) and the School of Public Architecture (S of PA). Within the RBSD, there are four professional programs in the practice areas of BFA Advertising Design, BFA Graphic Design, BFA Interior Design, and Bachelor of Industrial Design. In spring 2017, approximately 163 advertising and graphic design majors were enrolled in these programs; 65 percent of those students transferred in from two-year colleges. The RBSD employs three full-time faculty for its Advertising and Graphic Design programs.

2 "Artificial Intelligence." *Merriam-Webster*. Merriam-Webster, n.d. Web. 09 June 2017.

3 Beer, Jeff. "Why Creatives Shouldn't Be Afraid Of Artificial Intelligence." *Fast Company*. Fast Company, 30 July 2016. Web. 09 June 2017.

Denise Anderson joined the Robert Busch School of Design faculty as a full-time professor in 2013, after teaching as an adjunct instructor in the department for fifteen years. She serves as the senior portfolio coordinator for the School's graphic design program and teaches courses related to graphic design, branding, and identity design. Anderson's book *Stand Out: Design a Personal Brand, Build a Killer Portfolio, and Find a Great Design Job*, which she both authored and designed, was published by Peachpit Press in 2016. As a seasoned graphic designer, brand strategist, entrepreneur, and founder of the award-winning creative firm DesignDMA, Anderson brings to the classroom more than two decades of experience creating branding strategies and corporate identities for global financial services firms and a variety of start-up companies. Prior to establishing DesignDMA, Anderson served as the Director of Marketing Services at Pershing, a BNY Mellon company.

Ed Johnston is an award-winning designer and educator who creates engaging experiences with mobile and immersive technologies. As an assistant professor in the Robert Busch School of Design, Johnston teaches courses related to user experience, interactive design, and motion graphics. He offers more than a decade of experience infusing new technologies into higher education environments and collaborating with colleagues for student success. His continuing work on Augmented Asbury Park involves digitally reconstructing key historic landmarks on the Asbury Park boardwalk in New Jersey using augmented reality technologies. Johnston is directing multiple projects using VR/AR technologies at Liberty Hall Museum to enrich visitors' experiences with museum content. He has presented, published, and exhibited his creative work and research both nationally and internationally. Some recent highlights include presentations at TEDx Navesink, Design Incubation, ISEA, and the UCDA Design Education Summit.

OBJECTIVE

The objective—"to create projects so believable that people think they are real (or should be)," which students can use in their final senior-year portfolio—serves several important functions. Projects developed over time, with intense mentorship and guidance, and reworked and refined through a series of courses, make the critical transition from concept to believable outcome. Prospective employers see student work that reflects an admirable level of commitment from an enthusiastic young designer who has learned both to communicate with passion and to give careful attention to detail. Undergoing an experience that simulates what they will encounter in the professional world makes students highly marketable, and equips them with a demonstrable ability to develop an idea over multiple interactive touchpoints in the areas of print and digital.

METHODOLOGY

To guide students tasked with creating believable projects, Anderson and Johnston have developed what they call "Proto-Portfolio," a process that is defined by combining the terms "prototype" and "portfolio." Proto-Portfolio guides students to continuously validate and iterate their projects through a multi-course collaboration, with a special focus on developing integrated brand experiences for their final Graphic Design Portfolio course. The process includes these components:

Start with a class assignment. Typically, the most compelling projects are initiated from the final project assigned in Anderson's Identity course: "Develop a new business idea." By the time students begin this

project, they have already had 10-12 weeks of learning various ways to design brand identities (logos, brochures, websites) and know how to create a design strategy and develop a creative brief. Students are often driven by one of their life experiences to pursue a project—fusing their learned knowledge of identity design with a personal passion. Making this connection inspires students to take ownership of their project and become personally invested in its success. Former student Katrina Streisguth's Elite Care mobile app design was inspired by her mother, who works as a certified nursing assistant at a resident nursing facility. Katrina says: "My mom shared with me her first-hand insights on the challenges of staff and patient care. I wanted to do something to help the residents and make her job more effective."

Develop the same project in a secondary course. Students frequently come into one of Johnston's UI/UX or motion courses already equipped with a designed brand identity from Anderson's Identity course, and they go through the process of injecting a key technology touchpoint that will contribute to an integrated brand experience. Working within UI/UX, students create a concept for a mobile app or mobile website experience. Equipped with the knowledge they have acquired in Anderson's course, the students continue to research current statistics in their area of interest, to help establish an argument for why their app concept should exist. Students work through several rounds of prototyping, from low fidelity paper sketches of screens to high fidelity interactive experiences on mobile devices. Using their prototypes, students learn how to run both in-person and remote usability sessions, and they iteratively improve upon their initial designs. They also learn how to create a short informational video about their designed experience that communicates its value and articulates key interactions. Within Johnston's motion course or independent study, students regularly drive an animated or video-based storytelling touchpoint for their brand.

Refine the project in the final Graphic Design Portfolio course. Once a project has been validated and developed over a series of courses or guided independent studies, it is ready to further develop in Graphic Design Portfolio. At the RBSD, students are required to create four to five integrated campaigns in order to graduate. The rationale is that integrated campaigns demonstrate a student's broader ability to create stories through a branded experience, and show his or her aptitude for design thinking, technology, and other skills such as illustration, motion graphics, or videography. In addition to designing other touchpoints to complete the brand experience, students are taught how to present their work, and express who they are as designers. And, they learn to tell an authentic and empathetic story about their project.

THE PROTO-PORTFOLIO™ PROCESS

Proto-Portfolio is an approach that Anderson and Johnston have developed over time and now apply across all of the courses they teach. Placing emphasis on validation and iteration, the Proto-Portfolio process guides students to fuse non-computer "hand" skills with "hi-tech" digital design for "hi-touch" results. Students who embrace the process consistently produce projects that have the capacity to connect to a real audience because they are so believable.

Hand. Students begin the process by researching supporting data on their initial area of interest, defining current pain points, and identifying inspiration in connection with that area. These forays might

include some sketching, initial testing, a written reflection, and brand development. Delving into their area of interest and conducting a critical analysis of their subject matter helps students learn how to articulate a design problem so they can explore possible solutions and strategy effectively.

Hi-Tech. Next, students begin "hi-tech" iteration, working to solve their defined problems and developing experiences for their projects. These might take the form of digital prototypes, brand identities, motion pieces, or another form of interactive product. Through further user testing, presentation, and reflection, students create experiences that are refined and functional.

Hi-Touch. The refined experiences lead into a "hi-touch" phase, where distribution, storytelling, and presentation become essential to sharing and communicating the designed solution and strategy.

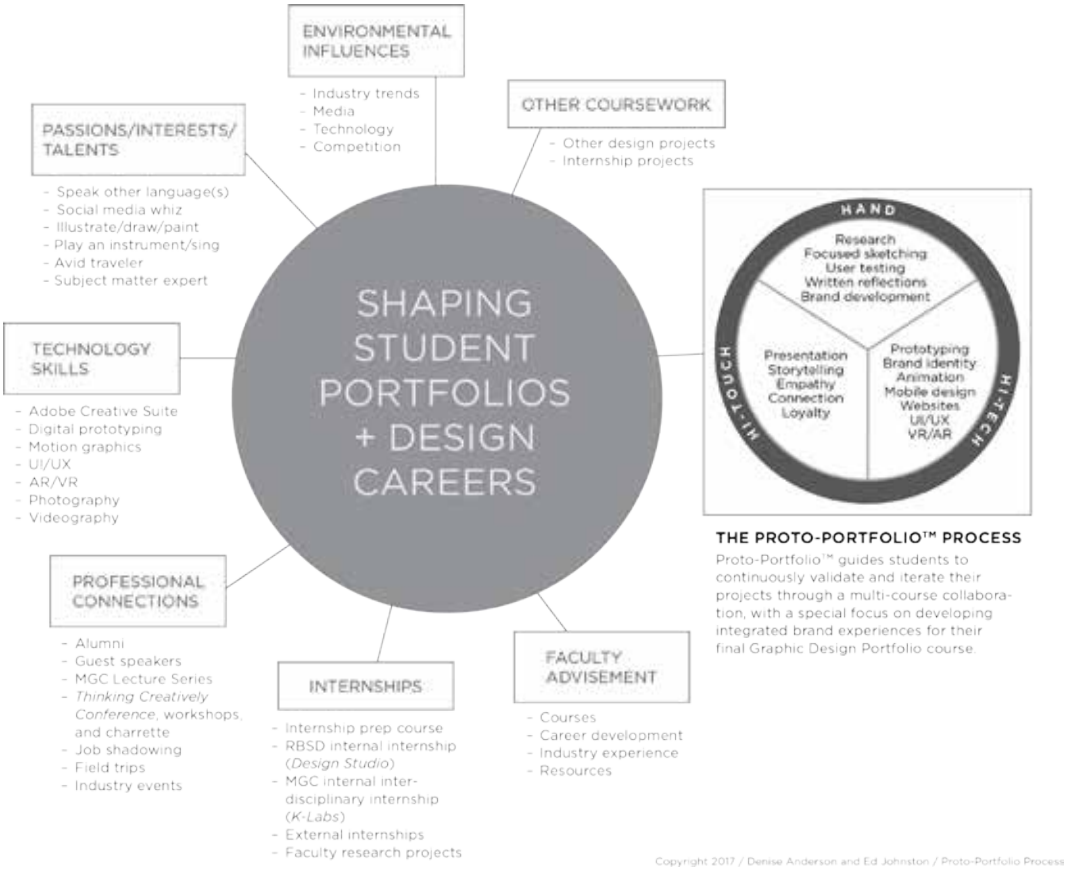


Figure 2: Proto-Portfolio™ Process diagram

STUDENT EXAMPLES

Sharpen

The Sharpen project was developed by student Marc Rosario, who first took Anderson's Identity course, followed by Johnston's Design for Mobile course, and then Portfolio with Anderson, to tie the components together for presentation.

Figure 3: *Sharpen* mobile app image. Concept by Marc Louis Rosario

Drawing from his initial interests, research, and feedback sessions, Marc defined a purpose for his idea—a mobile application that leverages the power of music to help users overcome creative blocks, boost creativity and productivity, and step outside of their comfort zones. "The more research I did with user-testing and outside resources," Marc says, "the more I was able to build touchpoints for a better brand experience."

After his initial research and sketching in the Design for Mobile course, Marc moved forward with creating a low fidelity paper prototype of his app concept. "I have students create their initial prototype iterations with paper," Johnston says. "This activity gets them to think outside of their devices and not over-commit to designed screens without initial feedback and user

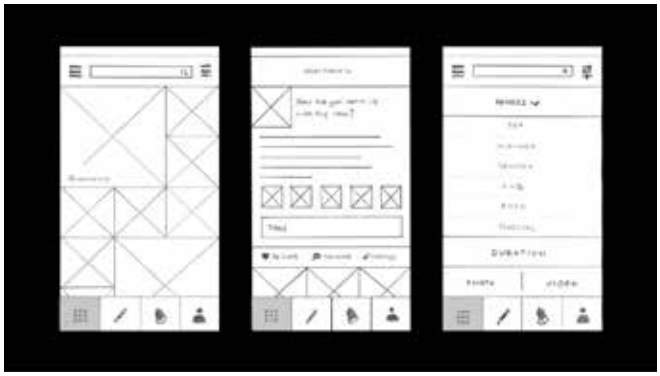


Figure 4: *Sharpen* prototype sketches. Concept by Marc Louis Rosario

testing." Following paper prototyping, the students learn how to implement methods of user testing, and they creating wire-framed prototypes in design software to start testing and blocking out the layout for their apps on actual device screens.

Figure 5: *Sharpen* logos: initial (left) and final (right). Concept by Marc Louis Rosario

Marc developed the Sharpen brand identity in Design for Mobile, but he used the process outlined in Identity to create it, and he consulted with Anderson throughout the various stages of development. "I encourage students to reach out to me on their identity projects, even if they are not currently taking my course," Anderson says. "I want to minimize their need to go back and redesign something because it is not correct. If, for instance, a student decides to rework a logo as an improvement (as Marc did with Sharpen to simplify the logo to further refine his concept and make it more readable for viewing on a small screen), Portfolio is the place to do it. But there is no time in that class to rework major aspects of a project that didn't meet objectives."

Once the students have articulated a direction for their brand identity, they design their screens and create interactive prototypes in software such as InVision or Marvel. This enables them to establish refined, high fidelity user journeys for further testing and presentation. In addition, they create short informational videos about their app concepts.

In Portfolio, Marc did more user testing and realized he did not need to use music in his concept; users found it confusing that they had to sketch during the entire length of a song. Portfolio gave Marc another opportunity to refine the project in another course, so he could deconstruct and further fine-tune his idea.

Marc's *Sharpen* case study of his mobile app can be experienced here: https://www.marclouisrosario.com/sharpen/.

***Recycle Responsibly* by Coca-Cola**

Students Brooke Roderick (Advertising major) and Billy Weaver (Branding + Advertising) created the *Recycle Responsibly* campaign. The project was initiated in Anderson's Identity course as a "new business idea" and later developed in Portfolio, in conjunction with an Independent Study with Johnston.

The goal of *Recycle Responsibly* was to raise awareness of and increase involvement in the recycling of Coca-Cola products. Brooke's personal experiences while walking around New York City initially inspired the campaign: "One day, while in the city, I saw a homeless woman digging through the trash. I thought to myself, 'Oh, that's sad. She must be looking for food.'… But she wasn't. She was trying to find bottles and cans. Many of the homeless in NYC collect recyclable goods in order to turn them in for approximately five cents each. They spend entire days rummaging through the garbage to make as little as $5 per day. It's happening right before our eyes. So let's help them!"

Figure 6: *Recycle Responsibly* field research image. Concept by Brooke Roderick and Billy Weaver. Coca-Cola is a trademark of The Coca-Cola Company.

From her field research, Brooke identified that NYC had very few recycling bins. Brooke also carried out a survey to support and validate her idea.

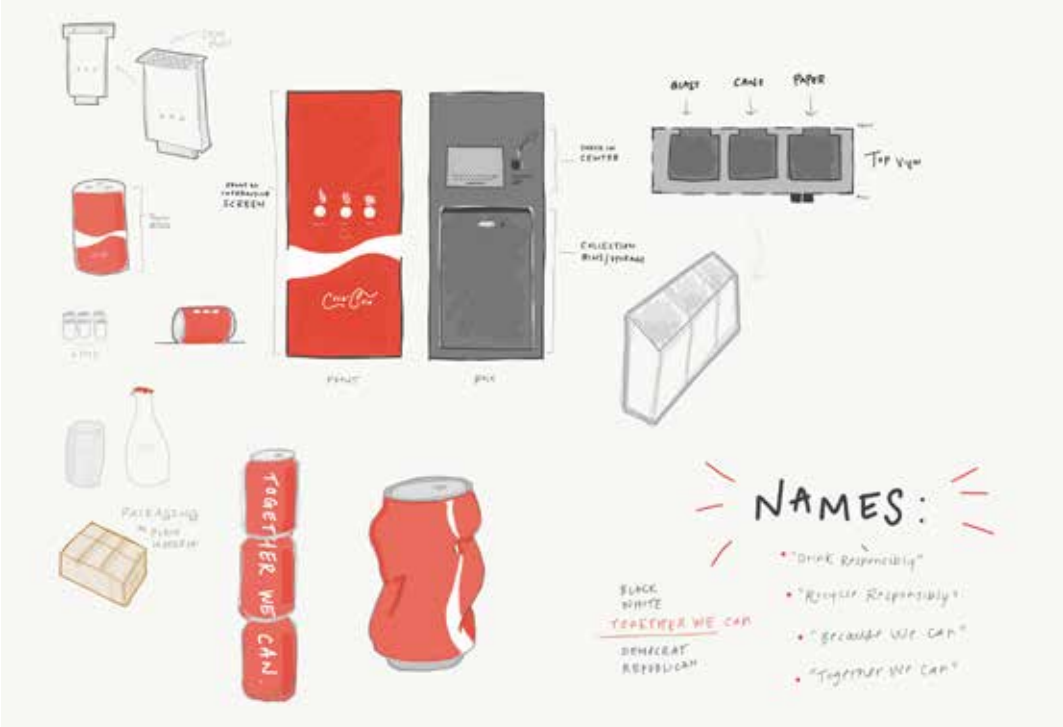
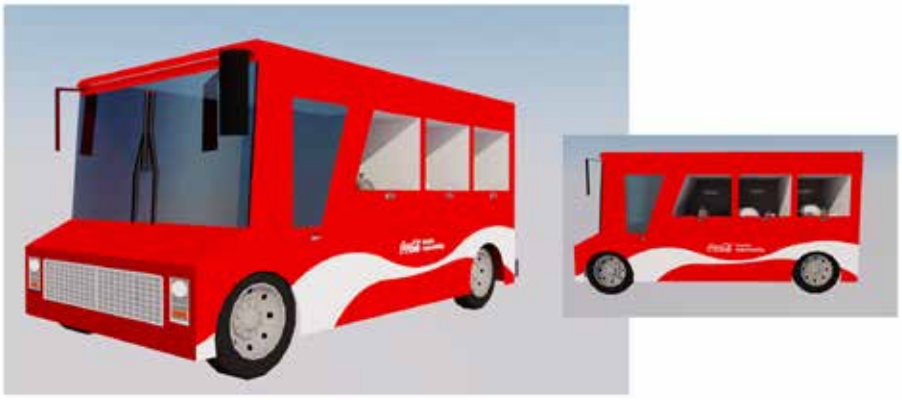


Figure 7: *Recycle Responsibly* brand identity concepts. Concept by Brooke Roderick and Billy Weaver. Coca-Cola is a trademark of The Coca-Cola Company.



Figures 8–9: *Recycle Responsibly* final brand identity touchpoints. Concept by Brooke Roderick and Billy Weaver. Coca-Cola is a trademark of The Coca-Cola Company.

The *Recycle Responsibly* campaign is a great example how students used the Proto-Portfolio process to amplify the fidelity and clarity of their research and to propose a solution through well-crafted, data-driven storytelling, animated touchpoints through motion graphics, and well-designed case study videos. Johnston worked closely with Brooke and Billy on their case study video as part of an Independent Study. The touchpoints they created were purposely selected to best connect to the audience, to enhance the visual appeal and fidelity of the project, and to create an experience. The goal is always to make it "feel as real" as possible, Anderson says. "Students love to see the results, and professionals appreciate the level of detail." The campaign and the case study video can be experienced here: http://www.brookeroderick.com/recycleresponsibly and http://itsbillyweaver.com/recycle-responsibly.

RESULTS – OBSERVATIONS

Working together and in tandem, Johnston and Anderson have noted a growing synthesis. The brand experience that students create is being enriched through further articulation of the intended user experiences and through high fidelity interactive prototypes. Additionally, the brand's story is being more clearly expressed and further refined through motion and video compositions.

The educators have also observed improvement in student presentations, in both the compelling visuals that the students create and in their verbal command that result from increased frequency of presenting. This improvement is happening across courses with shared workflows and tools for creating presentations, including Keynote.

SUMMARY

The student examples in this paper highlight just a sampling of the many great projects that RBSD students exhibit in their final portfolios. Spring 2017 graduates—some of whose work is in this article—have already found employment: Marc Rosario (https://www.marclouisrosario.com/) now works as a junior art director at Weber Shandwick (NY); Brooke Roderick (http://brookeroderick.com/) is art director at Big Spaceship (NY); and Billy Weaver (http://itsbillyweaver.com/) is art director at Entrée Health (NJ). Regardless of the type of student or project, the results are clear. Students who move through Anderson and Johnston's Proto-Portfolio process produce strikingly improved projects, which gain attention and respect from the practicing professionals who seek new talent and fresh perspectives. Feedback from those students, and from the people who hire who them, confirms that the approach effectively simulates and adapts to what students will encounter as they enter the workforce, and equips them with the practical tools they need to feed their creativity and to remain relevant and competitive in a fast-paced, technology-driven world.

In summary, here are Anderson and Johnston's overall themes that help shape student portfolios and their design careers:

Reinforce the basics. Emphasize "deep dive" development of an idea in regards to research, user testing, wire-framing, and brand building. Repeat in each course, as necessary.

Iteratively improve projects. Iteration and tag-team teaching are critical for creating work that is highly developed and highly believable. Anderson and Johnston each have a subject matter expertise and different experiences, and they pool their resources to ensure the best possible outcome for their students.

Celebrate student success. Finding opportunities for students to share their project stories by entering student work into the business school's business plan contest (Student Katrina Streisguth's Elite Care mobile app [https://www.kstreisguth.com/elite-care/] made it to the semi-final round in 2017); a local entrepreneurship contest (student Stephen Sepulveda's mobile app [http://stephensepulveda.com/item/viewsbrews/] won the Red Bank Studio Entrepreneurship contest for his project, Views and Brews in 2016); or the countless number of students who have heard from a design professional, "Is your project real? If not, it should be."

To see more student projects created by recent RBSD graduates, visit: http://www.mgcsync.com/. If you would like more information about the Proto-Portfolio process, please contact Denise Anderson (danderso@kean.edu) or Ed Johnston (jedward@kean.edu).

10 Tangible Narrative Objects through Graphic Systems and Laser-Cuttings

Moon Jung Jang
University of Georgia

Abstract

Every object includes a story to be remembered and visualized. Making a tangible object is one way of practicing graphic design. This study focuses on how an object can reflect a narrative though graphic systems. It aims to create graphic systems for solutions, to explore graphic design as a social act, to perceive the relationship between hand-craftsmanship, Adobe CC techniques, and laser-cutting methods. This study explores various design concepts such as hybrid-ness, anagram, simile, geometric modules and design methods: mapping, classification, product design, and manual design.

The process of creating the objects was developed in a studio course. The methodology was used in the following stages: First, each student chose a person who would receive the object. Then, they defined the recipient's need by drawing a Mind Map and systematic matrix that allowed them to articulate graphic systems such as color, form, materials, and visual elements. At the same time, they had to answer the following narrative questions: who, when, where, what, why, how. Then, they decided on the object and its design concept and applied the graphic systems to the object. Finally, the students built several prototypes which made them think through their hands; they traced their design in Illustrator and produced the final objects through the laser-cuttings.

In conclusion, the objects, Savannah Plants, Gainsevegas, Planet-lier, and WrapMusic, were made out of plywood and produced through the laser-cutting methods. The design outcomes resulted in active and playful uses of color, shape, and type as graphic systems. They functioned as toys to play with and tools to solve the problem that the recipient had. In addition, students experienced the design process, understood the importance of narrative creation, graphic systems, hand craftsmanship, and balanced purposeful thoughts and deep intuition.

11 Creating a Rigorous Graphic Design Foundation Course: Preparing Diverse First Year Visual Communication Students for Success

Aleksandra Giza
Northern Illinois University

Johnathon Strube
Northern Illinois University

Abstract

At a state university, we found ourselves in a well-known position—fluctuating enrollment numbers prompting administration to emphasize student retention. Parallel to this administrative discussion, the Visual Communication program began to see the development of three student groups enrolling as first-year students. Native university students entering the program with studio-art focused foundational studies; transfer students lacking foundational studies or Visual Communication training; and transfer students possessing visible Visual Communication training. Given these two scenarios, the administration challenged the Visual Communication program to create a single entrance course that would prepare students for continuation within the program's sequential curriculum and keep retention numbers high.

Besides the administrative prompt, there were two important qualitative questions the Visual Communication program needed to answer. With such a diverse student-body enrolling as first-year students, how can a program unify student cohorts with the skill-sets to be effective in a competitive degree-seeking program? And, with a portfolio review aimed at accommodating a native student course catalog, how can a program re-tool its review procedure to ensure high-quality students?

The resulting course is disseminated at a regimented pace in parallel class sections led by multiple faculty. Class sections meet simultaneously allowing for course-wide presentations and critiques. Class sections separate for studio collaboration, with an emphasis on experiential learning—allowing more experienced students to work with the less experienced students. The course presents five content themes that introduce theory and vocabulary related to spatial organization; industry and historical context; independent research and content interpretation; media curation and conceptual message-making; storytelling related to formal relationships in content presentation. Each theme is unified with an emphasis on design process, formal development and software/technical skills. Students are presented with a comprehensive manual outlining course objectives; course timeline; course exercises, projects and charrettes; testing; performance reviews; and grading/retention procedure.

12 I YOU / YOU ME: The Meaning of the Material

Jenn Stucker
Bowling Green State University

Abstract

Teaching students how to assign meaning can be one of the most challenging responsibilities of a design educator. The very idea that meaning can be assigned is daunting to individuals who have spent most their lives be told what things mean. During the junior year, my graphic design theory course is aimed at understanding and decoding semiotics toward developing one's visual voice. The I YOU / YOU ME project is a one session in-class exercise designed for uncorking mental barriers and transitioning students into empowered meaningful makers.

I YOU / YOU ME is an entirely hand-crafted exercise and from beginning to fully crafted end is completed in two hours, which forces instinctual thinking, craft, experimentation and rationalization. Students are assigned a verb, a mark making material and the words I [blank] YOU or YOU [blank] ME. Using their mark making material and their verb, students begin to construct a gesture of their word through their material. All posters are the same size, format and black ink to demonstrate to students how to create a cohesive body of work from disparate participants. When completed the posters are hung and a serendipitous conversation begins to unfold. *I miss you, You tease me, I believe you, You complete me, You push me, You scare me, I need you, etc.*

The quick, dimensional and crude nature of their posters defy the students' expectations of how to visually think and communicate. This presentation will cover the process and materials of this assignment as well as present examples of how this exercise feeds into the trajectory the student's visual voice.

A Ripple in the Pond :: Inspiring Students To Throw Themselves Into Leading Positive Change In Their Communities

Jenn Stucker // UCDA // Kean University // May 2016

The idea of being a leader in my community for positive change wasn't a consideration or possibility when I completed my undergraduate degree. I mean, really, what did I know? I was well trained in the understanding of design principles, and type terms and was ready to head out into the world to pursue my job as a graphic designer. I assumed I would work my way through the creative industry and climb the ranks of titles. It hadn't dawned on me to do much more than make cool looking, functional and communicative work for clients, but mostly because I didn't know that I could offer more than smart, aesthetic value. It wasn't a matter of permission but more of ignorance. I didn't know what I didn't know.

Toledo, Ohio is where my design career begins. And with that enthusiasm I was surrounded by a public perception that, well, Toledo was "bleh." This was reinforced by Yahoo articles about the "most miserable cities in America" featuring Toledo as the backdrop for its headline. This pervasive downtrodden ethos became and is my motivation behind the work that I create. As Maya Angelou states, "If you don't like something, change it. If you can't change it, change your attitude." I aspire to do both.

In 2007, ten years, after I received my BFA in graphic design I began my pursuit of enriching the creative community and the cultural vitality of Northwest Ohio. Many of my projects are focused around the City of Toledo and while I don't live there, but 25 minutes south, I believe if I can inspire positive change with the largest immediate population of Northwest Ohio residents; its impact will ripple out to the surrounding areas to benefit the attitude of the 1.6 million people of the region.

So what happened in 2007? In May, while in grad school, I traveled to Nashville, Tennessee to attend my first AIGA Design Educators Conference. I noticed the conference was being hosted by the four AIGA chapters of Tennessee. Wait! Tennessee has four AIGA Chapters!? No offense, but the state is little and there they have chapters in Chattanooga, Memphis, Nashville and Knoxville. Ohio had two. And for Northwest Ohio the closest chapter was in Detroit. This for me was a realm of possibility to change Toledo's creative essence and thus became the first rock I threw in the Toledo pond with a motto of "Beat Chattanooga!" I figured if 32 people can make a chapter there, then surely we can do this and maybe with more. Along with my colleague Amy Fidler, we co-founded a local AIGA Toledo chapter in October of 2007 to connect and support the creative talent of the region. We began with 35 members (now a 100+), and by the end of the month we were throwing another rock in the community influence pond by proposing our first AIGA Design Educators Conference, which we were granted and hosted in Toledo 2010 and will be doing again next month in Bowling Green at BGSU.

That same trip also inspired Amy and I for a workshop model that we have been conducting every summer since. Known as SWEAT, the Summer Workshop for Experimentation and Thought, brings 10-15 design participants together to experiment in different methods of making. For our inaugural workshop, we asked our participants, "What is the Graphic Expression of Toledo?" The results were printed in a 192-page self-published book, which earned all of us an Official Proclamation from the City of Toledo for promoting positivity and was presented to us by the Mayor. A copy of the book can be found in all twelve of Toledo-Lucas County Public Libraries. Not too shabby considering we had never done a workshop and we had just learned about self-publishing with *Lulu* at that conference in Nashville.

By 2010 through AIGA, I was able to foster a partnership with the Toledo Arts Commission where I co-authored my first grant proposal of $25,000 for bringing the Urban Forest Project to Toledo. This project originated in New York City for the Times Square Alliance, so it was a great way to learn about producing a community-based art project. Essentially, the Urban Forest Project Toledo "planted" 50 banners created by local artists and designers on light poles* throughout the city using the metaphor of the tree to make a powerful visual statement about the environment. The banners were hung at high-traffic locations in the downtown Toledo area mid-April, in celebration of the 40th Anniversary of Earth Day. Once the banners came down, they were recycled into unique tote and messenger bags designed exclusively for the project. Sales from the product benefited the Toledo Arts Commission's Young Artists At Work Programs. Toledo was the first mid-sized city, and one of only eight (8) cities to produce the Urban Forest Project.

* SHARE YOUR CHALLENGES
One of the challenges we faced was the funding came from the City's 1% for Art Program which meant it had to be on Toledo public property, well the light poles are owned by Toledo Edison. We were saved in that the stantions that hold the banners are in fact owned by the City.

By 2011, AIGA Toledo and the Arts Commission partnered again to produce the Downtown Windows Project a Toledo based design project aimed at activating 11 window spaces of the vacated Nasby Building on the corners of North Huron Street and Madison Avenue located across the street from our city arena. Artists and designers responded to an open call with the prompt of: The Chemistry of our City in honor of 2011's International Year of Chemistry. From over 50 submissions, five local jurors selected the 11 winning designs that were produced and displayed in the building's windows. This graphic solution was far better than seeing the deluge of "for lease" signage in the area.

Having proven a track record of creativity and reliability to the Arts Commission, AIGA Toledo was asked to develop another visible project for the City in time for The International GAS (Glass Arts Society) Conference which was being hosted at the Toledo Museum of Art Glass Pavilion. It was suggested to create another banner series for the would-be visitors to the city. This was the moment I saw an opportunity for design to do something more engaging for the visitors and community residents than the passive activity of banners or window graphics. The driving objectives for this next project would be to transition the citizen from viewer to participant, to share the rich history of the area and to continue to promote a positive Toledo presence.

Funded by the City of Toledo's One Percent for Art Program, and presented by AIGA Toledo and The Arts Commission, the You Are Here Toledo Project (YAH) was a series of large one-of-a-kind outdoor "dots" affixed to various public sidewalks throughout the city of Toledo to promote positivity and enhance our sense of place. Using the circular shape of a dot (at three feet in diameter); Northwest Ohio artists, designers, and students were asked to make a powerful visual statement in response to their assigned dot's location. One hundred (100) dots marked the city, each containing a QR (quick response) code that allowed smartphone users to quickly and easily and learn more about the artwork, its Toledo area location and its local artist. Participants could also download an app for finding all 100 dots and it included a gamification component for participants to digitally collect dots they found to receive a custom silk-screened poster of the project. For non-smartphone users each dot contained the project's URL for searching the artwork at their convenience. The project was developed specifically for Toledo to engage a participant while showcasing the amazing artistic talent and places of this region.

SHARE YOUR CHALLENGES
Little did I know that I would be photographing a white butcher paper dot in the cold month of January to get city approval for each of the 100 locations, but if that is what it takes to make your idea happen, that is what you do.

The project received amazing community reviews in the papers, like a *Newsmaker of 2012* and rave reviews on social media. It also received an Innovation Award from the Toledo Community Foundation, which provided a $5000 unrestricted grant for future projects, an Outstanding Award in *HOW* magazine's International Design Awards Issue (March 2013) and a feature on AIGA's Design For Good case studies. All of this just makes Toledo look even better.

In fact, according to the 2015 Economic Impact Study completed at Bowling Green State University, the creative industry is one of the fastest growing industrial sectors in Northwest, Ohio, annually generating over $3.8 billion in economic activity, supporting over 30,548 jobs and producing nearly $133 million in state and local tax revenues. [1] *I would like to believe these projects for changing the Toledo mindset is part of this growth.*

Currently the Toledo Community Foundation Grant is being rolled into my next community-based project known as The Sit&Tell Project. In 2015 The Arts Commission released its Strategic Plan for Arts & Culture for the purpose of celebrating creative communities. As a supporter of the spirit of this plan, I wanted to aid in engaging Toledoans in a creative project that seeks to reveal and illuminate these communities through communication and understanding. Through a partnership with MTS Seating and The Arts Commission, AIGA Toledo we will present in June a series of 100 chairs visualizing the auditory expressions of 100 stories of Strong Women collected by enlisting Toledo citizens as storytellers. The object of the chair is an important component of the storytelling process; think how often we hear the sentiment, "pull up a chair" as an invitation to engage in a mutual exchange. Through video and audio recordings, these stories are archived visually through the object in graphic representations and housed digitally through the website where the chair will also be displayed. The chairs will be on a rotating and rolling exhibition throughout the neighborhoods this summer, 2016, and a chair-a-day will be featured on social media outlets for 100 days. A final closing exhibition of the entire collection will be held at the Toledo Museum of Art, followed by a silent auction of the chairs. The proceeds will go back to the Arts Commission to be administered to the eight (8) neighborhoods for art classes for children.

ASSIGNMENTS + PROJECTS
Empowering Through Curriculum
Developing a purpose

So… back to ten years. Ten years it took me before I felt empowered enough to pick up those rocks sitting with potential energy and apply kinetic energy to make those ripples in the pond. Picking up a rock is so simple. Throwing it is so easy. The results are so beautiful. Just as in the book by Simon Sinek, "It Starts With Why," it wasn't the act of throwing the rock that mattered it was why. Why throw a rock at all? My why for my work is to not stare the stillness of a "bleh" pond knowing that I possess the skills to change its appearance and surface tension.

When teaching students, I see my responsibility to help them consider why they do what they do. Which for many young and unsure makers, of course, is how? How am I going to do this? I believe if you have a good sense of why you want to do something, you will figure out how.

The process for cultivating leaders for positive change is to first reveal to them that they actually have an opinion about what it means to be in the role of a graphic designer and the kind of work they would or would not want to do. During their fall term of their junior year I introduce them to an oldie, but a goodie. The First Things First Manifesto. They have to read the original 1964 version, the re-released version in 99/2000, as well as Rick Poynor's brief history, Michael Beirut's 10 Footnotes all with robust discussions at play, and followed by the writing of their own 1,500-word manifesto in response. This assignment, which simultaneously works at teaching multi-page sequencing, is a revelation to those who assumed their only task after

[1] Creative Industry information was provided by *Economic Impact of the Creative Industries in Northwest Ohio Center for Regional Development* at Bowling Green State University, 2015.

graduation was to get a good paying, awesome design job. The implications of the kind of work they might or might not be doing and its influence on society for many hadn't been considered. They saw themselves more as service providers "to the man" with little control over what came to them versus responding to their world with purpose as agents of change. By the end of the assignment, little pebbles with little ripples were starting to appear.

In the spring term of their junior year students take my Graphic Design Theory course. While teaching the understanding of visual language, I introduce students to several open ended and self-authored projects. This course is full of struggle as students must start with nearly nothing, but an opinion on something, followed by copious questions of why do this? Why does it matter?

One assignment, Questioning Blank, challenges students to investigate and research topics of the personal in relation to graphic design inquiry ranging from creative practice, gender dysphoria, fear, confidence and bullying. Self-authorship presents a new kind of ownership in their work and their personal topics transcend themselves into relatable works that reflect insight, create empathy and understanding between designer and a broader audience. The works also vary vastly in material and scale and provides the student a diversified level of problem solving. How are they going to execute their work at the level it needs, what resources can they secure?

After questioning the design profession and themselves as a designer, the next course now in their senior year, asks them to explore frameworks, known as Graphic Design Systems. While part of the emphasis is to teach graphic design across multiple applications, the other part is aimed at re-examining structures for improving everyday life. Design for the Patient Care System is one assignment in which, through field trips to nursing homes, schools for autism or doctor's offices the student begin an inquiry of systematic flaws and how through design they can solve a particular problem.

Comfort Covers is one example in which student Alyssa Batch wanted to improve the everyday experience of memory-loss patients by providing textual visual language cues to STNA's, nurses and family members who engage in conversation with the patient. Through this project, Alyssa presented it to the "The Hatch 2016" BGSU's shark tank competition through which she received funding to make her project a reality, as well as earning the People's Choice award.

Also at play in inspiring students to become leaders in positive change is their final thesis project. Our three semester long self-authored investigation of design focus where, for some, it provides the space and opportunity to pursue their community engagement ideas. *BrickXBrick* created by senior Chris Hatfield, utilizes bricks from foundations of locales affected by blight, homes or buildings that are condemned or marked for demolition to create one-a-kind artifacts. The sales of his objects benefit community initiatives such as the OWENI Foundation (Old West End Neighborhood Initiatives) to combat the impact of poverty, inequality and blight. Through this project Chris learned how to develop partnerships that aligned with his aspirations. He also won BGSU's 2016 Kurt E. Hofmeister Outstanding Undergraduate Student Award from the Center of Civic and Community Engagement.

GRANTS + PARTNERSHIPS
Enabling through community
Fulfilling purpose

What does a student or recent grad need to know about grant writing? First, there is money out there for their project. But it all comes down to their WHY. Why are they compelled to do this work? Most grants come down to six simple questions: What is its purpose? Why does it matter? What is it? Who is doing this? What's the timeline? How much is it going to cost? With good self-analysis of what a person is trying to do, these questions can easily be answered.

After that, grants are pretty easy to accomplish as designers are poised at an advantage because they understand the importance of selling their ideas and have the ability create visualizations of their ideas. Students sometimes need to be pointed in the right direction for throwing their rock into the pond that will make the most ripples which might mean that grants or funding for projects don't have to come from foundations or the government. There are private organizations that can get behind community engagement works, so long as they align with their mission and ideals.

For a student or recent grad, partnerships with organizations are intimidating. One, it is work. They have to find and talk to the right people to connect with. Finding a partnership can come from many sources, so encourage students to talk about their ideas to many people as the idea will become better articulated and more concrete for when they do find that right group. Two, they have to have the confidence to layout their ideas with conviction and get the partner behind their cause. And third, a partnership is typically an exchange, so what is one asking for and what are they offering in return requires preparedness of an action plan.

It is important to extrapolate for students that a community partner is more than a fiscal resource, but how they can give understanding of the scope of reality, can expand the exposure of the idea through their media outlets, share efforts of workload, provide research about the community of interest, and can offer alternative solutions for challenges that might arise in political and city infrastructures. (Like my challenges with light poles and sidewalks.)

In closing, after the nearly 20 years since earning my BFA, design practice and education has made great strides in developing class projects, writing books (*Developing Citizen Designers, Design for Social Change, Just Design*) and presenting case studies on community-based design that serve as great tools in the classroom and affirmations that this work matters. My hope is empower a student to begin thinking beyond a single class project or a provided directive, but to catapult their thinking into developing their own process and desire for making positive change. If I can strip away some of the mystique in producing these types of projects through sharing my process and challenges while guiding their curricular journey toward the purpose for putting a rock in their hand, then perhaps I and the student and the community won't have to wait 10 years to see positive changes happening. And while I can't predict how big the ripples will be, I do know there will be no change unless the rock is thrown.

13 From Painting with Twigs to Parallax Scrolling: Translating Print to Code in a Cross-Course-Collaboration

Ann Lemon
Kutztown University

Dannell MacIlwraith
Kutztown University

Abstract

In a curricular experiment, professors at our state university agreed to collaborate by developing a student assignment that extended across two courses. "Visual Translation" is a process-oriented introductory graphic design course that teaches basic skills, including a project focusing on nontraditional media use in image making. "Digital Translation" is an introduction to concepts in interactive design and coding.

As a department, our sophomore students travel in "blocks" – the same students remain in a cohort in all four major classes. For this assignment, the same students developed concepts, artwork, and poster design in Visual Translation, and then extended the assignment by designing a matching website in a Digital Translation (with a different professor).

The benefits of this approach were:

- Students were able to connect the skills learned in both classes
- The end results were more comprehensive than is typically accomplished in one semester - a preview of portfolio-scale assignments
- Students gained specific skills in both areas
- Professors were able to teach to their strengths, while also learning from each other
- Professors modeled collaboration
- Students experienced the reality of designers reporting to multiple supervisors

The resulting pieces are distinctive in their use of hand-made imagery, including printed, painting, photographed, collaged and drawn works (no stock photos!) Hand-coded websites, included fixed elements and animation, brought the analog prints to life.

As a result of this "trial run," our department is exploring larger curriculum changes to replicate the model of cross disciplinary collaboration. Among other changes, we are creating two interdisciplinary courses during the junior year that will be semester-long, with one large assignment, and team teaching by four professors (from the subject areas of graphic design, advertising, illustration and interactive design).

14 Operational Metaphors and Input Biases of Design Software: Old Promises, New Challenges

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Abstract

Every technology has inherent biases that determine its use, and a designer's digital tools are no different. When I describe "input biases," I'm referring specifically to how pointing and drawing hardware (mouse, tablet, touchpad, and touchscreen) affect the design software experience. When I speak of "operational metaphors," I'm describing the language used within a software environment to denote tools, techniques, and processes.

In relation to hand and machine, today's students lie along a gradient between two poles: what I call *Analog Artisans* and *Digital De Factos.* One may think of *Analog Artisans* as more traditional ne art students. They likely had art education starting in primary school, and thus learned to work directly with their hands; drawing, sketching, painting, and sculpting. While computer literate, these students don't automatically consider the computer a content creation device. *Digital De Factos*, conversely, are less likely to be traditional fine art students. They often have a long history with computer and platform gaming. These are the kind of students who first explored applications like Photoshop in secondary school, and they consider the computer to be the primary content creation device.

We are currently in a state of transition in which the operational metaphors and input biases of our most popular software tools are shifting in relevance. At the same time, we are seeing the widespread proliferation of alternatives to the traditional mouse as the dominant input device. Operational metaphors are where mind meets software, and pointing and drawing hardware are quite literally where hand meets machine. I argue that in teaching design software to today's students, we must carefully consider their preference as an Analog Artisan or *Digital De Facto*, introduce operational metaphors with student relevance in mind, and instruct students to use the input devices best suited to particular software tasks.

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Operational Metaphors & Input Biases of Design Software
Old Promises, New Challenges

Digital Tools

At the University of Idaho, I developed a new curriculum in 2016 for a course we offer within the College of Art & Architecture: **ART 216 Digital Tools**. Essentially, this is an introduction to the fundamentals of both bitmap and vector editing and designing in 2D using the Adobe CC Suite. A quarter of the term is Photoshop intensive, a quarter is Illustrator intensive, and the second half of the term is primarily InDesign intensive. Photoshop, Illustrator, and Acrobat are then used in their respective supporting process roles to complete projects. Most students taking the course (which is also offered to non-majors outside the college) have little to no experience with design software of any sort. However they are naturally as computer literate as anyone; they have typed term papers in Microsoft Word or OpenOffice and many have used Google Docs. What I realized in developing materials for ART 216—and watching the class unfold over the run of the term—is that there are two paramount concepts that students who are new to design software need to understand: the conceptual framework of each tool (what I call here "Operational Metaphors"), and how the tool best receives pointing and drawing information (what I term "Input Biases"). In short, there are ways in which new users should *think about the software*, and ways in which new users should *tell the software what to do*. This is *much* more than finding out where certain buttons live, and what features are under which menus. Once students understood both these concepts, I observed the class learning curve accelerate sharply. The language used to denote tools, techniques, and processes suddenly made more sense. And by using the proper drawing and pointing hardware, routine tasks became much easier. The final work exhibited superior craft, and less hair was pulled out as a result (always a good thing).

Analog Artisans & Digital De Factos

Ours is an integrated program of Art + Design, within a college that also awards degrees in programs of Architecture, Landscape Architecture, Interior Design, Bioregional Planning, and Virtual Technology & Design. As a result, we get a wide variety of students in the Digital Tools classroom. I've come to describe them along a gradient between two poles—*Analog Artisans* and *Digital De Factos*. One may think of *Analog Artisans* as more traditional fine art students. They likely had art education starting in primary school, and thus learned to work directly with their hands; drawing, sketching, painting, and sculpting. While computer literate, these students don't automatically consider the computer a content creation device. *Digital De Factos*, conversely, are less likely to be traditional fine art students. They often have a long history with computer and platform gaming. These are the kind of students who first explored applications like Photoshop in secondary school, and they consider the computer to be *the* primary content creation device. Where a student finds themselves relative to these two archetypes has a profound impact upon how they receive the operational metaphors of the software, and what input devices they are most naturally inclined to use. As I describe my approach to teaching the Adobe CC Suite, I'd like you to think about your own students and your own program—where do most of them lie along this gradient?

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Operational Metaphors

Metaphors are powerful tools for describing our world—they form the symbology and iconography of our tools and toys, and frame unfamiliar experiences in terms we can understand. In a technological context, metaphors allow us to understand new concepts and procedures in the language of that which came before. Think of the *horseless carriage*. When the automobile crept into widespread use across the United States, it had to be described alongside fellow travelers and commuters on horseback—a new thing that was, quite literally, a carriage *not* pulled by a horse. This is a subtractive notion, in that the new technology is being referred to by what it lacks (other examples include the *cordless phone* and *wireless internet*). But in creating metaphors we also append. Take email ("electronic mail"), which has no relationship really to analog letters—it's still a message dispatched from one person to another, but the technologies are not really equivalent. One remarkable feature of these metaphors is their staying power; we still refer to the *horseless carriage* on a daily basis when we say the word "car."

An operational metaphor for software orients the user to the new tool by using the models of a prior technology. The word processor, for example, operates explicitly within the world of the typewriter which came before. The spreadsheet exists within a far older framework—the ledger, which is as old as counting and written records. These metaphors are in full force whether the user has ever typed an analog letter, or balanced columns of figures by hand. Yet our metaphors can sometimes get away from us; they can lose relevance. An easy example is scale. NASA's own website still describes the thrust of the Space Shuttle at launch as 37 million horsepower. Emergency spotlights are sold online that boast of delivering 40 million candlepower of brightness. Now I realize that these terms have official status as units of measure, but as useful narrative devices (think of trying to describe millions of horses to a child), they fail to communicate (beyond "that sounds like a lot"). Let us now consider the metaphors employed by the developers of Adobe design software when the tools were created, and how those metaphors should be adjusted for teaching the software to today's students.

PHOTOSHOP — INITIAL METAPHOR

The initial operating metaphor for Adobe Photoshop is *the canvas*. Some tools follow well from this—there are brushes and pencils and color swatches and paint and so forth. Yet Photoshop is also plainly what it says: a 'shop for developing photos.' Very few students (in fact, last fall, I counted one) in this second decade of the twenty-first century have had any real darkroom experience with photography. For them, the digital is the default. Thus terms like "burn" and "dodge" can't really be explained in reference to their originating techniques; I simply describe them as rote ("burn darkens the image, as if you were burning it with a match; dodge does the opposite").

PHOTOSHOP — RECOMMENDED METAPHOR

I describe Photoshop to my students in terms of *the collage*. I think this overcomes the challenges of the canvas in several ways. For one, a wide variety of content can be applied to the work, including photographs, illustrations of various kinds, typography (sparingly!), and yes, paint and paint-like media. Second, content is applied in layers. This is key, as the earliest versions of the software did not include layers—but over the past few decades, they have become the defining feature of all design software, from 2D to 3D modeling and CAD applications. Without layers, a static "canvas" makes sense; with them, students get confused quite easily as the outset. Lastly, content in Photoshop 'hangs off' the edges until being 'trimmed' away with the cropping tool. This is far more analogous to mixed media than a painting. When I present these concepts to students, I tend to show them one of Rauschenberg's combines—it's a perfect analog distillation of the compositional process in Photoshop. So, out with the canvas—*Photoshop is a* ***CollageMaker***.

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ILLUSTRATOR — INITIAL METAPHOR

The initial operating metaphor for Adobe Illustrator is *the artboard*. This makes sense, inasmuch as it evokes the commercial illustrator's advertising agency workspace of days past (think *Mad Men*). It's a very solid metaphor. However, a confusion for today's students stems from Adobe adding the ability to create content across multiple artboards. Granted, this was a feature long-requested by designers (as it was much appreciated in Illustrator's competitor, Altsys-Aldus-Macromedia-Adobe FreeHand). The problem is that multiple artboards tend to suggest to new users that Illustrator can/should be used to design multi-page documents (many designers I know once used FreeHand for that express purpose). But Illustrator has never been well-built for it; that's InDesign's job.

ILLUSTRATOR — RECOMMENDED METAPHOR

When I show my students Illustrator for the first time, I ask them to think of *the sketch pad*. Experience levels will vary based on what kinds of prior art education a student has had, but everyone has at least drawn or written on a pad of paper. I employ this metaphor primarily because artwork and images are often traced and compiled using layers—analogous to working with several sheets of velum or tracing paper. I also stress that multiple artboards are indeed useful, but I teach my students to regard them as iterations of a work in progress. Thus revisions to a drawing, logo, or poster design can exist across artboards within a single document, version round 1, 2, 3, and so on. This training discourages new users from attempting complex multi-page document design in Illustrator. Goodbye artboard—*Illustrator is a* ***DrawingMaker***.

INDESIGN — INITIAL METAPHOR

The initial operating metaphor for Adobe InDesign is *the page.* InDesign is a particularly interesting case, as it's a revised iteration of software that proceeded it—Aldus-Adobe PageMaker and QuarkXPress. Serving as a digital approximation of the manual, pasteup layout process, the desktop publishing revolution that began in the 1980s has in a way come to terminate with InDesign. The metaphor of The Page is quite problematic for new users as a large majority of media we design (and consume) is *not* printed on paper. Even saying "web**page**" is an outdated term in an era of responsive, fluid design.

INDESIGN — RECOMMENDED METAPHOR

In my initial demonstration of InDesign, I suggest that my students think of *the plane*. After all a plane, geometrically speaking, is any two-dimensional surface. This is InDesign's true power—a robust, grid-based layout tool for any 2D surface, regardless of medium. An effective typographic engine for all variety of print and digital media: printed spreads, various collateral pieces, larger formats such as billboards, wall layouts, presentation decks, websites, and even apps. Before attempting to suggest Sketch (Mac only) or Adobe XD (still in beta) to my UI/UX students, I run them through a semester using InDesign + InVision. What my students—and many designers—don't realize is that InDesign's master pages and extensive stylesheet support make it an ideal digital tool for rapid interaction design prototyping. Print may be as alive as ever (just not on paper); it's The Page which is dead—*InDesign is a* ***LayoutMaker***.

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Input Biases

Bias—isn't that a bad thing? Aren't we supposed to question bias, avoid bias, temper bias? In terms of technology, no; we've got to pay attention. Every technology (read: every tool) has inherent biases that determine its use. The example I use in class is, yes, you *can* cut down a tree with a hammer; it *can* be done. But is that really the best tool for the job? A hammer has a natural bias; it's great at hitting things, and not much else. Conversely it would be rather difficult to sink some nails with a handsaw. When I describe "input biases," I'm referring specifically to how pointing and drawing hardware (mouse, tablet, touchpad, and touchscreen) affect the design software experience. Whether a new user picks up a mouse or a stylus, uses the keyboard for shortcuts, or uses a touch interface matters—and not for the user's preference, but for the biases inherent in the software. A hammer will nail well and cut poorly; the mouse will do some things well and not others.

The keyboard, of course, came first. This descendant of the typewriter has been the primary device for telling a computer what to do and how to do it since the time of computers that filled entire rooms. It still is. The mouse in its earliest form has been with us since before humans walked on the moon (Engelbart's 'Mother of All Demos' was in late 1968), and it's been the dominant pointing device since the mid-1980s with the introduction of the Macintosh and the Amiga systems. It's likely to remain dominant for some time to come—but at some point (relatively soon)— the mouse will become a novelty, boutique tool; like writing a letter with a fountain pen. The stylus is even older (first demonstrated in the late 1950s), but was rather impractical, unwieldy, and unpopular until the middle 1990s. The stylus has stumbled along, but in the past half-decade or so has really come into its own—use of the stylus makes intuitive sense in an environment flush with touchscreens, whether large format or handheld.

Adobe Illustrator is the oldest CC tool (1987), followed by Photoshop (1990) and InDesign (2000, but firmly rooted in earlier tools such as PageMaker and QuarkXpress). All were developed exclusively for a keyboard + mouse workflow—or what we could call a *traditional desktop workflow*. The bias of using the keyboard and the mouse is inherent in the software itself. It's also important to consider that the Macintosh—the dominant platform for all these tools—features the Command Key (⌘) as the primary modifier, and Adobe design software was developed to exploit keyboard shortcuts. Take a look at the Qwerty layout of your keyboard: Cmd C for 'copy' makes sense, but what about Cmd X for 'cut' and Cmd V for 'paste'? This is no accident; all three commands are rather convenient neighbors for your fingers. To use Photoshop, or Illustrator, or InDesign *as they were intended to be used by their developers* is to sit at a desktop computer, with one hand on the keyboard at the shortcut ready, and one hand on a mouse.

Yet here—in 2017—we are in the midst of a transitional phase towards a truly touch/gesture environment. Our Apple iPads and iPhones and Samsung Galaxies and Microsoft Surfaces are already there, but our daily design software tools—our *desktop tools*—are not. And Adobe knows this. Their announcement in May of 2015 to suspend development of what they called 'Photoshop Touch' was such a startling admission from a major software company that it deserves to be quoted in full (emphasis added):

> We recognized that bringing core Photoshop technology to mobile would open many creative opportunities for our customers, but it had to be done right, which meant nailing the experience. To do that, ***we needed to distill very complex desktop workflows and features into a naturally intuitive touch environment***. We've also sought to provide a solution that helps people achieve great results quickly. So we've recently focused on creating individual mobile apps that each perform core tasks, ***rather than provide all-in-one solutions that mirror the desktop versions of our applications***.

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After less than three years of development time, Adobe abandoned their efforts to adapt Photoshop to a non-desktop workflow. Instead they decided to carve it up like a turkey—there are now separate, dedicated apps for retouching, composition, and painting/drawing. The original input biases were too heavy to shake.

So here we are with three very powerful software tools—tools whose family trees stretch back to the Reagan years. How can we be sure our students get off to the right start, so that they're producing work efficiently and effortlessly? First, consider where your classroom (or particular student) lies on the analog–digital gradient described above. Then consider the operational metaphor and the input biases associated with each program.

Best Practices for Today's Students

Analog Artisans, if they have access to a stylus, are likely to take to it rather quickly. *Digital De Factos*, in my experience, often come to class with their own custom, tricked-out (and rather expensive-looking) mice—an appendage they grew to love through long hours of computer gaming. Because of this hobby, these students are no stranger to all variety of input toys: control pads, joysticks, steering wheels, and weapons of every sort. They tend to take to whatever I suggest (or insist) that they use. But there is one interface that seems to hamper everyone, no matter where they lie along this *Artisan–De Facto* gradient: the laptop trackpad.

If you want to drive a college student quietly insane, run them through some detailed selection work in Photoshop—or even the most basic Bézier curve drawing in Illustrator—using nothing but their laptop trackpad. Although they make for very efficient navigation devices, these small pads were never intended to be precision input tools. Larger, tabletop pad surfaces are certainly doable, as there's enough room to move your hand about *as if it were a mouse*. But on a laptop, forget about it. Not to mention that the pad sits right in front of the keyboard, forestalling easy access to the Cmd/Control key for shortcuts. So the laptop trackpad is out—if a student brings their own computer, I require them to use a pointing device of some kind when learning these digital tools.

For Photoshop, I recommend the mouse as the primary device, with a stylus + tablet as secondary. Navigate around the software and perform selection work with the mouse, with the stylus at the ready for any sort of brush tool. Illustrator, interestingly enough, seems to work better in reverse for those student who have a stylus; keep it in hand as your primary tool, with a mouse off to the side when you need it. For InDesign, it's difficult to recommend anything beyond the mouse, unless a student is a *pure stylus native*, and doesn't have any mouse experience at all. Lastly, it needs to be said that working in all three tools is far more efficient if the student leverages keyboard shortcut commands. On this score, the *Digital De Facto* has an advantage—those who have been PC gaming for years know the value of keyboard shortcuts. *Analog Artisans* need to be explicitly taught, yet no working metaphors are there to help them; the commands must be learned by rote.

Above all, no matter which of the three digital tools they're using, any kind of touchscreen device (I'm looking at you, Microsoft Surface, bane of my classroom) quickly devolves into a nightmare, for the exact same reasons that Adobe gave up trying to reconfigure their desktop software for a touch/gesture environment; the original biases carry too much baggage. For those students who wish to work on their mobile devices or tablets in any way, I steer them towards Adobe's native apps: Photoshop Mix (compositing), Photoshop Fix (retouching), and Photoshop Sketch / Illustrator Draw (painting and drawing). All can sync with the Creative Cloud and allow students to drop assets into files in a desktop workflow.

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Conclusion

Consider your classroom and your individual students along a gradient between two poles—*Analog Artisans* and *Digital De Factos*. Teach design software by introducing and reinforcing an operational metaphor that is most relevant for how the tool is used—even if it differs from the original metaphor. I teach Photoshop using a *collage* metaphor, Illustrator using a *sketch pad*, and InDesign using a *plane*. Approach the stylus and the mouse with an open mind to the student's inclination, but also for what works with the software. Stress the importance of keyboard shortcuts, train them to avoid their laptop trackpads at all costs, and discourage them from using desktop software on touch devices.

Decades from now (perhaps mere years), we'll likely give our design software direct voice commands ("Photoshop, discard background and mask foreground subject...") while gesturing wildly in the air to visualize our latest idea. Today, however, we're limited to leveraging the tools and biases we have. I implore you to instruct your students to do likewise.

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15 Cross-Cultural Designs: Balancing Hand-Made Craft with Machine-Made Precision

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Abstract

Ancient handicraft techniques are passed down through generations. In many societies across the world they still play an integral role in daily life. Handcrafted fabrics are worn as head scarves, aprons, and attire. Handcrafted baskets are used to carry produce, bread, poultry, fish and even babies. These products are unique and often personalized to each individual's taste and preference. They have been a source of livelihood, heritage, and creativity. They have also been a point of interaction and sharing of ideas. Presently, these traditional crafts are being marginalized due to urbanization and industrialization. Artisans are abandoning crafts in favor of more lucrative professions. There is imminent danger of traditional crafts becoming extinct.

The presenter and his students conducted projects aimed to sustain traditional crafts, provide a continual income source for the artisans and thus improve their economic status. Collaborations were also sought with businesses to become part of this co-creation process. During these transnational design outreach projects, students, artisans and businesses co-designed and co-created products with artisans in India, Peru, Kenya, and China. Product development and design dissemination workshops were conducted for the artisans in their villages.

Working as catalysts, students created a new range of products by combining the natural 'imperfections' of handicrafts with the 'perfections' of the industrial machines. These products had the benefits and efficiencies of machine-made products along with the heritage, storytelling, and individualized distinctiveness of traditional handcrafted products.

The presenter will share the co-creation and co-design process used during the above projects through case studies and examples. He will construe: impact of the projects on society, working on cross-cultural design teams, navigating the requisites of multiple stakeholders, storytelling as a design strategy, and balancing hand-made craft with machine-made precision to create unique products.

16 From Craftsmanship to 3D Render— A Hybrid Package Design Experiment

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Abstract

Craftsmanship, as a part of design heritage, still finds its way nowadays in college graphic design studies, especially in the foundation part. Meanwhile, the ubiquitous digital technologies are constantly changing our life experience. The design scope, value and creativity have been expanded to a level where technologies have been fabricated into the fine grain of contemporary design. Yet, neither the craftsmanship-based practices, nor the tech-driven trainings are sufficient to prepare design students facing the design job market where multiple design skills are increasingly preferred. Rather, a hybrid approach that collaborates craftsmanship and technologies in a design process can help students accommodate to the demands from this real world.

In our design program, the experiment (focusing on craftsmanship, 2D, and 3D) was implemented in a packaging design class. In this class, students carefully rendered using ink and fine brushes, the typography and graphic forms in a traditional manner. This manual process aimed to forge the students the skills in creating forms, controlling materials, and attending visual details. Then the work was digitalized in 2D programs, for preparing the students proficient in Adobe applications. Lastly, *Autodesk Maya* was utilized to render the package work into a photorealistic 3D prototype for the visual presentation. The 3D exercise helped the students further develop their observational skills and evaluate their design in a broader scope.

In the paper, the learning outcomes of this hybrid experiment are outlined, and evaluated based on the trend of today's design job market. The purpose of this paper is not just to introduce a detailed collaborative learning experience, but to rise a discussion of helping students succeed in the earlier time of their creative career.

Wujun Wang, Eleanor Thornton

From Artisanal Craftsmanship To 3D Rendering: A Hybrid Package Design Experiment

Abstract

Craftsmanship, in its varied forms, is a part of our design heritage, a practice which has historically instilled a sense of excellence, refinement, and pride in the accomplishments of our profession. Such craftsmanship, or artisanal practice, still finds its way into college graphic design studies, especially in graphic design foundations. At the same time, digital technologies are ubiquitous, constant, and continue to affect and change our life experience. Technology expands, relentlessly insinuating itself into the register of value and creativity, imbricated in the fine grain of contemporary design. Still, neither 'craftsmanship-°©-based practices,' nor 'tech-°©-driven training' are sufficient in preparing design students to face the contemporary design job market where multiple design skills are increasingly preferred.

In order to meet the increasing expectations in the market for multiple technical skills, and at the same time to ensure the progressive elaboration of innovative and creative design solutions, I propose a hybrid approach that integrates the artisanal and the technical in multiple ways. This approach offers real advantages and assistance for students acclimating to the 'real world' demands of a professional career in graphic and information design.

In our design program, a methodological experiment —focusing on craftsmanship, 2D, and 3D— was implemented in a course on packaging design. In this class, students carefully rendered their work, using ink and fine brushes, to create typography and graphic forms in a traditional manner. This manual process was instituted to develop students skills in creating forms, controlling materials, and attending to visual and compositional details. Then the work was digitalized in 2D programs, to prepare the students to become proficient in various Adobe applications. Lastly, Autodesk *Maya*™ was utilized to render the package work into a photorealistic 3D prototype for visual presentation. The 3D exercise helped the students to further develop their observational skills and evaluate their designs in a broader scope. In the paper, the learning outcomes of this hybrid experiment are outlined and evaluated based on the current trends of today's design job market. The purpose of this paper is not just to introduce a detailed collaborative learning experience, but to also raise the discussion of helping students to succeed from the earliest points of their creative careers.

On Artisanal Craftsmanship and its Relation to 3D Rendering

Craftsmanship, which we consider here as a complex set of artisanal practices, plural processes that take many, varied forms, is a fundamental part of our graphic design heritage. Such practices have historically instilled a sense of excellence, refinement, and pride in the accomplishments of our profession. Despite its various contemporary definitions (software developers see craftsmanship as coding skills, designers as visual or compositional effectivity, or compelling rhetoric and persuasion), it is generally considered, among visual/industrial designers, to define the interaction between human and materials. It is a material-centered practice, "a property that gives the product the appeal of being well-made and well-functioning at its very early interactions with the customer" (Hossoy, Papalambros, Gonzalez, Aitken 2004). Today such craftsmanship or artisanal practice is still well utilized in college graphic design studies. The goal of craftsmanship in the undergraduate design program is however, not entirely predicated on the seeking of excellence in the quality of the work, such as it has been pursued in industrial design (Kolko 2011). Rather, it also aims toward developing students' visual memory, analytic comprehension, creativity, fine motor skills, material control, and more importantly, attention to details (Kolko 2011; Wang, Thornton, 2016).

While myriad forms of craftsmanship—technical, aesthetic, social— continue to find, and at times reinvent, their way in academic design programs, contemporary technology has opened another new era for design thinking and practice. Information technology, artificial intelligence, and 3D imaging are by now ubiquitous, constantly changing and refreshing our life experiences in multiple, and often unexpected, ways. Technics expand, relentlessly insinuating themselves into the register of value and creativity, imbricated in the fine grain of contemporary design, and inscribing themselves into our life. In artistic and aesthetic fields, technology and creativity are seamlessly merged, generating novel design positions, processes, and products, where new design strategies, methods, and principles are employed. For example, Augmented Reality (AR), computer-generated visual images and environments simulating, and overlaying, the real world, is a 'frontier hybrid practice' and growing profession that combines 3D design, graphic design, information design, user interface, user experience, consumer psychology etc. (Figure 1). Its potential has been investigated, experimented with, and executed beyond architecture, e-commerce, and medical services. AR has also been used, experimentally, for expanding or supplementing existing technologies, e.g., in increasing the capacity of QR code (Bumna, Darunee; Congpradhip, Sartid 2014), or for creating a more intuitive user experience such as a 3D driver's manual for new vehicles (Avila, Bailey 2016).

Figure 1. Augmented Reality is a complex hybrid professional practice.
Image retrieved from http://www.hongkiat.com/blog/augmented-reality-smart-glasses/ on May 28, 2017

The past year (2016) was designated as a *Hybrid Year* according to a recent report posted at Bentley University's website. The *Hybrid Year* in the report refers to the trends and tendencies of the 2016 job market, in which multiple, cross-platform job skills were in increasingly high demand. Dr. Aoun Joseph, President of Northeastern University, also highlighted this trend in an article posted in the *Harvard Business Review*, entitled "Hybrid Jobs Call for Hybrid Education." in which Dr. Aoun notes that "expertise in a single domain won't suffice". In a design program, stretching the skills of design students to become biologist, astronomers, or politicians, though they may find themselves working in such fields, is simply unrealistic. However, expanding students' overall skills and capacities through the practicing of a wide-range of design processes and related techniques, will take them a few steps closer to the ideal of a "hybrid designer", a type of contemporary designer who can solve problems using multiple types of design skills and technologies, and who has the methodological acumen and analytic comprehension, coupled with a refined creative approach, to enter and learn complex design problem-solving in any field.

A Hybrid Package Design Experiment

In the Department of Design at Central Connecticut State University, an entry level graphic design (package) class has implemented this type of "hybrid method," through which students experience a package design project as a process ranging from traditional craftsmanship, to complicated 3D digital image rendering. It is a process that covers basic and advanced design principles, traditional package design processes, and high-level rendering of 3D photo-realistic images for the purpose of presentation. This course is also a pedagogical test-bed, designed in

relation to the evolving trends, technologies, and needs in the field(s) of graphic and information design, to prepare our graduates with the conceptual and technical skills, and the adaptability to successfully pursue their careers in their chosen field.

1: CRAFTSMANSHIP

1. Hand Rendering Design Principle Compositions

Students in this entry-level class need to understand basic design principles. At the beginning of the semester, a list of design principles Is distributed to students, and a lecture was given demonstrating what each design principle was, accompanied with a few samples selected from *Principles of Form and Design* (Wong 1993) and the *Graphic Design Manual* by the Swiss designer Arming Hoffmann (2001). Inspired by these design foundation books, the assignment was to create eight 8-inch-square compositions. Each composition needs to visually explain one of design principles from the given list. Students were required to use either simplified images related to the content in the package (coffee), or those preliminary primary forms such as dots, squares, or triangles. (Figure 2)

Figure 2. Students are involved in a craftsmanship process.

For enhancing the learning outcomes of this craftsmanship-based practice, students must hand-make each composition using pen or fine brush, and inking the graphic forms in great detail. Students were then asked to notice the interactivities of the materials, the relations between paper and auxiliary tools, and art pen/brush, and the inking/rendering process. The final results were directed towards the achievement of a hand-made graphic layout on a presentable professional level (Figure 3).

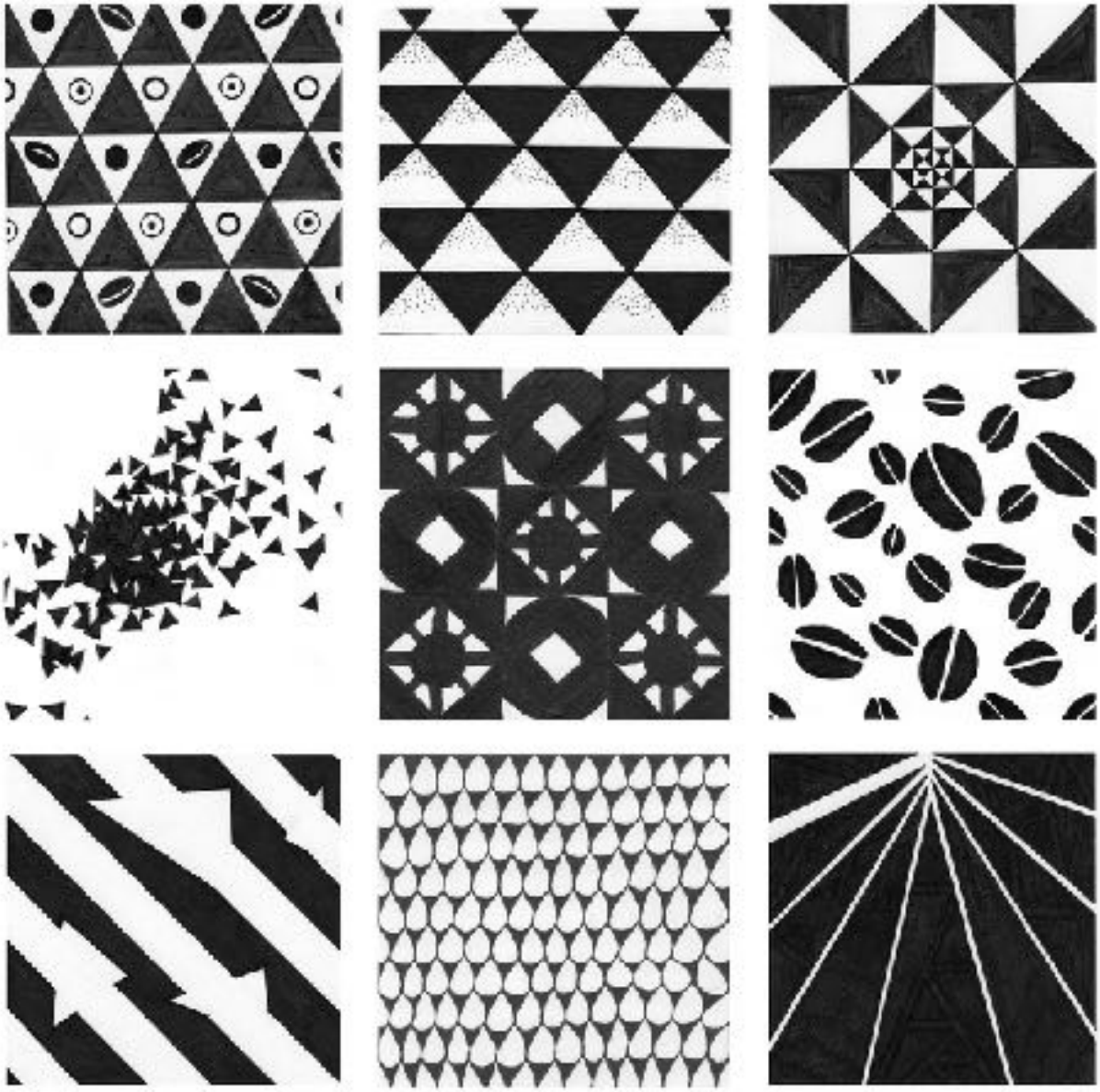

Figure 3. Students' samples showing hand rendered compositions for various design principles.

1.2 Integrating Design Compositions into Package Design Solution

Once the hand-rendered compositions were completed, students scanned their work, using it as a graphic background, or texture, for their package design, and seeing it as a set of graphic elements, which could further interact with typographic elements in their package projects, a solidly pragmatic practice inspired by Hoffmann's method in his book *Graphic Design Manual* (Figure 4).

Figure 4. Students' samples showing hand rendered design principle integrated in their packaging design projects.

2. 3D Rendering

In the 3D Rendering section of the course/project, students used Autodesk™ *Maya*. Autodesk™ *Maya* is an industry standard program often used for special effects in films and movies. It has full modeling and animating features, tools, and plugins for simulating the physical world with a near seamlessly convincing photo-realistic quality. In the CCSU Design Department's package design class, this 3D program is also taught on an entry level. Students learn basic modeling, texturing, lighting, and rendering, using the Mental Ray Plug-in. There are two challenges in teaching this 3D program: first, students are generally somewhat reluctant to engage themselves in a new learning area, especially when they are so fascinated with their print design process. Second, learning the texturing part in 3D modeling is relatively abstract, and can involve a strenuous effort on the part of students to adequately visualize the process. More detailed preparatory work on tutorials and extra points incentives often do the trick in provoking a good start. Motivations were again apparent in the final renderings, when students started to see the visually-striking rendered results showcasing their packages in a virtual but photo-realistic quality. (Figure 5)

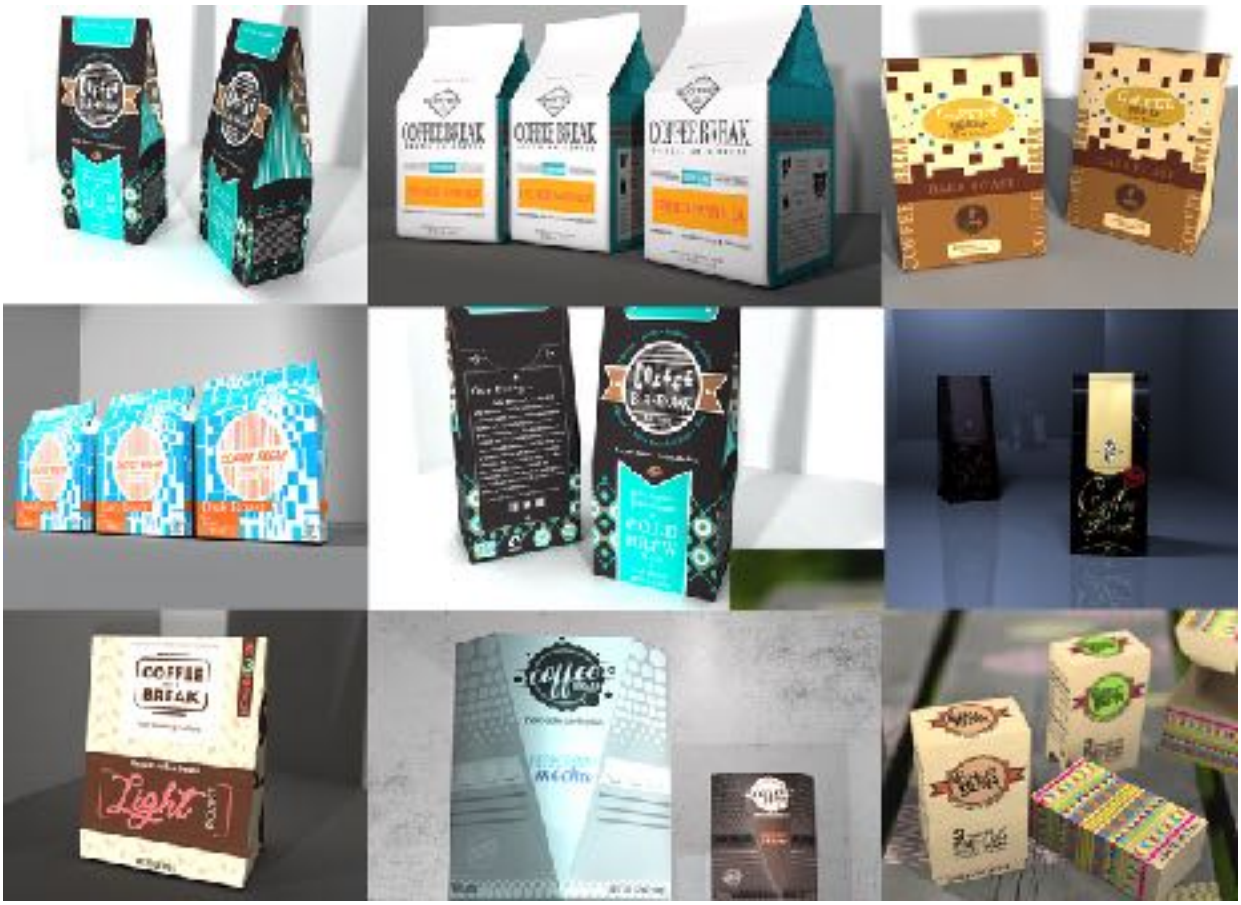

Figure 5. Students' samples showing their work rendered in a 3D program.

3. Evaluation & Conclusion

The goal of craftsmanship in this class is to forge in students the skills involved in creating forms, controlling materials, and attending to visual details, in short, a comprehensive process that unlocks students' visual perception (and creative imagination) towards graphic forms, and develops student's intuitive comprehension, as well as technical proficiencies, towards materials. Our students not only rigorously developed and refined their motor skills, producing a cooperating integration and feedback between mind, eyes, and hand, but they also developed a deep appreciation and comprehension of the sophisticated visual quality of professional design work, and an understanding of how it is built upon an attention to detail, a generosity towards multiple, hybrid resources and methods, and why the ignorance towards visual details, in a constrained and conventional context often leads to a blank and tedious result.

Learning 3D imaging is time-consuming, to be sure. But the learning process can be modularized, or streamlined for teaching entry-level students in ways that augment their foundational skills, and temper their tacit learning curve towards an optimal capacity to create and implement innovative and successful design solutions to complex problems. This is, in a sense, the very definition of hybridity that is set forth in this paper. In class, the entire 3D process was divided into four parts: modeling, texturing, lighting, and rendering. Each part

focused only on the most essential techniques and basic settings in *Maya*. Despite the complexities of the program interface, students immediately achieved fairly good results, especially today, with rich online tutorials and available resources for students, e.g., via YouTube, Lynda.com, and a number of other online resources and forums. But in the main, this experiment in artisanal craftsmanship, hybrid digital/analog articulation, and 3D productivity helped students to develop effective 3D concepts and production strategies, to enhance their observation skills (looking and comprehending in depth), and to acquire a number of valuable new skills in the 3D area, by thinking and working both within and beyond graphic design.

Students will become, through this type of education and practice, more competitive in the contemporary job market where such hybrid design skills are increasingly preferred. Again, we will note the report posted on the Bentley University website: *the year 2016 is marked as the year of the hybrid job*. This Report shows that 71% of in-demanding skills are required across two or more job categories. The combination of 3D skills with a 2D graphic design background can prepare graphic design students, and secure for them the skills and approach that can open many more employment opportunities beyond conventional forms of graphic design. Students can enter their field(s) of choice better prepared, via the model of hybrid practice in areas such as package design, exhibition design, medical illustration, museum digital imaging, prototype visualization, exhibition design, etc. In proposing the refined evolution of hybrid analog/digital design practices, our pedagogical experiment in hybrid design problem-solving offers not only pragmatic skillsets, and technical currency and proficiency for our students, but also fosters an integrative and open way of adaptively thinking 'out of *any* box' to produce successful and innovative, creative, design solutions to real-world problems. No client or agency will hire someone to do something just like what anyone else will do; how do you foster innovative, creative thinking in a pedagogical context that transitions smoothly to the real world environments of graphic and information design? Evidence indicates that the hybrid design model that we have described above, initially as an experiment and now moving towards a core curriculum, is one such promising example.

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17 Trianimals

Brenda McManus
Pace University-NYC

Ned Drew
Rutgers University-Newark

Abstract

This letterpress project encompasses the traditional printing method with a contemporary and modular printing system. Inspired by the minimalist children's book design of artists such as *Blexbolex, Bruno Munari* and *Paul Rand,* we set out to develop a narrative, and its accompanying visual vocabulary, based on a simple shape—the triangle. Using this shape, we developed a unique story, generated through a system of expanding interpretations and multiple combinations.

The overall concept and design of this project revolves around our dedication to the foundations of design. Basic design principles, such as color, shape, abstraction and layering are at the core of this initiative. We developed a printing system based on a single unit, a one-inch right triangle.

Although conceived as a letterpress project, our process started with a more contemporary tool, the computer. We used Adobe Illustrator to design the animal illustrations; this process would later serve as a digital blueprint to work from when translating the various layers to the press bed. Once we worked through the design we produced one hundred, type high, 1" x 1" right triangles. To implement this system we produced 3D printed 1x1" triangular counter forms or "slugs". These slugs enabled us to easily "lock up" different configurations on the press bed. This marriage of old and new technologies allowed for exciting possibilities.

We often discuss with our students the concept of "1+1=3". This simple concept helps to illustrate that, in design; basic elements can be combined to make unique combinations. In our printing process this is was also true. A major design consideration was the correct and balanced layering of colors to achieve the different components of the animals' portraits. These whimsical and simplified representations came to life through the subtle layering and manipulation of various color combinations.

18 Designing for Death: Playful Design Thinking for a Solemn Subject

Holly Tienken
Kutztown University

Vicki L. Meloney
Kutztown University

Elaine Cunfer
Kutztown University

Abstract

Three design professors and their students analyze a solemn subject, dive into cultural beliefs, explore spiritual taboos and ask a simple question — When can death evoke a smile: be it a clever concept, a humorous anecdote or an emotional memory?

This question was the basis for an enlightening project that was entered into an international poster design competition — To Death with a Smile. The competition was sponsored by Mumedi, the Mexican Museum of Design.

We propose a presentation to illustrate how traditional hands-on art creation techniques, serious discussions about personal beliefs and extensive research on cultural rituals and taboos, lead to students dissecting their assumptions in order to create dynamic posters highlighting their original artwork.

A morbid subject that many students initially met with resistance became an intense immersion into the study of death through art, literature, religion, history and culture. Through various research techniques, we developed a broader understanding of mortality in our global community.

Classroom discussions dug deep into our students' personal experiences and views about the great equalizer of humanity. Often discussions about fear, grief, sadness, celebration and hope became catalysts for humorous, cathartic and empathetic creativity, that bridged their views with seemingly unusual traditions around the globe.

After thorough research and concept development, rigorous and unconventional image and type exploration was conducted to execute the final design in our students' creative process to create beautiful and meaningful posters. The posters were submitted to the contest with outstanding results. The project was laid to rest but our students' new found perspectives on death and dying will live on in perpetuity.

19 Designing and Coding Explanatory Visualizations for the Web

Eugene Park
University of Minnesota

Abstract

This presentation proposes a class project that challenges students to design and develop a single-serving website that is able to tell a short but cohesive narrative through explanatory data visualizations, which are data-driven graphics that are visually restrained but meant to effectively communicate and inform an audience. One of the theoretical foundations behind this approach is rooted in the works of William S. Cleveland and Robert McGill who demonstrated that visualizations and infographics that encode data with simple and familiar visual forms will allow the audience to make more accurate readings. And on a pedagogical level, explanatory visualizations can enable design students to move beyond the singular focus of graphical aesthetics and into approaching data visualization as a system of components (graphs, text, image, motion, etc) that shape the overall user experience of disseminating information.

While being positioned and framed as a straightforward data visualization assignment, the said project is meant to teach students to think how a single graph/chart cannot fully convey a story and often requires intentional integration with other design elements in order to provide narrative context as well as important signifiers for interacting with the data itself. And so by merging relevant topics from interaction design, web coding, and data visualization into a single set of challenges, this project can serve as a meaningful extension from conventional interactive design and infographic assignments and help renegotiate the boundaries between the specializations within the graphic design curriculum.

20 New Typographic Experience in the Post-Digital Age with 3D Printing and Ceramics

Taekyeom Lee
Appalachian State University

Abstract

My research explores unconventional methods of creating three-dimensional type with materials and techniques unique to type design, such as ceramics and 3D printing. This research began with two questions: Where does typography belong in the post-digital age? How to combine digital and physical materials to enable new typographic experience? Although there are a few ongoing discourses regarding the term “post-digital” and no one can authoritatively decide how to de ne the term. From my understanding, the debate focuses on a paradigm shift in the arts under the development of technology as the exciting and rapidly changing digital environment affects them. Today, technological convergence, new manufacturing processes using computer numerical controls like 3D printing, CNC milling, and laser cutting have broadened creative possibilities and the perception of three-dimensional experience for artists and designers. Three-dimensional printing especially has become more refined, common, and accessible, and also cheaper. These new technologies have provided new tools for pushing boundaries of the medium both in terms of concept and materiality. In response to this movement, my latest research infuses 3D printing into the field of typography and ceramics. For my research, I decided to build my own tools including a self- built desktop 3D printer and my own paste extruders in order to produce 3D ceramic type and objects as a ceramic 3D printer was not affordable or accessible. To build my own ceramic 3D printer, I did research on RepRap project since it is one of the most famous open source projects and provides resources for designers, artists, and makers to build affordable 3D printers. The most exciting feature of these DIY 3D printers is that you can build your own machine and customize it for your creative practice. The custom-built toolkit produces quality prints comparable to commercial ceramic printers. This research will provide inspiration to designers and artists who are interested in building their own custom tools in the post-digital age.

New Typographic Experience in The Post-Digital Age with 3D Printing and Ceramics

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Assistant Professor of Graphic Design
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Introduction

My research explores unconventional methods of creating three-dimensional type with materials and techniques unique to type design such as ceramics and 3D printing. This research began with two questions: Where does typography belong in the post-digital age? How do we combine digital and physical materials to enable a new typographic experience? There are a few ongoing discourses regarding the term "post-digital," and no one can authoritatively decide how to define the term. The debate focuses on a paradigm shift in the arts regarding the development of technology as the exciting and rapidly changing digital environment affects it. Today, technological convergence and new manufacturing processes using computer numerical controls like 3D printing, CNC milling, and laser cutting have broadened creative possibilities and the perception of the three-dimensional experience for artists and designers. Three-dimensional printing in particular has become more refined, common, accessible, and cheap. These new technologies have introduced new tools for pushing the boundaries of the medium both in terms of concept and materiality. In response to this movement, this research infuses 3D printing into the field of typography and ceramics.

Specifically, these new technologies will bring us into a transformational experience that allows us to talk about the notion of printed letters. For decades, many graphic design professionals and type designers have worked exclusively in two-dimensional space to create type. This practice has somewhat influenced the "glass box," which limits type creation to the high contrast between type and background as most type has been printed on flat surfaces. However, with 3D type, as opposed to type printed on paper, letters do not lie on the static surface of a page or a screen. For artists and typographic practice, 3D type is convergent and incorporates artistic expression, construction technique, three-dimensional experience and materiality. Thus, these letters acquire new characteristics such as texture, structure, volume, dimension, and even interactivity with their physical tangibility. With the development of digital technologies, letters can be printed in three-dimensional space, and this will cause a paradigm shift in the typographic experience regarding the development of material and manufacturing technologies. This research will provide inspiration and a frame work for designers and artists who are interested in building their own custom tools in the post-digital age.

Building 3D Printers

For this research, I decided to build my own tools including a custom desktop 3D printer and my own paste extruders in order to produce 3D ceramic type and objects, as a ceramic 3D printer was not affordable or accessible. To build my own ceramic 3D printer, I researched the RepRap project as it is one of the most famous open source projects on building 3D printers and provides resources for designers, artists, and makers to build affordable 3D printers. The most exciting feature of these Do-It-Yourself 3D printers is that you can build your own machine and customize it to your individual creative practices. The custom-built toolkit produces quality prints comparable to commercial ceramic printers.

I needed to make my own tools for my research in order to investigate the concept[1], and there was no 3D printer that could print clay. Many design professionals have used pre-made software and hardware as these components are not easy to create on their own. The 3D printer is one of these components, and it is beneficial many designers. In 2014, I made handcrafted ceramic pieces in order to create 3D modular ceramic type; I made plaster molds and casted piece by piece. These practices also lead to an interest in the possibility of combining typography, ceramics, and 3D printing as an alternative way of using high-tech features. Desktop 3D printing caught my attention because it does not need the space and equipment for a clay studio. I can make more intricate and more varied modular designs with this new tool.

The first ceramic 3D printer was built based on a delta style 3D printer. In the summer of 2015, I purchased a DIY 3D printer kit. I had been playing with the open source delta style 3D printers to figure out what I could do with this new technology. There are several different types of 3D printers, and RepRap is one of the most highly regarded. RepRap printers are able to produce some of their own parts and make them self-replicative, and they are one of the most affordable 3D printers. After I made a decent number of small prints, I wanted to build a scaled up version that could print small and medium size ceramic objects. I realized that my 3D printer was able to produce parts to build a new printer, and I fabricated a bigger version of the delta style 3D printer. It involved considerable troubleshooting to build and run my own DIY tools. This is one of the benefits of building your own printer.

These are 3D printers I have built to print ceramic type and objects. The left one is the medium scale printer (print volume: 300mm diameter and 300mm tall) and the small one in the middle is made for workshops and demos (print volume: 160mm diameter and 260mm tall). The taller one is the latest one I built to print bigger ceramic type and objects (print volume: 320mm diameter and 1050mm tall) (Fig. 1).

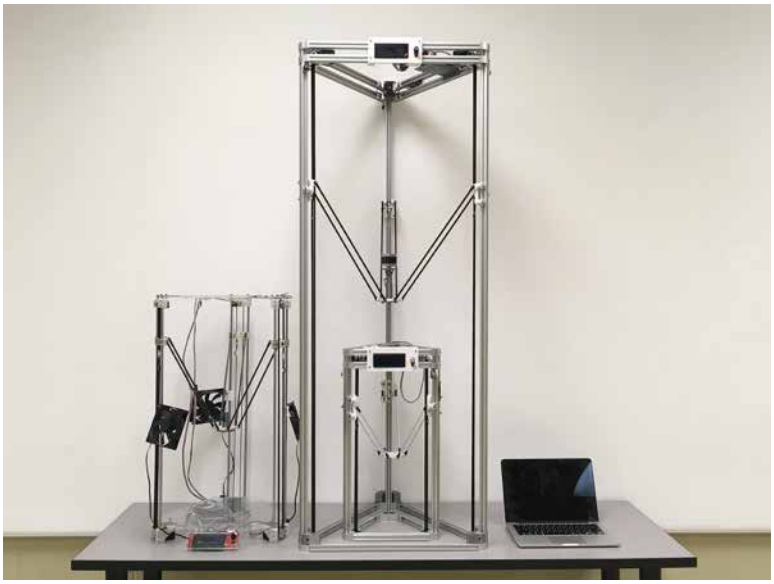

Fig. 1. Delta style 3D printers

[1] It is condensed and updated version of the article "This Custom Machine 3D prints Incredible Ceramic Sculptures" that posted on makezine.com in September 2016.

3D Printing Clay with an Augur System

Clay is a fascinating and sensitive material. It is essential to find the right viscosity of clay. It should not be too soft or too solid. If the clay is too solid, it cannot be extruded smoothly; if it is too soft, it has a greater chance of collapsing while printing. I started with low fire white clay because it has fewer particulates and is soft enough to be easily extruded. Since the clay is normally not soft enough to be 3D printed, it should be mixed with extra water. As the early prints were small and simple geometric shapes, it was relatively easier to print them. However, as the prints got bigger, 3D models were not as easy to print because they would collapse.

In order to 3D print ceramic objects, it is crucial to extrude wet clay. Therefore, I made prototypes of a clay extruder with PVC pipes[2] since this is inexpensive and easy to get. However, it was still not easy to print wet clay because wet clay is very sensitive. It required several test prints to find the right Pound Per Square Inch to extrude clay and appropriate slicing configurations to generate G-code. Early works were simple geometric shapes, and I produced many misprints that collapsed and sagged while printing and after printing. I solved the problem with electric fans around the prints and by designing self-reinforcing structures. 3D design with self-reinforcing structures reduces the chance of collapsing and sagging. Also, it adds its own aesthetic to the ceramic typographic sculpture. Later, I reevaluated those misprints and created typographic sculptures that delivered new experiences.

This image describes how the auger system extrudes wet clay. Wet clay in the container is extruded with compressed air and an auger screw that is controlled with a stepper motor is extruding and stopping clay. The stepper motor is controlled with an Arduino board that is connected to a computer (Fig. 2).

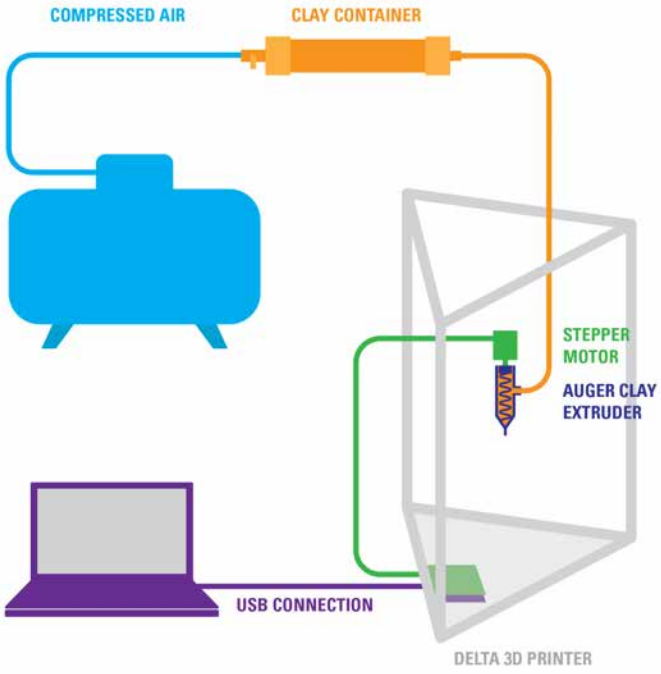

Fig. 2. How the auger system extrudes wet clay

[2] PVC pipe is not recommended and would not be safe material for use with compressed air. Copper, Stainless Steel, Aluminum are recommended.

The first clay extruder was a simple pneumatic extruder with compressed air. It is good enough to print certain 3D type and vase like objects, but it is not able to print more complex letterforms. To print diverse and intricate 3D letters, I designed a new clay extruder that is using an auger valve to control paste extrusion. I took advantage of 3D printing —3D printing is also called rapid prototyping— to make my own tools. I designed auger screws and housing on CAD software and printed them out for testing. For more than three weeks, I have designed and tested more than 60 different screws and 10 different housings. Since there was a leak on the extruder, I needed several tests to solve the problem. After resolving the issue, the auger extruder shows pretty impressive results.

New Typographic Experience in the Post-Digital Age

Since the time of Gutenberg around 1450, hundreds of years have been spent developing impeccably proportioned, beautiful typefaces and print technologies to support the perfection of printed materials. However, type design has evolved with creative process, shifting the emphasis from two dimensions to multi-dimensions. Developments in digital and multimedia have pointed in the direction of dimensional typography. Because of animated letters on screen with dimension of time, three-dimensional letterforms became more common than before. Ironically, after many typefaces digitized and translated into digital data, letterforms recover the dimensionality with new technologies. As readers and audiences have been exposed to more complex and diverse visual environments, they are willing and able to deal with textual and dimensional visual elements in both physical and virtual environments. Today, it is not necessarily anymore important to have clear and transparent relationship between form and content. The importance of Beatrice Warde's crystal goblet metaphor may be diminished because presenting a text in a straightforward manner is not strictly required.

Today, under the development of digital technology, the exciting and rapidly changing digital environment has influenced typography and typographic experiences. I asked two questions for this project: Where does typography belong in the post-digital age? How to combine digital and physical materials to enable new typographic experience? We cannot deny the rapidly changing digital technologies and its influence on art forms in the digital age. There are mixtures of hopes and concerns between being human or being digital. Personally, I believe the debate should focus on the exploration of new avenues and possible ways to bridge digital and physical relationships. Digital environments enable us to make something we have only imagined or even have never imagined before, for the last decades. During the digital age, many analog and physical objects are digitized or simulated on screen. In my opinion, many things on digital would be translated into physical or combined into physical space in the post-digital age to bridge the gap between digital and analog. It is already undeniable to face a paradigm shift in many forms of art and design under the development of technology as the exciting and rapidly changing digital environment affects them, typography included.

Case study: 3D Printed Ceramic Typographic Sculpture

This exploration provides a way to rematerialize type in order to translate the digital type design into tangible typographic form. Also, the use of digital fabrication pushes the boundary of the medium in typography both in terms of concept and materiality. Likewise, 3D printed ceramic type obtains materiality and dimensionality, so that this became an involved cross-disciplinary research effort. This chapter will introduce the actual three-dimensional letterforms that I have created.

The CAD design of "THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG" was designed using Rhinoceros. The letters were stacked vertically in three-dimensional space and the outline of the letters are merged together. Spaces between words were wider and deeper. I was agonizing over how to write letters in three dimensional space and this is one of the solutions I found (Fig. 3).

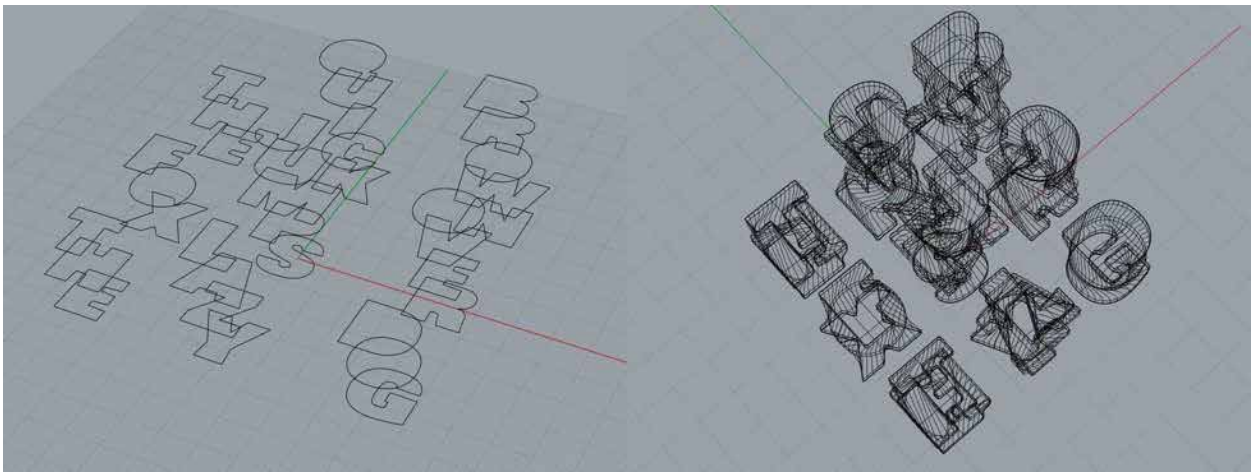

Fig. 3. THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG

These tangible letterforms are designed on CAD software and 3D printed with ceramic. They say "THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG[3]." Before you pay a lot of attention to the three dimensional form, it is definitely not easy to notice what the texts are. The texts are not very straightforward (Fig. 4).

Fig. 4. THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG

[3] https://www.instagram.com/p/BHGHUHiBQGc/

These 3D modular letterforms[4] show how to use modular construction for ceramic typographic sculpture. The modules could be rearranged to construct different letters. Depending on the deeper understanding of modular construction, the alphabets that these modules can construct would not be limited to Latin Alphabets (Fig. 5).

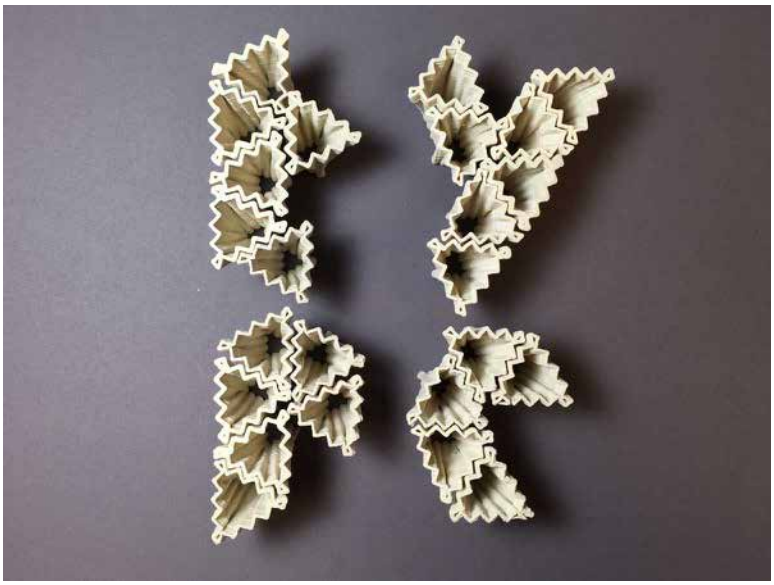

Fig. 5. Modular type

I reevaluated the value of the non-linear character of clay and created "ME IN FULL PRODUCTION[5]." Those glitches created the interesting texture and added character as well. The glitch was made by manually controlling the extrusion, not from the software. Also, these ceramic 3D type are multi-dimensional because they involved time as an additional dimension. The time-lapse video of the printing process shows that the letters are moving through time and space (Fig. 6).

Fig. 6. ME IN FULL PRODUCTION

[4] https://www.instagram.com/p/BP1OgwMh-6Y

[5] https://www.instagram.com/p/BHNl3yqhGd9

"MESS to NEAT[6]" is the result of a trial incorporating the meaning of the text and the form of the text. The print quality of the bottom parts is disorganized and gradually gets better toward the top. The transition of the print quality shows transition of the text and the meaning of the text as well (Fig. 7).

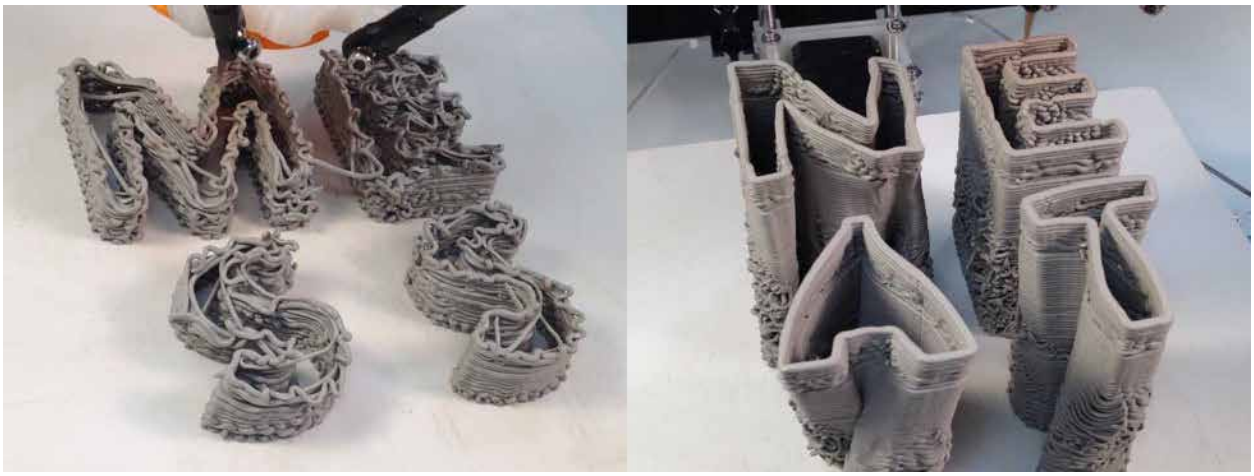

Fig. 7. MESS to NEAT

As I developed my 3D printing ceramics process, I have tried more complex objects that are not easy to make with our hands and traditional ceramics techniques. The design of the three dimensional ceramic type became more abstract and sculptural. This is one of the successful prints from the trial and error process. The form is inspired by letterform "X" and designed to have a self-reinforcing structure. The printing process of "XXXXX"[7] was fascinating as well (Fig. 8).

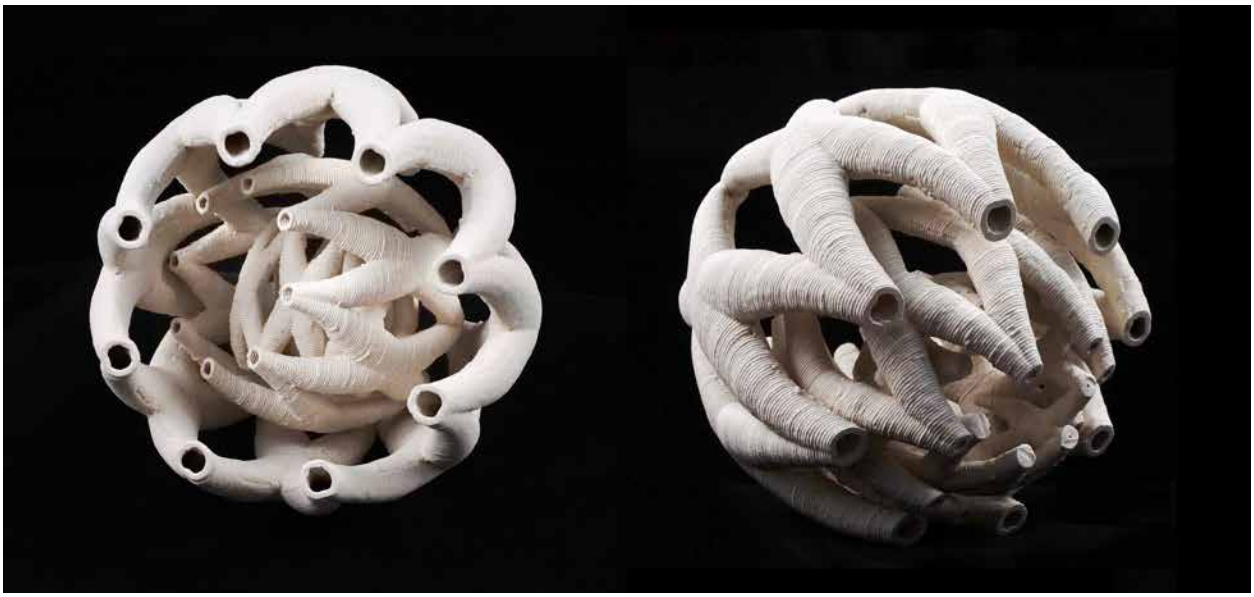

Fig. 8. XXXXX

[6] https://www.instagram.com/p/BIJQKqdBbmw

[7] https://www.instagram.com/p/BIgFwFoBJqx

"A, C, and O" were created with ceramic chains on the surface of the letterforms. Those chains were printed by using the non-linear character of clay as the clay is soft and they do not have supporting materials. "ME IN FULL PRODUCTION" and "MESS to NEAT" successfully implemented the glitches. However, these chains or fur-like textures are created in a more controlled manner[8]. These letterforms obtain the new texture within the depth of space and provide a unique tactile experience (Fig. 9).

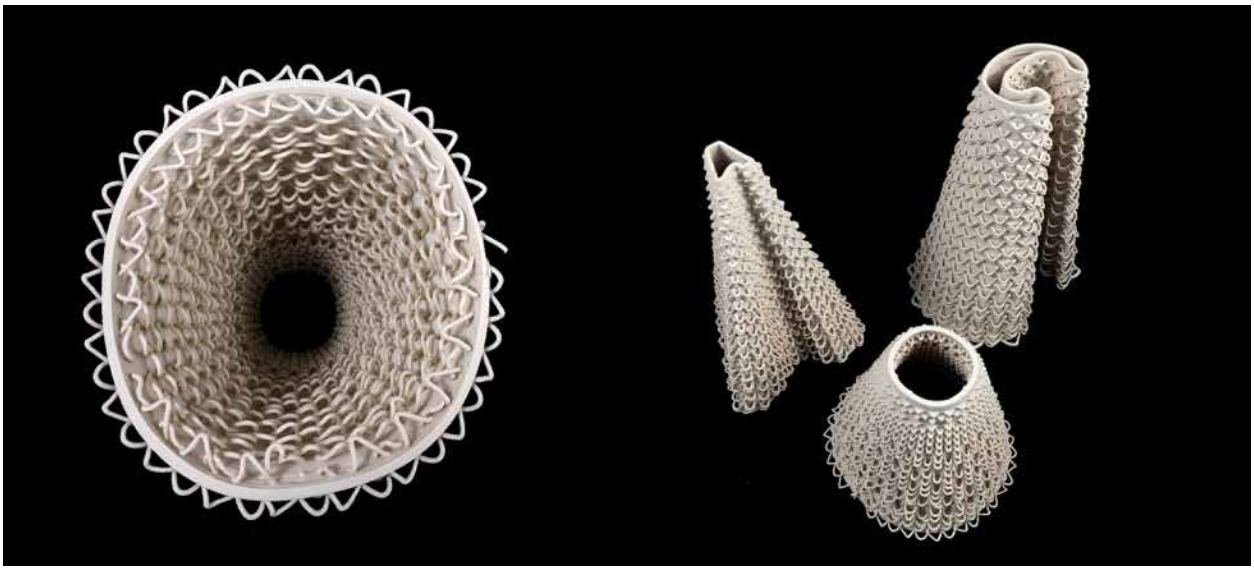

Fig. 9. A, C, and O

This print has a sentence from my research statement "Digital culture and technologies currently yield a strong influence many areas of artistic practices, typography and ceramics included." It is the longest sentence I have written with clay material[9]. The letters were applied to the surface of the cylinder in a CAD software and printed with porcelain. This trial proved that a longer sentence could be spelled with ceramics and 3D printing (Fig. 10).

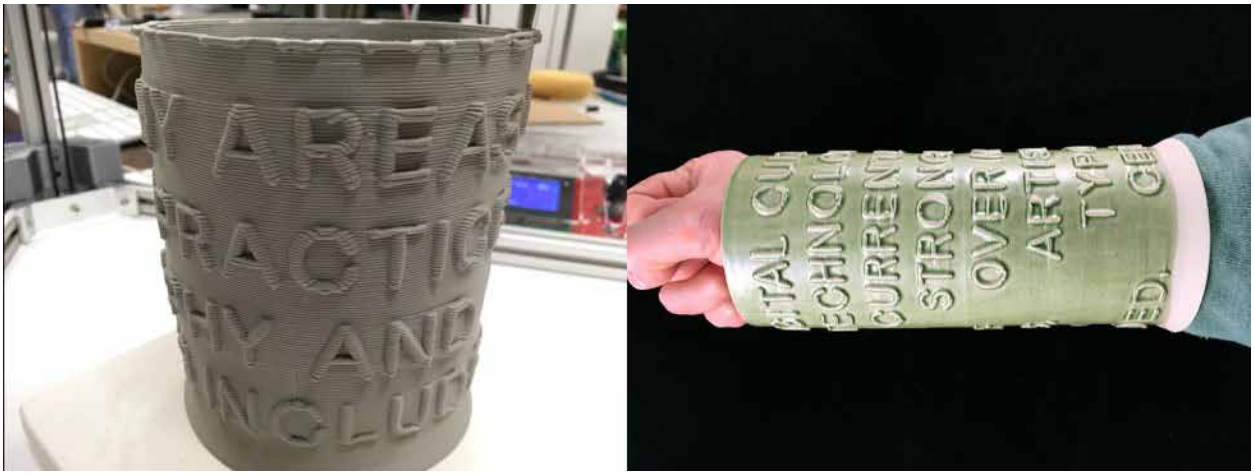

Fig. 10. A sentence from the research statement

[8] https://www.instagram.com/p/BMsHcyFBTD7

[9] https://www.instagram.com/p/BQb8-17huoP

I started experimenting with various color glazes. Not like CMYK color print, glazing process is not intuitive and could show unexpected results. This "HAPPY" was glazed with two different matte glazes (yellow and red). Because of the chemical reaction of the glazes in a kiln, it turns out an interesting color. As the yellow glaze was applied first, the red glaze was broken on the surface more (see the edge of the print). Also, the yellow glaze emerged from the surface or blended with red glaze. It is very difficult to expect an exact outcome. However, the gap could be made much closer through numbers of experiments. When you work with ceramics, you need to make test tiles before you glaze fire your piece. Because you cannot fix the color after firing process, you need to test the glaze first like designers have color proofs to ensure the final outcome. (Fig. 11).

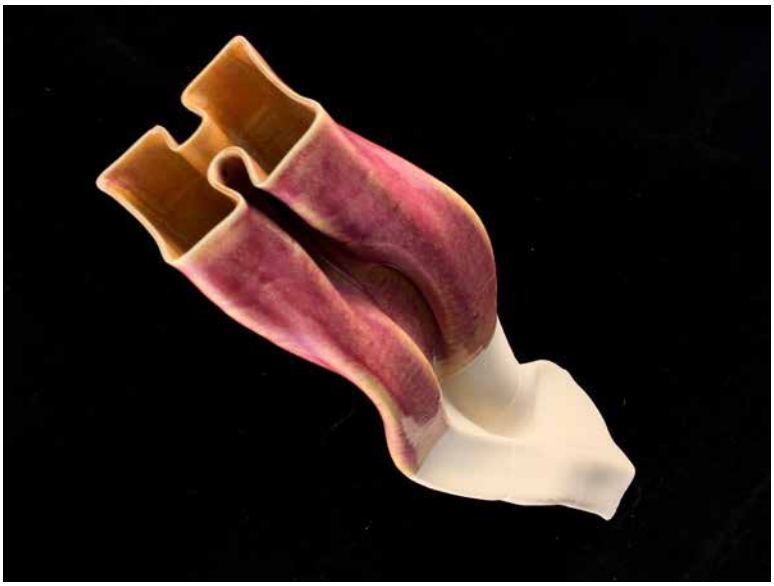

Fig. 11. HAPPY

It is supposed to be "WHAAAT," but the print collapsed during the printing process. As the print was not completely collapsed, the letterform is barely recognizable. Fig. 12 shows the original 3D model and the upside down "W" from "WHAAAT." The form represents the reaction or the first impression of the print although it was not intended in the first place (Fig. 12).

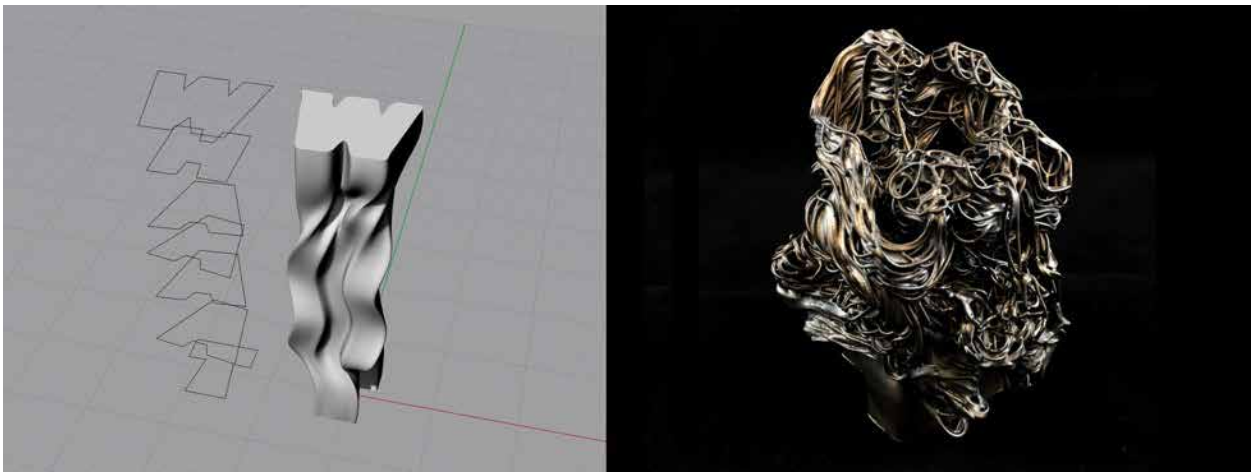

Fig. 12. WHAAAT

I have tried to photograph 3D printed ceramic objects and type in different ways to deliver the sense of space. As they are three-dimensional objects, it was not easy to capture their physical substance in space. I found that the inner structure of the printed object showed captivating results with light and shade when they photographed. These pictures are a very different interpretation of the works. The light comes through the opening, and the reflection on the surface reveals the shape and the layers of the print. The photo shoot does not need any adjustments: color, brightness, or contrast. These are the result of the initial tests, and I plan to explore more with typography, ceramics, digital fabrication, and photography. This exploration shows that this research project could be multidisciplinary—more than 4 areas—work (Fig. 13).

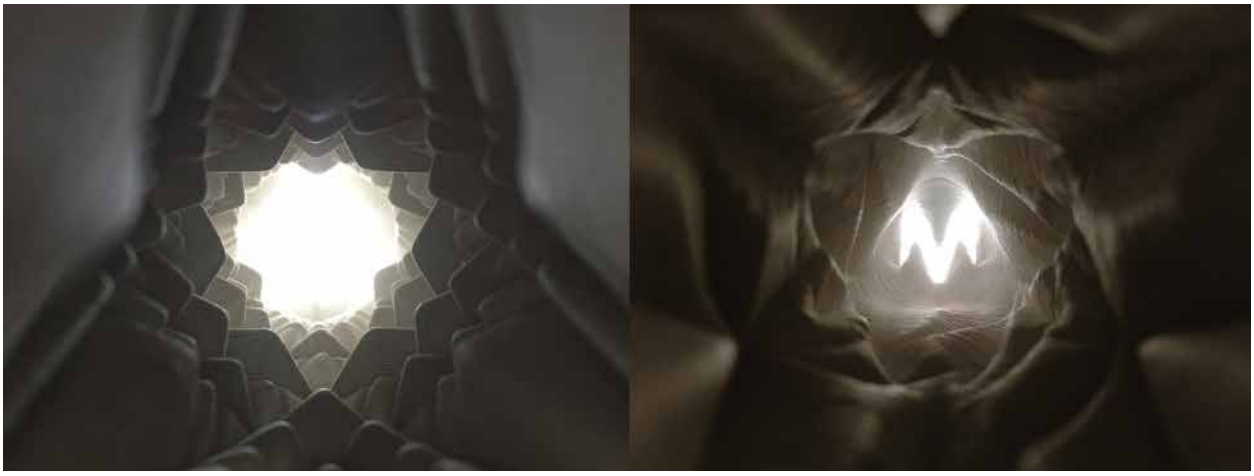

Fig. 13. Photograph of the inside of printed objects

3D printed ceramic type and objects need to be fired when they are completely dried[10]. Those prints are mid-range porcelain and they need to be fired at cone 6 (2232 °F). Shrinkage rate is between 20-30% depending on the clay body and the design. Depending on the scale and design, they could have sagging or warping (Fig. 14).

Fig. 14. Loading an electric kiln

[10] https://www.instagram.com/p/BID51wvA6iX

The Future of The Exploration

This research successfully finished the beginning and the intermediate stages. The next stage is aiming for larger scale prints and more durable structure and material in order to introduce this experience to a wider audience. Recently, I built a giant 5ft tall 3D printer that can print ceramic objects up to 1050mm (approximately 3.4ft) tall and 320mm (approximately 1ft) in diameter. The next stage of this research foresees creating even larger pieces that can be placed in public spaces in order to allow people to touch and interact with the large-scale three-dimensional typographic sculptures. A 6ft tall 3D printer with more ridge frame is under construction. To build the 6ft tall printer, I need to make several custom parts, and it will take more than a couple of months to create and test the parts. The printable materials could be expended to other paste-like materials: concrete or cement. The materials should be durable but do not need a special curing process. Fig 15 is a mock up of a possible scene of giant letterforms in a public space. People can walk into the letter and sit on the letter (Fig. 15).

Fig. 15. A mock up of the giant letterforms in a public space

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Warde, Beatrice. The Crystal Goblet: Sixteen Essays on Typography. London: Sylvan Press, 1955. Print

21 Branding in the Fab Lab

Patricia Harris
The State University of New York at Old Westbury

Abstract

Logo and packaging design can be realized in entirely new ways through the use of 3D fabrication tools. Just as computer so ware enabled designers to move away from the labor of hand-made layouts, 3D fabrication tools allow designers to transfer their ideas into fully realized 3-dimensional objects quickly and inexpensively. This presentation covers a logo and packaging design project that shows how logos initially conceived of as sketches were developed into packaging designs through the use of a lasercutter. The process took hand-drawn designs through a transformation into vector-based line art. These designs were then placed on box templates using the lasercutter to create die-cuts and etched lines. Drawings can also be rendered through the etched line effect of the laser. The end result is a box assembled by hand that carries the logo design that began as a sketch.

The use of 3D fabrication tools enables students to realize their designs with a precision that was previously impossible. It also allows students to easily create many different design versions and see their ideas realized in 3D form. Drawing within a vector-based program is in itself another form of handiwork occurring in the middle of this process. These tools extend the capabilities of the designer's hand.

22 Speed Design or How to Find the Client of Your Dreams

Claudia Scaff
University of North Florida

Douglas Johansen
Jacksonville University

Abstract

Like a good romantic partner, a good client is hard to find. These days, it is much easier for clients to find designers and for designers to identify potential clients. While a design marketplace without impediments would seem to facilitate designer-client relationships, we still hear too many designers sharing stories of clients from hell. A good relationship between the designer and their client is the bedrock of successful design, yet is also a complicated thing to build, requiring time, effort and effective communication. As a result many questions must be answered: Is a particular client a good match? How much time do we really need to know if a particular client is the client of a lifetime? Would a "speed dating" model help designers find their best client match?

This paper investigates the outcomes of a "speed design dating" event with American design students and Brazilian non-profit organizations where 5 non-profit organizations met 5 groups of design students. The American students had no previous experience dealing with international clients, nor the organizations had ever received feedback from international designers. After all the organizations introduced their causes, designers had only 20 minutes to give feedback about the design of their marketing material to each organization. This study investigates the expectations of both parties, the impact on marketing communications materials, and the effectiveness of the method. It discusses final results, and makes recommendations about how the benefits of this cross-cultural experience could be brought to our classroom.

23 Creating a Campus Culture of Creativity: Doodle Day

Jennifer Vokoun
Walsh University

Abstract

It is not uncommon in general education drawing and design courses to hear students lament that they are "not creative" or that they "cannot draw a stick figure." Even in design courses, many students are more comfortable working directly on the computer rather than drawing out ideas.

In an effort to promote drawing by hand and to create a culture of creativity across campus, students in the campus design club organized Doodle Day. Students were inspired by the work of Sunni Brown, who promotes the power of doodling and its benefits including boosting comprehension and creative thinking, as explored in Brown's TED Talk "Doodler's Unite" and her book Doodle Revolution. In addition, students referenced the national Doodle Day held in the UK to support Epilepsy Action, the working name of the non-profit British Epilepsy Association. The UK Doodle Day asks participants take a selfie with their doodle on a selected day and submit it via text with a small donation to support epilepsy research.

Borrowing from the model of the UK Doodle Day, design club students gathered doodles from students on campus and scanned these to create a t-shirt to be worn and sold on campus on Doodle Day. On Doodle Day, students, faculty, and staff create a doodle or drop off a doodle in the student center and take a selfie and post it, both physically (with an instant photo print) and digitally – bridging the hand drawn to the digital. Participants donate art supplies or a small monetary donation to be donated to local arts organizations in need of supplies. The collected doodles are compiled digitally – again bridging the hand to machine – to promote the next doodle day, building an ongoing culture of creativity on campus.

24 A Study of Practical Plans for Motion Graphics as Interactive Content

Kay Youn
Seton Hill University

Abstract

Various new media have emerged since the beginning of the digital age. Now these new media have become fused together and reborn in the hybrid character of a new media genre. It is most important that user interaction has been improved for the media from the digital environment. The importance of interaction has been mostly emphasized in the age of ubiquity as an ideal digital circumstance. To efficiently evince interaction with users, design and programming elements have been required simultaneously. Motion graphics have been recognized as a significant field of interactive content in recent times. The result is that we can store high quality moving images because of the rapid progress of devices, platforms and networks. The result is that moving image businesses like DMB have definitely settled down in the content business. Through the graphic elements which motion graphics fundamentally have, this paper indicates that motion graphics have power as the content in GUI (graphic user interface,) which is essentially considered in the interface field. This study investigates how motion graphics have been applied as interactive content in the various fields and the province of media in this digital environment. This study also advises the importance of motion graphics, which will be fused together with various hybrid media in the future.

25 Graphic Arts in the Liberal Arts: Presented by Design Incubation

Chair:

Aaris Sherin
St. John's University

Panelists:

Liz DeLuna
St. John's University

Robin Landa
Kean University

James Pannafino,
Millersville University

Dan Wong
New York City College of Technology

Panel

What challenges and obstacles do graphic design programs housed in Liberal Arts higher ed institutions encounter today as they work to balance the multitude of conceptual, creative and technical thinking skills needed to help students grow into thoughtful, adept and culturally-aware design practitioners? How do programs housed in liberal arts institutions differ from those in art schools? This panel will focus on how design is taught in institutions with varied pedagogies and diverse student communities. Panelists will engage the audience with the following questions:

What is intrinsic to design education? What is extrinsic? For example, what can a student learn in a professional setting and what competencies absolutely need to be taught in an undergraduate program?

Producing graphic design today demands fluency in a wide array of analog and digital skills. How should programs determine which and how many hand skills to teach in a digitally-focused world? Do traditional skills like bookbinding or screen printing continue to be relevant in a decidedly more digital culture? Can analog skills be effective in addressing the particular needs of UX, UI, social, and mobile design?

The panel will conclude by addressing issues of fluidity and change, asking how often faculty should update curricula to reflect current movements in society and culture. Graphic Arts in the Liberal Arts invites the audience to examine these questions from the perspective of academics who teach in Liberal Arts colleges and universities. Rather than seeking answers, the goal of this panel is to share information and ideas and to crowd source 21st century design education by exploring the plurality of teaching styles and success matrices found in design curricula across the country.

26 Revival of Handmade Design

Cathy Charles
Florida Atlantic University

Workshop

The 21st century has emphasized the need for handmade, natural materials in design. The revival of handmade design has led different creatives and professional designers down different paths. Some have chosen to work purely digital, while others chose more traditional handmade processes. Unfortunately, very few designers are aware that in this digital age there are a variety of resources that support craftsmanship and handmade design on a digital platform. This workshop will introduce a crossbred style of design that merges traditional techniques with digital production. Participants will be introduced to hand lettering, basic techniques, and how to merge the type with a digital composition. Creating handmade type not only shows how the designer works visually, but gives insight to how the designer thinks and responds to visual ideas. Also, merging machine and hand will create variety in the digital world, as it creates interesting, organic forms.

27 Pencil + Pixel + People: Handmade Type and Collaborative Methods

Kathryn Anderson
St. Ambrose University

Renee Meyer Ernst
St. Ambrose University

Workshop

The accessibility of open-source software, revival of handmade processes, and allure of specialized sharing platforms have created a unique setting for artists and designers to both create and collaborate. The objective of this workshop is to employ these elements to construct a font family that will be designed and shared by participants. We will explore creative approaches in letterform design from head to hand, and investigate the potential behind font generators. Each participant will develop a custom letterform or character, which will be combined into a font family and dispersed. The sharable file (or individual participant fonts) can be downloaded, altered, and uploaded, allowing for "exquisite corpse" possibilities in type design.

28 Zine Workshop with Joan Reilly

Kevin McCloskey
Kutztown University

Workshop

The zine, the modern incarnation of the pamphlet, is a hands-on democratic form of self-expression. Quirky, personal visions and designs that are underrepresented in traditional publishing find an audience in the handmade zine. Zines are a great way for design students to test styles and find their voices.

Workshop participants will collectively produce a zine, a small staple-bound collection of illustrated poetry.

The Poetry: Bring to the workshop a short verse: a haiku, limerick, short work in the public domain, or original work no longer than 6 lines.

The Art: Can be drawn on the spot or bring a prepared original black and white image not larger than 5 inches square. Markers and paper will be provided.

The manuscript will be laid out, reproduced via photocopier, stapled, and bound by the end of the conference. A Creative Commons Attribution-ShareAlike license will permit zine participants and all others to "redistribute, remix, or transform the project with attribution." A copy of the zine will be housed in Kutztown University's Rohrbach Library.

Joan Reilly co-edited and designed the acclaimed feminist comics anthology *The Big Feminist But.* Active in the independent U.S comics ecosystem since 2001, she has done cartooning, illustration and graphic design for clients including *Parade Magazine,* Clarion Books, A&E, and various independent print and online publications.

Joan will bring zines from her personal collection. Joining in the workshop are Kutztown Prof. Kevin McCloskey and Olivia Knowles, both experienced zinesters. They will share resources for zine reproduction and distribution. Participants who have made zines are encouraged to bring them to share.

29 Stasis in Motion: Teaching Balance of Craft and Technology in Animation

Brytton Bjorngaard
University of Illinois Springfield

Abstract

How can design educators use animation as a tool to teach both valued hand skills and technological advancements? What is the educational significance of animation in the role of design?

Animation is a field steeped in the tradition of both handcraft and technology; its origins begin with handheld devices that spun drawings into motion. As photography developed, film (and eventually digital) captured changes in hand drawn layouts and defined animation. In stop motion animation, handcraft endured via clay, paper, and puppetry. Now animators have the capability to create fully digital 3D worlds.

This presentation will provide an outline of how a current undergraduate design educator has approached integrating hand skills, such as clay sculpting, paper cutting, and drawing, with technological components, such as laser cutting, 3D printing, and both 2D and 3D rendering programs, into a general Visual Arts curriculum via a course in animation. Students enrolled in the course varied; most were seeking a general Visual Arts degree, some were focused on graphic design solely in their studio courses, and a few were taking the course as an elective for a degree in Communication. As a result, the projects had to consider the role animation plays in contemporary art, graphic design, entertainment, and advertising, while actively focusing on storytelling, handcraft, and technology.

Students formed strong relationships to their characters, especially when created utilizing hand skills, and yet were deeply engaged in a full design skill set (technology, communication, typography, photography, composition, etc.). Those students enrolled in animation were willing to take more risks, both creatively and technologically, in their other courses. Animation will continue to be used in this Visual Arts curriculum to bridge the gap between traditional fine art and graphic design courses through integration of handcraft and technology.

Stasis in Motion:
Teaching Balance of Craft & Technology in Animation

Brytton Bjorngaard, Assistant Professor
University of Illinois Springfield
bbjor2@uis.edu

Abstract

How can design educators use animation as a tool to teach both valued hand skills and technological advancements? What is the educational significance of animation in the role of design?

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Introduction

The University of Illinois Springfield is a small Liberal Arts University and in the Visual Arts Program students may earn a B.A. in Visual Arts. Those interested in the studio arts and digital media get the same degree. They take same core courses, but their upper division art studio and art history courses change depending on their interest. After taking Introduction to Digital Media, students may take any of the other digital media studio courses (Print, Typography, Web, and Advanced Digital Studio) in any order. Additionally, the courses are cross listed in the communication department for those students majoring in Journalism and Media Studies.

As the only digital media professor, I had been feeling like there were no changes within my courses (despite re-tooling my syllabi every semester) and that the rotation was stuck. I felt like I was in stasis and then the opportunity presented itself to teach Digital Media: Animation. The course has previously been offered, but

not been in a long while and risked being cut by the registrar due to lack of offering. It was the answer to my feelings of stasis, but I had neither taken nor taught animation previously.

As I approached teaching this new course I was interested to see the educational significance animation would serve for a design curriculum and I pushed my students to explore new material while exploring how animation could be relevant to graphic design, contemporary art, entertainment, and advertising, while actively focusing on storytelling in the combination of handcraft and technology by going back to the origins of the craft.

What I Thought It Would Do

- Increase Sketching:
  As storyboarding would come into play and we would explore Drawn Animation, I assumed the number of sketches my students would create and come to expect as needed would increase.

- Laser Cutter & 3D Printer Use
  Our program owns a laser cutter and two 3D printers (a Makerbot Replicator and a FormLabs Resin) & and I assumed that this class would increase their use, particularly as we explored Stop Motion.

- New Technology Learned
  I knew they would need to branch out from the basics of Illustrator, InDesign, and Photoshop and learn some new programs, including but not limited to After Effects, Dragonframe, and iMovie.

- 12 Principles of Animation
  Since I planned to structure my course around the 12 Principles of Animation, created by the Disney Animators Johnston and Thomas in the quintessential book The Illusion of Life: Disney Animation, I assumed they would master these ideas: 1. Squash & Stretch, 2. Anticipation, 3. Staging, 4. Straight Ahead and Pose to Pose, 5. Follow Through and Overlapping Action, 6. Slow-out and Slow-in, 7. Arcs, 8. Secondary Action, 9. Timing, 10. Exaggeration, 11. Solid Drawing, and 12. Appeal.

Harsh Realities

While I was entering the start of the course optimistic, there were some harsh realities that I had to come to terms with. While drawing is required for the major, it is not required at any particular stage, and it is not a requirement for the Communication students, so there was the chance my students would have no more familiarity with drawing than the sketches required in my Introduction to Digital Media course. The labs that house the laser cutter and 3D printers are run by student workers, who only work for 20 hours a week. Their hours overlapped with my own availability outside of classes and meetings, so students would have to work around 20 hours of access to the facilities. And lastly, all my upper division studio courses are 3.5 hours only once a week for the 16 week semester, so flipped classrooms are a necessity. Students were going to be responsible for learning these new programs we were using outside of the classroom context.

Resources

Students were required to purchase the textbook the *Animator's Survival Kit* by Richard Williams, either in print form or as an iPad application. The textbook focused on drawing skills, timing of motion or actions, and traditional techniques used in x-sheet or dope sheet tracking of motion. Students have access to Lynda.com

through the university, so there is unlimited access to the videos for use with the flipped classroom model. I additionally required students to have a video subscription service, be it Netflix, Amazon Prime, Xfinity on Demand, HBO, etc., so they could watch films within the genres during each project.

I did not require students to use any specific technology for any of the projects; I left that to be determined by them and the style or story they were trying accomplish. We had in the lab access to the following programs:

- Dragonframe
- Adobe Character Animator
- Adobe Flash
- Adobe Photoshop
- iMovie
- Adobe After Effects
- Adobe Illustrator
- Adobe Blender

I discussed the following technology as options for use, many of which have a free trial period or student discount, making it a reasonable option for a project:

- Autodesk 3Ds Max
- Autodesk MotionBuilder
- FlipBook
- Pencil2D
- Toon Boom Harmony
- iStopMotion
- Autodesk Maya
- Cinema 4D
- Go Animate
- Poser 11
- ToonLoop
- Animator HD

Course Structure

The class is structured to create a safe space in the classroom via in-class exercises that are low risk and high reward. If students actively participate, attempt to learn the objectives presented, and push themselves to learn the content they get full credit on the exercise. These take place almost every day in class, total 10 points each, and add up to 100 points by the end of the semester, the equivalent of one project total. I structured animation to include exercises that dealt with hand skills, technology, and storytelling:

- Thaumatrope
- Squash & Stretch
- Timing
- Storyboarding
- Clay Stop Motion
- Paper Stop Motion
- Dialogue
- Acting
- Flip Book
- Foley Sounds

Most of the in-class exercises are

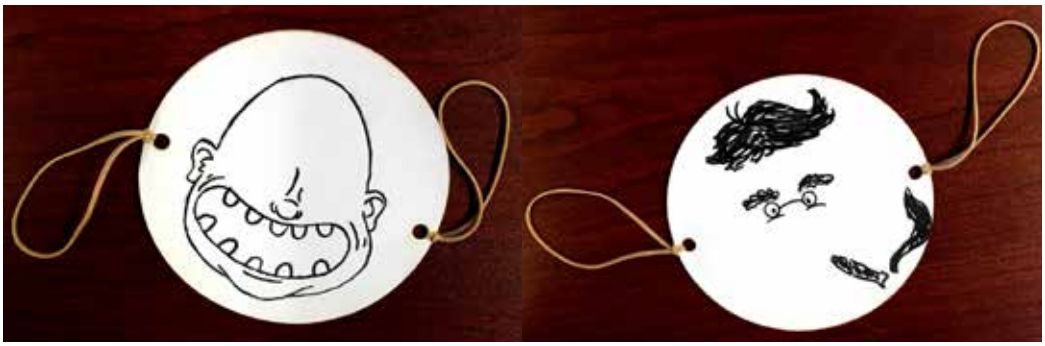

Figure 1
Thaumatrope
Darrin Simmons

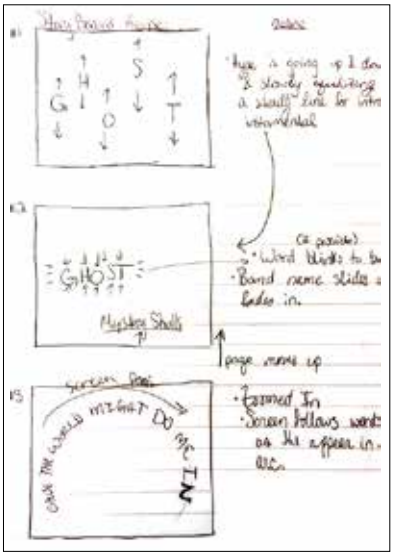

Figure 2
Storyboarding
Amanda Helm

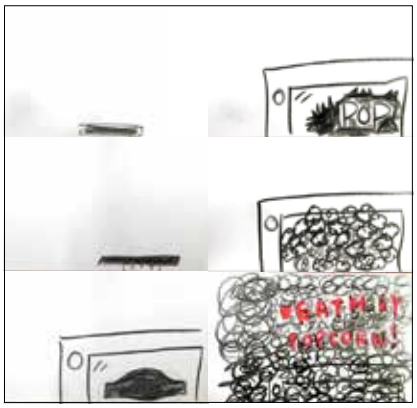

Figure 3
Flip Book
Brytton Bjorngaard

individual, but occasional I will pair or group the class to tackle larger exercises. In the case of learning how to use clay and cut paper to do stop motion, I divided the class in half (groups of 6) and had them work with the materials and technology in a larger capacity. The clay involved playdoh over wire armature and a 3D photography studio with a backdrop and lighting. The paper cut utilized a light table, multi plane animation stand, and a copy stand. Both involved a camera hooked up to Dragonframe live view.

Figure 4
Cut Paper

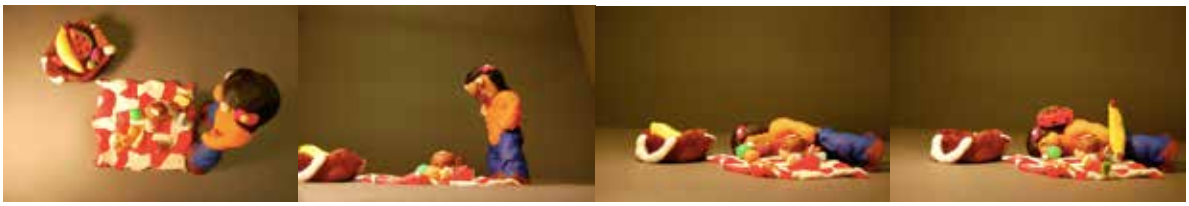

Figure 5
Playdoh

The Real Work

Due to the mix of students (fine arts, graphic design, and communication) taking the course and that I allow students to use any technology to complete their projects, I posed loose questions for each animation genre.

We started with Kinetic Type and I asked: How can web banners be used to promote something within 30 to 60 seconds? I received projects that promoted TV shows (Little Einsteins), Music Albums, Podcasts, Movies (Misery), etc. Student used a variety of technologies, but favored After Effects for its ability to really mess with all the varieties of rotation, timing, scale, etc. very quickly.

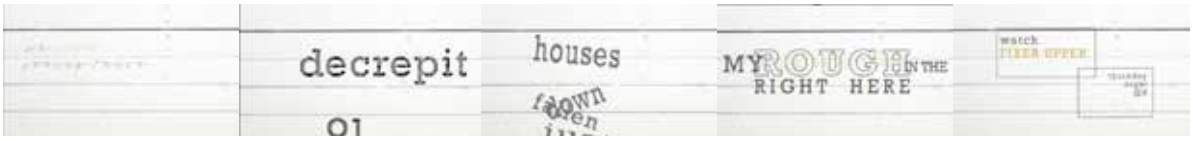

Figure 6
Kinetic Type
Tristen Sitko

For Stop Motion I asked: How can stop motion animation be used to shed light on a contemporary problem? Students could use a wide variety of methods, including clay, puppets, paper, painting, objects, pixelation, but the animation had to last from 2 to 2.5 minutes, which would result in 1,440 to 3,600 photographs depending on frame rate. I received a project that shed light on campus sexual assaults by the retelling of Little Red Riding with cut paper, another used objects (including Frozen figurines) to highlight poverty and oppression, and another that hinted at Alzheimer suffering via a lost snail using clay.

Figure 7
Stop Motion
Jerica Griffen

I next moved us to Drawn Animation and asked the question: How can drawn motion animation be used to tell a story that has a pun / metaphor / hyperbole / deeper thinking? I gave the students a time frame of 35 to 45 seconds (with the minimum of 420 drawings). Students got punny with ads promoting coffee with the tagline "our coffee gives you the runs" featuring a running man, a story of fish and pollution asking us "is this the real life or just a fanta-sea," and a smoking hot dot campaigning us to stop smoking.

Figure 8
Drawn
Darrin Simmons

I wrapped up the course moving into Digital Animation. I asked students to expand upon and refine their story from the drawn animation to simply tell a story in 1 to 1.5 minutes. Students showcased the typical can't reach what they desire and then it is stolen by others parable, played with the idea of bullying words bouncing off of the bullied to decapitate the bully, and showcased a printer jam dance party.

Figure 9
Digital
Amanda Helm

Outcomes

This course was challenging. It started out with 16 students, ended with 11, and had the full range of grades (2 A's, 3 B's, 2 C's,1 D's, 2 F's, and 1 Incomplete). The benefits were that students formed strong relationships to their characters, especially when the characters were created utilizing hand skills, and yet were deeply engaged in a full design skill set (technology, communication, typography, photography, composition, etc.). Those students enrolled in animation were willing to take more risks, both creatively and technologically, in their other courses that they took from me. Specifically they:

- Learned How to Sketch
- Mastered Drawing
- Paid Attention to Craft
- Became Better Photographers
- Created More Interesting Personas
- Took a Multimedia Approach to Other Work
- Had Better Time Management

Future Changes

The next time I teach the course I would require shorter length on projects, as some of the timing prohibited students from doing better work as they focused on meeting the time requirement. Additionally, I would demo more methods for completing Stop Motion projects. Students were willing to try cut paper and clay because we had done them in class with exercises, but despite discussing puppets and the 3D printers to create them, students did not try this method.

Conclusion

I highly recommend adding Animation to all design curricula. If it can't be integrated into a full course, at least 2 projects throughout the curricula would be beneficial, particularly the Stop Motion and Drawn Animation. Tech often comes easy to the students, but the focus on hand techniques within these two genres pays off with the aforementioned benefits in the classroom.

30 See it. Hear it. Smell it. Taste it. Touch it.

Martha Carothers
University of Delaware

Abstract

In a *Communication Arts* magazine essay, Ernie Schenck observes a lack of mindful awareness among designers because technology makes it "easy to let it highjack our creative focus." This effect has become apparent in student zeal to use technology and software for the first-to-last steps in creative problem solving. Schenck goes on to observe that this mindlessness involves a lack of sensory awareness. He states, "In advertising, it's our job to be aware of what's going on around us: See it. Hear it. Smell it. Taste it." In agreement with Schenck (along with Touch it) as applied to design education, the problem-solving process returns to, and specifically begins with, hand-made techniques involving one or more of the five senses. Design projects structured with hands-on, process-related guidelines that specifically involve actual, tangible materials and methods, prompt happy accidents. The experiential practice of happy accident is dissimilar to project solutions using software to generate an end product based on a preconceived idea. Whereas, software is advantageous and essential in the latter stages of digital production for final project solutions, mindfulness is stimulated through inventive play with traditional techniques in the beginning phases of a project. In contrast to digital design, this presentation provides comparative examples of expressive, hands-on, sense-related solutions in a beginning-level typography course. Preliminary iterations and final projects reveal the resistance, persistence, and epiphany moments experienced by students. This connection between initial hands-on and subsequent technology must be significantly more mindful than the increasingly typical response by students, "I'll just do it or fix it in Photoshop."

31 Gunter Rambow, The Visual Poet of Poster Design

Richard Doubleday
Louisiana State University

Abstract

Gunter Rambow, a willful proponent of social, political and cultural issues in postwar Germany, assimilated ideological principles, through the medium of photography, material objects and physical constructions, into the context of poster advertisements for cultural events beginning in the early 1960s. Rambow's extensive artistic output is characterized by a unique approach to representing ideas and creative power with photomontage, unexpected and juxtaposed symbolic imagery, and innovative and collaborative image making. His work reveals potent political statements and a deep social commitment and poetic approach to graphic design that emerged in Europe, beginning in the 1960s and continuing into the 1990s. Rambow's body of work, a documentary-style about the designer's life based on his memory, digs deeply below the surface, with striking critiques detailing socio-political concerns within Germany. Rambow comes face to face with deeply encoded imagery, a continual visual vocabulary concentrated to a simple message, solving problems with social and political depth while commenting on the perplexities of modern society. His visual metaphors stimulate the senses and transmit coded footprints in the spectators mind. Rambow is undoubtedly one of the leading image making specialists in the late twentieth-century.

32 Developing Creative Programming, Recruitment, and Retention High School and University Partnerships

Robert J. Thompson
Youngstown State University

Abstract

The cultivation of innovative design programming at the high school level is largely concentrated to larger urban centers, but can and does occur in rural areas and is almost always dependent on growth from thought and industry leaders from the region within which the programs reside. At Mahoning County Career and Technical Center (MCCTC), they have offered a long-standing and constantly adapting Creative Arts & Design program to high school Juniors and Seniors in the Youngstown, Ohio region. Having recently undergone a significant curricular modification that split all of the programs into a smaller group of unique "academies," the need to innovate the Creative Arts & Design program before and during the transition into the silo academy model was critical for future success.

In an effort to adapt and innovate quickly, Melissa Hackett, 20+ year design professional and lead instructor of the Creative Arts & Design program, reached out to RJ Thompson, Assistant Professor of Graphic & Interactive Design at X State University (XSU) with the purposes of creating a sustainable collaborative programmatic partnership that offered more creative programming, curricular upgrades, student mentorships, XSU recruitment and retention, and collaborations with Thompson's elite-level Youngstown Design Works student-run design agency.

The partnership between Thompson and Hackett has existed for one year and has already led to many successes: programmatic improvements in the MCCTC Creative Arts & Design curriculum, high school students developing mentorship relationships with XSU students, MCCTC students joining the XSU Graphic & Interactive Design program, and MCCTC students securing authentic, real-world work on the "City of You" rebranding campaign through the Youngstown Design Works program.

This presentation seeks to offer a comprehensive outline for developing high school design program and university graphic design program partnerships.

33 Graphic Design Education for New Media

David Leicester Hardy
James Madison University

Abstract
Specializing as a generalist is fast becoming important in the creative business realm. This preference for the multidisciplinary designer is often in the service of an increasingly diverse and competitive economy, a market-driven reality that educators are now facing in the classroom.

Qualifications for entry-level graphic design jobs now increasingly include direct experience with web, interactive, and motion design, in addition to fluency in traditional methods. Perusing design job advertisements online, it is apparent that many employers now seek a "one-stop shop" in their search for emerging creative professionals. The growth of these kinds of jobs has developed in part by an increased appetite for digital and interactive media.

Many BFA graphic design programs, including the one where I currently teach as a tenure-track professor, are operating from a curricular model that is a vestige of our traditional profession. At my institution, two single courses involving web and interactive design are introduced in the senior year of study. This is problematic, especially because they occur during a time when most students are busy preparing their portfolios for entry into the professional world, and the time needed to learn a new set of skills is in short supply. Additionally, because these students exhibit a high level of craft at this stage of their design education, a new and often frustrating medium is far less likely to yield work that is on par with that of their print- centered output.

This presentation will highlight my efforts to balance the demand for proficiency of technical methods of web and interactive design with the realities of time constraint and the desire to exhibit a high level of craft across all designed media. It will offer examples of course structure, lectures and demonstrations, student projects, and assessment of current learning practices in these evolving disciplines.

34 Avoiding "Sameness" in Web Design

Dannell MacIlwraith
Kutztown University

Abstract

It's hard for web designers to create truly original work. As an educator, I don't want students to be part of trendy "norm." We have become choosers of fonts, images, and grids. We are, almost without exception, not able or willing to be innovative about the web as an experience. I want them to think laterally about web design; to create new designs out of mental associations that push out against borders instead of filling in the blanks. I've reflected upon the issue of "sameness" that most designers and developers have assimilated.

How can we break the standard rules effectively?

"Sameness," is the real trend in modern design. How can we teach web to be an "experience" and not a "template"? I've compiled a small list of ways to personalize, add interest, and even intrigue the viewer. My hope is, through design education, to alter the modular obsession of the web, to construct experience with chance and animation, and eliminate the trend of "sameness" with the next generation of designers. I challenge my students to push, pull, experiment and transcend predicable habits.

35 Artists Against Hunger: Community-Based Graphic Design

Brit Rowe
Ohio Northern University

Abstract

Across the country in our schools, more than 18 million children qualify for free or reduced priced meals through the National School Lunch Program, the food that they need to get them through the week. However, teachers find that in some instances, Monday morning comes and they are forced to compete against hunger for the attention of their students.

What happens to these children when they go home over the weekend? Can graphic designers use their skills and knowledge to draw attention to the problem of hunger and/or food insecurity in our schools? Can social design be a larger activity that depends upon design to contribute to the needs of the local community? This paper/presentation discusses how graphic design students developed a campaign to bring awareness of hunger in their local county and inspired community members to take action.

Right here in the local county, 16 percent of the population lived below the poverty line. In one school district alone, 51 percent of children received free or reduced lunches. Artists Against Hunger was a campaign that raised awareness and money to address the issues and consequences of hunger in our schools. Students addressed the issue by using various strategies for community-based graphic design: immersing themselves, building trust, identifying the community's strengths, utilizing local resources, designing with the community's voice, and giving the community ownership. Handcrafted typography, made from soup ingredients, were the main elements in the advertising campaign.

The Artists Against Hunger project partnered with the local Backpack Food Program. It sought to eliminate hunger on weekends for students in school districts by providing the children with non-perishable foods in backpacks. To fund the program, an empty bowl luncheon, with handcrafted ceramic bowls, was created. Along with fund-raising, educational events and a food drive were held to emphasize the issue of food insecurity and what that means to a child's education. The goal was to engage the public and fund the Backpack program for one year.

36 Illustration to the Rescue

Hilary Walrod
Colby-Sawyer College

Abstract

This spring semester, I will be piloting a Special Topics course in Illustration intended for Graphic Design majors, Studio Art majors and minors, and non-majors alike. I deliberately set the prerequisite to be any Foundations course (Design, Digital Media, or Drawing at my institution) in order to welcome students with diverse incoming media skills, and student interest has been great: the class garnered a wait list and is now slightly over-enrolled.

My aims with this course are multiple:

- to encourage students to work in both analog and digital media—and to integrate these ways of working
- to facilitate more cross-pollination and translation of skills between Studio Art and Graphic Design
- to improve students' conceptual, formal, and technical capabilities in image-making
- to guide students in tailoring illustrations to various contexts and purposes

(such as editorial, narrative, informational, and promotional)

Building on my own dual background (undergraduate degree in Studio Art and graduate degree in Graphic Design), I will cultivate experimentation with drawing, painting, collage, composite images, digital translation, and more. In *Steal Like an Artist*,[1] Austin Kleon suggests the value of having two desks: one for analog work, and one for digital work. This Illustration class will be testing this premise on the scale of a classroom: moving back and forth between the computer lab (where the Graphic Design majors tend to spend the majority of their time) and the adjoining production room replete with drafting tables, sink, and an outdated photocopier.

In this presentation, I will share the framing of exercises and projects in this trial run, examples of student work from throughout the semester, pre- and post-assessments to demonstrate growth in student capabilities, and pedagogical lessons freshly learned.

[1] Kleon, Austin. *Steal Like an Artist.* 2012. Use Your Hands.

illustration to the rescue

HILARY DANA WALROD

ASSOCIATE PROFESSOR OF GRAPHIC DESIGN + DIGITAL MEDIA | **COLBY-SAWYER COLLEGE**

INTRODUCTION

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In this paper, I share the framing of exercises and projects in this trial run, examples of student work from throughout the semester, pre- and post-assessments to demonstrate growth in student capabilities, and pedagogical lessons freshly learned.

For additional examples of student work, please see the corresponding presentation file. For exercise briefs or project briefs, please email hilary.walrod@colby-sawyer.edu to request PDFs.

FRAMING

This Illustration class was composed of 18 students total: 12 Graphic Design majors (2/3 of the class), two Studio Art majors, two Studio Art minors, + four other students. They hailed from a range of class years: 10 seniors (more than half of the class), four juniors, two sophomores, one first-year student, and one non-degree student auditing the course.

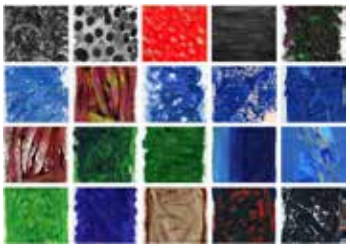
The course plan built from three warm-up exercises to three extended projects (of three weeks each). Daily experiments spanned 10 of the 12 weeks as an ongoing homework assignment, and the beginning and end of the course were punctuated by a pre-assessment and corresponding post-assessment: an illustration with no parameters except "home" as a one-word prompt. The pre-assessment, graded only for completion and created outside of class with no faculty guidance or input, was intended to provide a baseline of incoming skills and approaches. It yielded 10 entirely digital illustrations and eight entirely handmade ones. Four included the word "home" in the illustration, and three were highly stylized drawings; a number of interpretations were fairly literal, though some were not.

[1] Kleon, Austin. Steal Like an Artist: 10 Things Nobody Told You About Being Creative. New York: Workman Publishing, 2012. *Use Your Hands*.

To kick off the semester, we had the opportunity for an inspiring studio visit with renowned children's book illustrator Tomie DePaola (who lives and works locally). He kindly shared his studio space and library, his materials and approaches, and a range of insights from a long and productive career. It was especially inspiring for the students to see Tomie's original painted artwork side-by-side with his published, printed illustrations. Fortuitously, Tomie's Art Director (Laurent Linn of Simon & Schuster Books for Young Readers) and Tomie's Editor (Emma Ledbetter of Atheneum Books for Young Readers, a division of Simon & Schuster) both happened to be visiting from New York that day, so the students were able to learn a bit from them about the business and production of illustration as well.

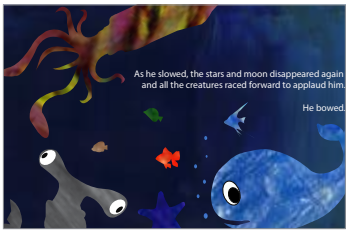
EXERCISES

As in many of my design courses, I set up this Illustration course to build deliberately from experimentation in shorter practice exercises to refinement in longer projects.



warm-up 1: swatch library exercise

The first warm-up exercise was largely technical and process-oriented. My intention was to get the students off the computers and experimenting freely with diverse media. I asked them to create and scan 20+ swatches (for no designated end purpose), including at least four made with India ink and at least four made with paint. Within the set of 20, each student was expected to develop a range of colors, values, and textures.



warm-up 2: collage exercise

The second warm-up exercise built on the first, adding a narrative context and formal considerations. I challenged each student to re-create an existing children's book illustration by incorporating five or more swatches in a collage and using color, value, and texture effectively. This exercise provided the first opportunity for students to integrate digital and analog processes, even if only to scan a handmade collage in order to print it in color and trim to size. In addition to inviting cut paper and torn paper collage processes, I gave a quick Illustrator demonstration on how the pen tool and the clipping mask can be used in tandem to create digital collage shapes and fill them with handmade swatches.

warm-up 3: mash-up exercise

The third warm-up exercise added another layer of consideration: conceptual. As in the framing of the pre-assessment, students were challenged to respond to a one-word prompt: "community" or "culture" (a choice which obviously, and intentionally, included some overlap). Beyond responding to this one-word prompt, the students were expected to consider composition and design more than in the first two exercises and to incorporate influences from three illustrators: one conceptual influence, one formal, and one technical.

Prior to the start of this exercise, each student had selected two inspiring illustrators and sample works to share and analyze for a "show and tell" assignment, and I limited the pool of potential influences for this exercise to those selected and shared by the class. Since each student had to choose three different influences for the mash-up exercise, this parameter forced them to incorporate at least one influence initially selected by someone else; this yielded mash-ups like Shaun Tan + Bill Watterson + Anthony Wolff and Sara Haug + Jean Jullien + Jay Quercia. When the students submitted these mash-up illustrations, I asked them to write process narratives that outlined these influences and described the attributes that they identified and incorporated. One student submitted her finished illustration with this testimonial as well: "I never in a million years would have tried something like this — thank you!" Not only did this exercise prompt experimentation, but it also prompted several students to develop creative and evocative concepts.

from top: swatches by Jordan Teixeira, collage by Jordan Teixeira, mash-up by Zach Melisi, mash-up by Karen Alcazar

sample texture “dailies” (top) and contrast “dailies” by Justin Rand

ongoing: daily experiments

When I was planning this new course, a colleague who teaches painting and drawing asked if I was going to assign a sketchbook — and suggested the value of it for a course like this. I liked the idea of incorporating an ongoing practice, but I decided not to have it be a sketchbook per se; instead, this suggestion led me to develop a series of assigned daily experiments to encourage formal exploration in diverse media. At the start of the semester, I framed these daily experiments with readings: two short excerpts on “formstorming” and “dailies” from Graphic Design: The New Basics, Revised and Expanded.[2] I structured the practice into five themes: texture > pattern > contrast > layers > transparency, introducing and supporting each with a short reading from the same textbook. Each theme had a two-week duration, and students were expected to post one daily experiment per weekday: in other words, ten “dailies” for each theme. Within each set of ten, the students were challenged to demonstrate range and depth and to include at least one digital/photographic exploration, at least one handmade exploration, and at least one integrated exploration (combining digital/photographic and handmade). This ongoing practice spanned much of the semester but was deliberately on hiatus for midterms week and the final two weeks.

In my estimation, this was the least successful component of the course. Although a few students really engaged in this ongoing practice, many did not; completion rates on these daily experiments were far lower than on other assignments, including for students who had regularly submitted nearly every assignment to me in other classes. My sense is that the daily nature of the due dates (i.e. posting online every weekday by midnight, not just every class day) was a challenge for some students. Furthermore, it seemed that a number of seniors prioritized other larger assignments such as capstone presentations and senior exhibitions. If I were to assign daily experiments again, I would be inclined to incorporate this ongoing practice more frequently and more meaningfully with other parts of the course. I had assumed that the concurrent timing alongside warm-up exercises and projects would facilitate cross-pollination naturally for many students, but this did not prove to be the case. Although they seemed to enjoy seeing each others’ “dailies” whenever we shared them on the projector in class, it was not evident that many of them truly pushed experimentation or recognized the potential value of this practice to their creative processes or illustration skills; that said, one student (whose examples are shown) cited the daily experiments as the most valuable component of the course for him.

PROJECTS

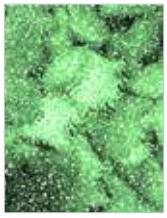
extended project 1: alphabet posters

The first three-week project drew inspiration from our studio visit with Tomie DePaola, our collaged children’s book illustrations, and our daily experiments. We are fortunate to have a lab school on campus, Windy Hill School, and its director, Diane Edwards, was thrilled with my idea to create a full set of alphabet posters for the toddler, nursery, and pre-K students. We agreed on content that set up informational, pictorial, and narrative contexts: each poster had to include the uppercase letter, the lowercase letter, the sign language letter, and three things that start with the letter — integrated or related somehow (in a theme, in a scene, etc.), along with captions for the words. In addition, students were expected to integrate digital and analog processes and to employ surface activity (both for visual interest and for child stimulation/learning). Inspired by an article on animated posters,[3] I also assigned simple animated GIF versions with meaningful motion for the illustrated content. In order to cover all 26 letters in the alphabet as a class, each student created two posters: one solo, and one collaborative. I assigned partners randomly yet strategically, pairing students with more digital skills to complement students with more hand skills.

clockwise from top left: poster by John Fownes, poster by Paige Benshemer, poster by Hannah Clark, collaborative poster by Hannah Clark + Justin Rand

[2] Lupton, Ellen + Jennifer Cole Phillips. Graphic Design: The New Basics, Revised and Expanded (2nd edition). New York + Baltimore: Princeton Architectural Press + MICA, 2015. *Formstorming*, 13-15. *Dailies*, 18-23.

[3] Benyon, Luc. “A New Poster Movement: How the traditional format is evolving with an injection of animation.” AIGA Eye on Design. https://eyeondesign.aiga.org/a-new-poster-movement/ (accessed October 3, 2016).



We started the project with a tour of the lab school and informal observation of the children in their classrooms. My students were excited to see this part of campus (which was unfamiliar to all but one of them), animated by the visit, and inspired in unexpected ways. For example, when we toured the art room, one of my students looked at the childrens' paintings on the walls and exclaimed, "They have better color theory than we do!"

Although my students were really engaged throughout the process of this project, there were times when I sensed that they were not pushing their illustrations enough — especially in terms of composition. So, at the start of one in-class workday, I deliberately threw a wrench in each of their processes by having each of them randomly select a card on which I had written an instruction such as "enlarge it," "rotate it," "flip it," "tear it," "re-arrange it," etc. I told them that they didn't have to keep the resultant changes, but they did have to try them — and they weren't allowed to switch cards with each other. In order to document these prescribed formal manipulations, I asked them to post before and after images on their process blogs by the end of class. Interestingly, when I asked at the start of the next class whether or not they had chosen to keep these changes (and why), about half of the students had decided to do so. Evidently, a number of them had recognized the value of chance experimentation in their processes.

To encourage further experimentation and refinement during another in-class workday, I asked the students to look back through their daily experiments to date and consider how they might incorporate them in their alphabet posters (either through direct integration or through inspiration). This prompted noticeable improvements such as the addition of texture.

The finished posters were (and still are) displayed in alphabetical order in the foyer and hallways of the lab school, set at a low height so the children can see them up close and interact with them as they come and go from their classrooms each day. In addition, my students shared the animated posters with the three- and four-year-olds (as screen time is not advised for toddlers), and the children in turn shared their own alphabet posters with us. I was delighted by unsolicited positive feedback from the associate director of Windy Hill School, Lisa Bozogan, who told me that this was the best collaboration between the lab school and another department on campus that she had seen in all of her years there. Furthermore, in peer and self-assessments, most of my students reflected positively on the collaborative process with their partners.

extended project 2: magazine covers

The second project was a classic editorial illustration context — a magazine cover — but with a twist inspired by the panel on *Guiding Ethical Use of Digital Resources in Design Education* that I participated in at the 2016 UCDA Design Education Summit. Each student was challenged to create two distinct versions for the same cover story: one with entirely self-generated imagery, and one with permissible appropriation. This challenge was supported by a preliminary library visit with our outreach/instruction librarian, Sondra VanderPloeg; she reviewed Creative Commons and demonstrated how to do a Google Images advanced search for usage rights, as well as how to search databases to identify magazine cover stories on topics of interest. Although not specified as project criteria, I suggested that the students might seek out political, environmental, social, or economic content.

Some students gravitated more easily to the entirely self-generated version, while others were more inclined toward appropriation of relevant images. In addition to learning more about and practicing permissible appropriation, having to do two versions forced the students to develop and refine two distinct illustration concepts for the same content.

from top: "re-arrange it" before/after poster comps by Jenn Kidder, daily experiment texture (left) > incorporated in poster comp (right) by Jenn Kidder, self-generated magazine cover by Justin Rand, magazine cover with permissible appropriation by Justin Rand

extended project 3: postage stamps

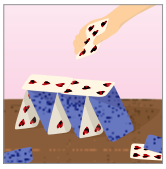
The final project was also a rather classic design assignment, but I chose it because it provided both promotional and pictorial contexts for illustration as well as the constraints and benefits of a system: creating not just one refined illustration, but a system of related illustrations in a set of four postage stamps. Students were invited to choose any subject of interest, as long as they adhered to USPS subject standards.

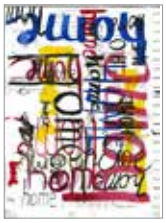
While planning the syllabus timeline, I had been tempted to work toward an illustrated book. However, when I realized that it would be too ambitious to fit a book project into a 12-week semester in an introductory Illustration class, I opted for the postage stamps instead. This proved to be an effective scope and type of project for the end of the semester, and it provided the opportunity for students to build on what we had explored to date in various ways. Some students employed and refined techniques or styles that they had first tried in earlier exercises or projects, while others employed largely new approaches. Many students opted for entirely self-generated imagery, though a number chose to incorporate appropriated images — especially for iconic subjects such as works of art, famous athletes, and recognizable landmarks. The small size of postage stamps, coupled with the need for consistent text and the need to balance the set of stamps in a 2 x 2 arrangement, challenged the students to consider compositional and color choices more thoroughly than many of them had in prior illustrations. It seemed to be a fitting conclusion.

EVALUATION

pre-/post-assessment

This was the first time that I tried pre- and post-assessment in any of my courses, and I have to admit that I had high hopes for a dramatic difference between the illustrations created at the start and the illustrations created at the end from the same one-word prompt. Especially since this was a Special Topics course, I imagined I might use the comparison as evidence for the merit of converting the course to a regularly scheduled course offering. While I did not see the striking results for which I had hoped, I did make several worthwhile observations. Eight of the post-assessment illustrations integrated digital and hand media, whereas none of the pre-assessments did. A number of the post-assessment illustrations employed handmade elements for texture, even one which was largely a re-creation of the same concept and composition in the pre-assessment (and it should be noted that all other students came up with alternate solutions the second time around). There were examples of individual students demonstrating conceptual growth, formal growth, or technical growth, though not as much as I would have liked to see — and which I felt I had seen in the prior extended projects. This may be indicative of the contrast between a three-week process and a two-day process, or between an iterative process with critiques and faculty feedback versus a primarily solo process, or both.





In an attempt to control the variables for meaningful comparison between the pre- and post-assessments, I had deliberately set up a quick turnaround on the post-assessment. However, I realize now that a quick turnaround during the last week of classes (i.e. right before finals) is not necessarily comparable to a quick turnaround at the start of the semester. If I were to set up a pre- and post-assessment again in a future course, I would opt for alternate timing, aiming to avoid the last week of classes and perhaps extending the duration as well (for both pre- and post-assessment). If I were to do so in an Illustration course again, I would likely choose an alternate one-word prompt. I had chosen “home” because it is a word that everyone can relate to in some way or another, and I anticipated that it could invite literal, metaphorical, and other illustrative approaches. However, given

from top: stamps by Karen Alcazar, stamps by Hannah Clark, pre-/post- by Hannah Clark, pre-/post- by John Fownes, pre-/post- by Justin Rand

end-of-the-semester stress and the prospect of summer vacation on the horizon, the word "home" yielded a number of nostalgic (and largely literal) illustrations of pets, beaches, TVs, and the like. In my estimation, compared to what these same students came up with for "community" and "culture" one-word prompts in the mash-up exercise, these post-assessment illustrations fell short conceptually.

If comparing apples to oranges instead of apples to apples, though, the conceptual, formal, and technical growth from pre-assessment to postage stamps was quite striking for some students. In the future, I would like to find a way to craft a pre-/post-assessment that could document such growth.

final reflection

In all of my courses, I have my students begin each class by responding to a reflection question in writing and then sharing aloud. I find that this practice develops a sense of community, gives me a "pulse" on the class, and frames each day. On the last day, I always ask this:

What have you gained, learned, or realized from this course?

This sampling of student responses to the final reflection question suggests a range of positive outcomes and affirms student understanding of the emphases I had placed on experimenting and on integrating digital and analog media in illustration:

"I learned that adding just a little bit of texture can really make the difference in a piece instead of just using all vector images."

"I learned that it's fun to step outside my comfort zone… Also, the swatches library was SO HELPFUL. I will continue to create swatches for it even out of this class."

"I realized that I actually like to digitally illustrate! I always thought illustrators were good on pen and paper but that's not always the case. I do hope to continue to work on my handmade skills though and definitely incorporating more of those elements in my digital pieces."

"I have had a lot of fun combining handmade materials and my digital skills together for this course. I learned even more to step out of my comfort zone and how to use handmade materials effectively."

final evaluations

In our college's course evaluation forms, students rate courses on statements related to five attributes. On a 1-5 scale, my ratings for this Illustration course were above department and college means for all five attributes: student/faculty interactions (4.88), course syllabus + outcomes (4.78), activities + assessments (4.77), instructor's organization + clarity (4.75), and student effort + involvement (4.70). In addition to these numerical ratings, students have the option to respond to an open-ended question on the form:

Is there anything else that you would like to share with us about this course?

Three students responded, and all of their comments were highly affirmative of the course:

"This was an excellent course, if difficult given my timeframe. I would highly recommend a similar class or set of class materials be offered in the future."

"This special topics class was one of my favorites! I loved each project, and I would definitely recommend to other students even outside of graphic design and studio art majors."

"I know that this is a specialty class but it should DEFINITELY be offered again. I think it should be required for studio art majors as well as designers because it was really helpful for me to take."

Given these positive evaluations (plus anecdotal enthusiasm from students and colleagues alike), I anticipate teaching this course again and proposing that it become a regular course offering at our college. Furthermore, I would recommend a course like this as a worthwhile addition to graphic design curricula at other schools, especially liberal arts institutions. All of my course aims were met to some extent, and I look forward to refining the course in response to observations and feedback in order to make further progress toward them.

37 Is Design really Art? Or has Elvis left the building?

Panel

"All art is relationships, all art. Design is relationships. Design in a relationship between form and content … Your mouth is an oval. Your nose is a triangle—this is what design is."
—Paul Rand

Chair:

Randy Clark
Wenzhou-Kean University

Panelists:

Denise Anderson
Kean University

Rion Huffman
Pittsburg State University

Noticing a trend of separating Graphic Design from the traditional Fine Art Area, there has arisen a concern that the beauty and content of visual communication are being lost to the button pushing of technology.

So, is Graphic Design really Art? Where is the line drawn? Who draws the line? Is there really all that much difference? Was Graphic Design ever Art?

Certainly, the push to meet industry needs seems to be driving curriculum. The dialogue is complicated by the movement of design schools toward a more applied business approach. With coding for interactive platforms, apps, and the technical demands for digital content of web and print, has Graphic Design abandoned its roots, whether deemed legitimate or not?

The panel discussion will discuss, but not attempt to resolve these questions. The panel will consist of three design faculty with fine art backgrounds with different takes on design and art.

38 Lettering Rebellion!

David J. Short
University of Minnesota Duluth

Workshop

Handlettering and the instructional teaching behind it is not as difficult as you think. This rebellion to ultra-clean, too-conservative, personality-hampering digital letterforms allows students a means of personal expression that can be used within their existing projects. ¡Vive la différence!

Of course this methodology arrives easiest in a scenario that is only slightly within student's normal controls. And now the availability of modern technology image-capturing allows students to easily go analog, then digital, and back again; all in the effort to expand on how story and emotion can be told effectively by using letterforms only.

Attendees will learn of the educational techniques—and engage in first-hand experience scenarios—that David has been refining as motivation to design students over the past five years. Techniques, real-project presentations, demonstrations, and critiques will help you see the letterforms you (and your students) create in a new way.

Significance to Design Education and Research

I initially implemented this handlettering exercise as a means to "wake up!" students coming to studios after lunchtime, the "post-food-coma stage" of day; it evolved to become a means for students to express ideas and current concerns within a safe environment—and awaken themselves to the potential of storytelling though the most basic shapes we know...letters. An area I have begun to explore through communities outside of academia as well. Each class became its own lettering community of support and allowed students the reminder that "Finished is better than perfect."

39 Sketchnoting 101

Michael Clayton
University of the Incarnate Word

Workshop

Sketchnotes are "rich visual notes created from a mix of handwriting, drawings, hand-drawn typography, shapes, and visual elements like narrow, boxes and lines."[1]

A sketchnote is a physical artifact and sketchnoting is the skill that generates it. [2]
A sketchnote can be created to summarize any source of information including, but certainly not limited to, presentations, class notes, and brainstorming sessions. Sketchnoting can provide you with a high level of comprehension, increase your retention and recall, increase your creativity, and can lead to enhanced listening skills. [3]

In this workshop, participants will be introduced to a process of visual note-taking using handwriting, drawings, hand-drawn typography, shapes and other visual elements to capture an idea. They will discover the process that allows them to capture ideas more vividly and learn active listening techniques to help them in retaining and recording information. They will also learn how to share their sketchnotes online and in print, so that others can benefit from them. Sketchnotes can be created by everyone, regardless of age or drawing ability!

[1] *The Sketchnote Handbook: the illustrated guide to visual note taking,* Mike Rohde. Peach pit Press, 2012.

[2] *Sketchnoting,* Rob Dimeo. ACM Computers & Society, Volume 4, Issue 3, 2016

[3] *The Doodle Revolution: Unlock the power to think differently,* Sunni Brown. Portfolio, pp. 17-20, 2014.

40 Creation and Interpretation

Robin Landa
Kean University

Workshop

For many years I have been employing discovery-led practices in my design courses, which appeal to people's innate desires to explore and create. Through an investigative question, image making or design concern, I initiate a discovery-led process.

Discovery through practice used in tandem with problem solving fosters nimble thinking. In this kind of process, after making images or objects, the requisite step of interpreting outcomes leads to analysis and further investigation or utilization. After students generate content or designs, they interpret what they have shaped to understand the image, and determine if it could serve a social cause, nonprofit organization, or brand, or if it could be used as a design utility or object. Interpretation is a crucial part of the process resulting in a better understanding of images.

This workshop focuses on image making as a discovery-led process. Participants will create images by hand and then utilize the handmade images in digital design. Participants will take away a "hand to machine" method for teaching involving image interpretation, composition, and examining type and image relationships.

The workshop pedagogy will focus on:

- Image making as a discovery-led process
- Analyzing and interpreting form, images, and style for denotation and connotation
- Scrutinizing and employing type and image relationships:
  - Do type and image share characteristics?
  - Do they have contrasting characteristics? If so, in what way?
  - Should the type be neutral and only contextualize?
- Emphasizing the midline to structure a composition
- Establishing a visual hierarchy through a focal point

UCDA

Creation and Interpertation

Robin Landa
from *Graphic Design Solutions, 6th edition*

Part I
Inkblot Interpretation: Midline

01. *Create a "Rorschach" inkblot by dripping India Ink in the middle of a piece of paper (portrait orientation) and then folding it in half. Either use the inkblot as is or manipulate it. Determine what the inkblot image communicates, either on a pictorial or abstract level. Then determine which fiction or nonfiction work (book cover), play (theater poster), or event (poster) you could utilize it for.*

02. *Using the inkblot image, compose the cover or poster in a portrait orientation, using the midline (imaginary vertical line down the center) to structure the composition. Emphasize the alignment of the elements on the midline, which will result in an approximately symmetrical composition (mirrored or similar graphic elements balanced on either side of a midline).*

03. *Integrate the type with the image. Determine a way to position the words so that the relationship between the image and words is organic and they work together to create a visual hierarchical structure and fluid composition.*

04. *If the image is going to grab people's attention, then the typography should act as a supporting element, not calling attention away from the image but rather contextualizing the image. Think about type and image relationships:*

- *Do they share characteristics?*
- *Do they have contrasting characteristics? If so, why?*
- *Should the type be neutral and only contextualize?*

Part II
Inkblot Interpretation: Edges

01. *In a portrait orientation, visualize and compose a different cover design or poster for the same book, play, or event, or choose a different one.*

02. *The cover's design should include about the same amount of information but should not be structured with an emphasis on the midline. Instead, this cover or poster composition should be structured with an emphasis on the format's boundaries.*

41 Re(visiting) the Heart of the Letter

Kathryn M. Anderson
St. Ambrose University

Abstract

If the printing press is to a goose quill, and a camera is to a paintbrush, then so is web design to print media. Throughout history innovative machines and subsequent advances in technology have, on occasion, threatened the livelihoods of our most prolific art and design tools and cultures. If it is the allure of a scribe's pen to vellum, the lush surface of a painting (in both a visual and tactile sense), and the weight of knowledge in our hands (the physical book) that speaks to our multi- sensory wiring, then why are humans quick to discount or overlook the viability of the handmade, choosing the mechanically (re)produced instead?

In academia, art and design students receive vigorous training in traditional tools and techniques—drawing, painting, working with paper and raw materials (both two-dimensionally and three-dimensionally), and so on. However, when they reach their first design course most students forget what's already in their 'toolbox' and rely solely on whatever the machine—the mouse or Wacom pen—can (re)produce. Ideas go from the creative's head to the hand while disregarding the other half: *the heart and the soul.*

As educators we strive to propel our students to the next level of innovation in respect to creative problem-solving, technical acuity, and evocative communi- cation. Students misinterpret this to mean: "How great are my skills in the Adobe Creative Suite?". What we really mean is that we want our students to consciously (re)consider that the program/machine works for us, not the adverse.

Focusing predominantly on methods of typographic communication, this presentation will investigate several teaching strategies that incorporate some of those traditional hand skills that may have been gathering dust in our student's toolboxes in the hopes of striking an amenable balance of traditional and contemporary mark-making tools.

42 Analog and Digital Fabrication in 3D Typography

Amir Berbic
University of Illinois at Chicago

Abstract

Digital fabrication technology has expanded the possibilities in model-making and prototyping, significantly transforming the way designers generate form. In the realm of typography, designers have made use of laser cutters, CNC routers, and 3D printers to construct three- dimensional letterforms. How has digital fabrication affected the way graphic design students engage the physical act of making? What types of new typographic forms have emerged?

This presentation discusses pedagogical research and curricular development for a 3D typography class taught within an undergraduate graphic design program. Through exercises defined by key action verbs students employ methods such as extrusion, projection, folding, layering, and cross sectional morphing to explore material and spatial formulations of typography. While some exercises involve analog tools and manual processes others rely on the use of the school's digital fabrication lab. The experience with a range of approaches require students to learn to negotiate the varying limitations imposed by material and technique with the constraints of letterforms anatomy and typographic composition.

The case studies expand on the author's investigation into how letterform anatomy can inform the techniques for producing 3D typography. It also references an earlier study of the reciprocal relationship between two-dimensional graphics and three-dimensional form. Physical models are made to perform as subjects in a photographic image as much as fabricated designed objects. The process goes back and forth between the physical manipulation of form and engaging photography and lens-based media to analyze the spatial characteristics in 3D letterforms. Students control light, shutter, depth of field, and perspective to emphasize dimensionality and test typographic clarity. Building on the experience from method-based exercises, students work to develop one of their studies into a larger system of forms. They engage context, content, and communication of meaning as ultimate aims of the projects.

43 The Space that Lies Between

Luke Dorman
Santa Fe University of Art and Design

Heather Snyder Quinn
DePaul University, Chicago

Abstract
As educators we are often frustrated with our students' constant attachment to their smartphones, but what if we embrace the phone as a creative tool akin to a pencil or brush – a simple way of seeing and interpreting the world around us?

In the words of Marshall McLuhan, "Education must shift from instruction to discovery." With the rapid progression of the digital sphere changing the way we design, it's imperative that students understand an ever-expanding array of principles. As classroom content grows, the best thing we can teach students is how to be adaptive and curious thinkers. We feel that students can best embrace uncertainty and find comfort in a process of discovery by exploring and pushing the boundaries of the familiar. This is where the phone excels as a teaching tool.

In the same way a drawing teacher encourages mark making with a branch or one's feet, we can alter the expectations of smartphone as medium and use it's features in unintended way that harness it's power as a creative tool.

- Generating fonts through maps, using GoogleEarth screenshots to collage, documenting or drawing one's day based on steps taken.
- Using text conversations or social media commenting to tell a real, authentic narrative.
- Using bar code scanners to create secret stories and make fonts or heart beat monitors to make marks and draw.

The phone is a device that most students have as an extension of their hands. How can educators encourage students to use tools in ways they were not intended. By having students hack, make and create in this way—we are teaching them to think beyond the hand and machine—to the space that lies in between—or to the tool that has not yet been discovered.

The Space That Lies Between:
Presentation #43

Using the phone as a teaching tool—
Teaching students to think beyond the hand and machine—
to the space that lies in between—
or to the tool that has not yet been discovered.

CO-AUTHORS:

Heather Snyder Quinn
DePaul University

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OUR GOAL:
Teaching students how to be adaptive and curious makers

With the rapid progression of the digital sphere changing the way we design, it's imperative that students understand an ever-expanding array of principles. As classroom content grows, the best thing we can teach students is how to be adaptive and curious thinkers and makers. We feel that students can best embrace uncertainty and find comfort in a process of discovery by exploring and pushing the boundaries of the familiar. This is where the phone excels as a teaching tool.

As educators, we are often frustrated with our students' constant attachment to their smartphones, but given its role as an object of intimate familiarity, we wondered what might happen if we embraced the phone as a creative tool akin to a pencil or brush—a simple way of seeing and interpreting the world around us.

WE HYPOTHESIZED:
- **Can the smart phone be embraced as a tool and not just shunned as a distraction?**
- **Can we use the smart phone as an image making tool rather than just seeing it as a distraction, and what are the benefits of doing so?**

Building on Marshall McLuhan's simple concept that "Education must shift from instruction to discovery" we asked students to hack, make and create with their smart phone as a primary image making tool. We wanted to find a way to allow for an openness in the creative process the enabled students to discover their own solutions without being instructed towards specific outcomes with preconceived expectations. This openness of process helped foster a curious mindset that's propelled by the delight of discovery.

We recognize that there is a rich history of this kind of experimental form making in the arts that is intended not only to foster a curious mindset but that also seeks to critically examine one's relationship to their tools, even occasionally going so far as to reevaluate the very definition of tool.

A Process of Discovery
We've observed a drawing teacher encouraging mark making with a branch or one's feet. In the same manner, we can encourage the use of new technology as a creative tool. By altering the expectations of the smartphone as a medium and using its features in unintended ways, we harness its potential and power as a creative tool. We see this frequently in foundation drawing courses where students will be asked to perform a variety of tasks intended to reexamine their notions of creative tools including: making your own drawing tools, drawing with your feet, drawing with sticks, drawing with your non-dominant hand, and a wide variety of other mark making exercises.

***"By testing our means of making, we test our own capacity as makers, revealing the unexpected along the way."* – Keetra Dean Dixon**

In addition, given that our tools can sometimes carry an implicit bias towards specific uses and outcomes that have potential to limit expressive output and creative exploration, it benefits students to learn early on that they can (and should) seek to bend or break these biases to achieve unexpected results. Looking past expected results that come with certain tools and software helps students foster expansive and divergent thinking.

Where can this project be used
- Undergraduate.
- Foundation level Two-Dimensional Design classes.
- Intro Graphic Design classes.
- Advanced Graphic Design classes.
- Any classes that involve image making.

What's learned can be implemented and built upon in upper level classes as part of more advanced projects and/or combined with other image making tools. For example, Book Covers, Record Albums, and more advanced Brand Systems.

We thought the most appropriate parallel between these types of foundation-level drawing experiments and our concept for using the phone as an image making tool would be to integrate it into a foundation level design course. This builds upon other work design students do at the foundation level intended to help them start seeing their world in terms of design. Fostering an ability to see what others overlook while seeking unique solutions to design challenges.

Trial Project
We felt it necessary to craft a project that would provide a loose framework for students' image making explorations so they had some specific end-goals, but would also be open enough for them to ideate freely and realize the learning objectives of the process.

- Students will image-make with their phones, along with typography studies as source material, to create packaging for a 7-inch record (musician of their choice).
- Students will integrate text with the phone collages in a manner that evokes the feeling of the music itself.
- Over approximately three weeks, students will create design studies, receive feedback, and refine and execute a single solution. Students will start with creating image source material using a variety of methods with their phone. They will then create typography studies and lastly, they will design the record sleeve.

Desired Goals and Learning Outcomes
- Learn they have an image-making tool at their constant disposal.
- Practice combining analog methods with a digital tool.
- Develop comfort/willingness to pursue the unknown.

- Explore nontraditional form making & innovative tool use.
- Experiment trying new things with curiosity and no expectations of outcomes, moving quickly past failures and then leaning on skills of intuition and curation to determine when something is “done”.

STEP 1, USING THE THREE METHODS:

We devised three general methods that students could use when working with their phone as image making tool and we required that students integrate examples from each of these methods into their initial ideational work.

- Additive (external - add something to your camera lens to change perspective and outcomes).
- Internal (within the phone using apps).
- Reductive (constrict your view - focus, examine, crop, photograph through a hole in matte board, etc.).

Each process was intended to force students to think about their phone as an image making tool in different ways. We did not want to only rely on apps to distort and create imagery but instead wanted to create parameters that require students to more fully explore the potential of phone as image making device.

METHOD 1: ADDITIVE

The additive process helps foster an experimental and curious mindset as students build upon both successes and failures. Their sense of curiosity increases as they begin to explore the possibility of how adding a “filter” to the front of the camera changes the outcome of the images they record.

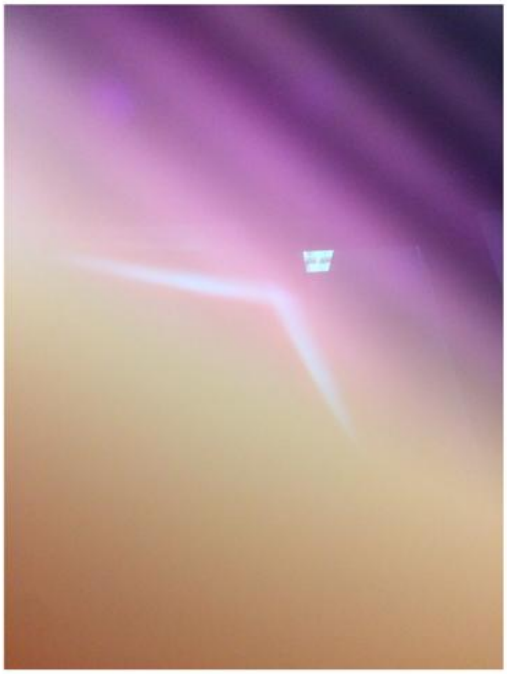
- An exploration of materials.
- Foster experimental mindset.
- Curiosity builds with successes and failures.
- Fosters curiosity about the world around them/ learn to pay attention to environment.
- Explore various ways of seeing.

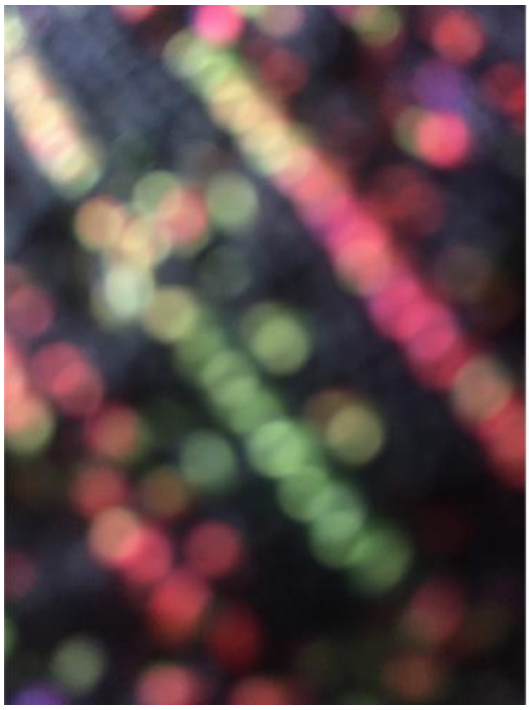
Additive Materials

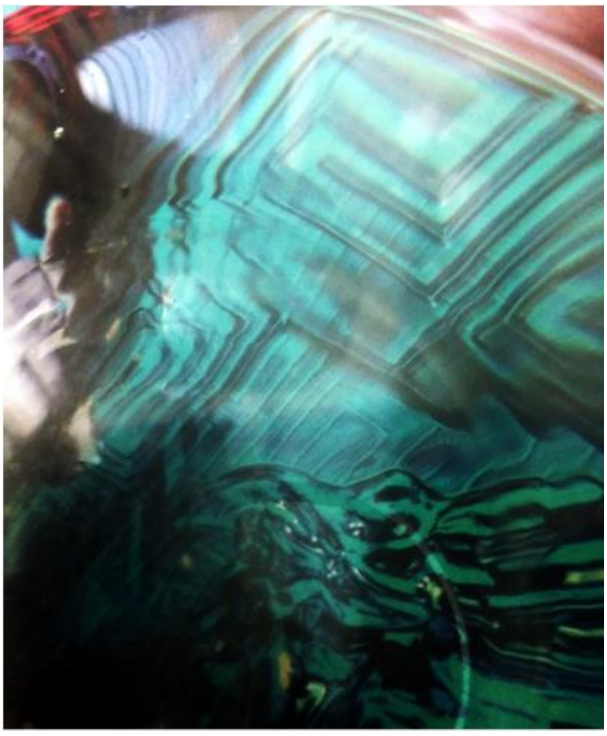
We started with a short list of suggested materials to help students understand some starting points, however they went in a wide variety of unexpected directions which was wonderful. This is a short list of some of the materials they added to the lens of the camera.

- Bubble wrap
- Saran wrap
- Lotion
- Saliva
- Febreze
- Any liquid in a clear glass
- Gel cling-ons (colored)
- Glass
- Screens
- Lights
- Dryer sheet
- Clear glitter phone case
- Christmas lights
- Red Nyquil
- Shea butter

- Dawn bubbles
- Microwave window
- Colored vellum
- Prescription glasses, a loop, magnifying glass, binoculars, etc.
- Watercolor
- 3D glasses
- Sheer fabrics







METHOD 2: INTERNAL

The internal method involves using apps to internally process imagery on the phone. These could be apps that are intended for image making and apps that are not. The benefit of using apps is that they help students explore new technology with no preconceived notion of the outcome—it fosters a sense of play and open experimentation. In addition, the phone apps allow students to quickly generate new form and color studies anywhere they are, which helps them gain a sense of creative freedom—knowing that they can generate new ideas from any location - not just in front of a computer.

- Explore new technologies with no preconceived notion of outcomes.
- Quickly generate new form and color studies – exploratory ideational methodology.
- Departs from expectation of a proper work methods - students can create from any location.

Suggested App/Material List

Once again, we provided students with a short list of suggested apps as starting points, but through their own research they were able to add a lot to the list. We worked with both graphic and non-graphic apps in this process.

Graphic Apps:

- Timetracks
- Matter
- Tiny Planets
- Circular
- Lory Stripes
- Shift
- Union
- Glitch Art
- 3D Effect
- Tangent
- Fragment
- Glitché
- Glitch
- Wave
- Webp
- Camera Glitch
- Trippy
- Defqt
- Luminancer
- Ultrapop
- SLMMSK
- 8 bit photo lab
- Mix
- Photo Layer
- Artisto
- Bit poem
- Photo lab
- Bazzart
- Darkr
- Mirrorly
- Whitagram
- Snapseed
- Pixel is Data

Non Graphic Apps:

- Lie Detector
- Heart Rate
- Cloak
- Uber
- Calculator
- Map my run
- Qrbot (bar code apps)
- Steps tracker
- Sleep Tracker
  (other graph/data apps)
- Voice Recorder
- Dictation
- Codes
- Google Street View
- GoogleEarth
- Augmented Reality Camera (Pokemon)
- SnapChat
- Google Translate
- MorseCode (with or without flashlight)
- AntiTagging
- Album Audio (Sound Waves)
- Text Messaging
- Voice Memo

Other:

- Screenshots (i.e. of mobile sites loading when there are only colored boxes)
- Messing with settings (increasing brightness, accessibility and other settings—play, experimentation)
- Alarm/Clock
- Flashlight

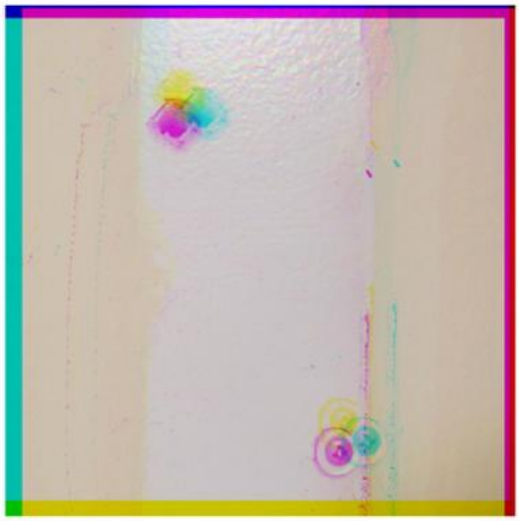
Banned apps:

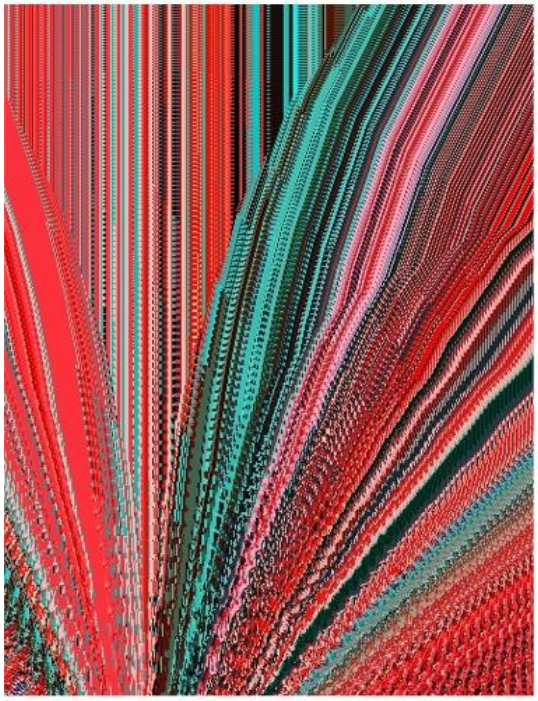
We were aware that there would be a temptation to use familiar photo filtering apps for this method so we created a short list of banned apps so that students would be able to avoid the temptation of simply applying stock filters to their work. As with the other lists, we expect this to grow as we discover more apps that stray from the goals of the project. Try to avoid apps that just make another version of a photo— for example Prism, Instagram or VSCO cam. We are looking to gather abstract imagery, not simply filter a photo.

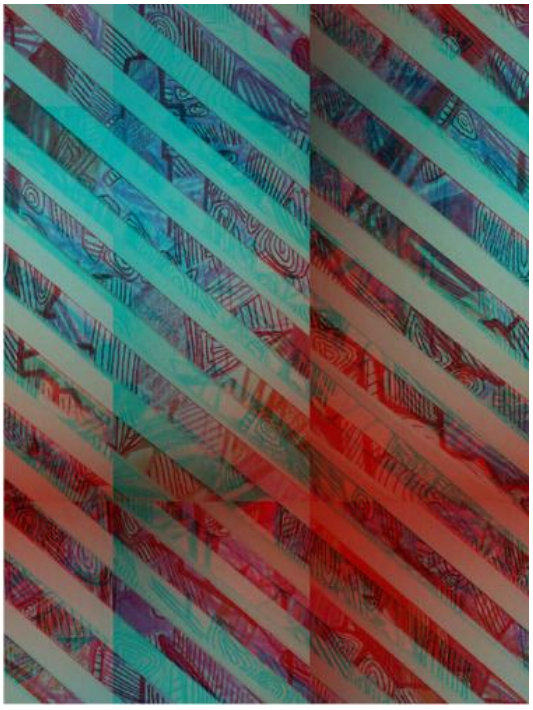
- Prism
- VSCO Cam
- Instagram
- Any photo filtering app (this is not about using presets)

Other Considerations:

- Anything in your phone is game.
- Search for abstraction.
- Create and find ways to make images that are not traditional.
- You will be taking these images and collaging and layering them.
- Right now you are just collecting raw material.







METHOD 3: REDUCTIVE
The reductive method is about constricting or focusing a student's view. The phone's camera typically has a wide view, but by learning to limit that focus students can become more selective about what they choose to integrate into their own image making. This selective and limited focus also helps students stop looking just at the content of their surroundings and focus more on the forms of their environment.

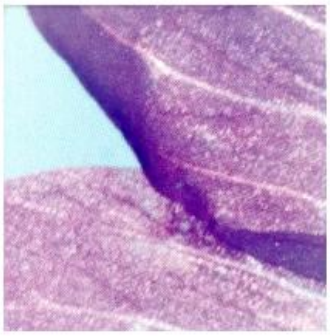
- Experience how reducing your view (cropping) can alter narrative experience and create compelling compositions.
- Helps take things out of context, enhancing quick-looking and decision making skills.
- Helps students begin to explore their surroundings as form instead of focusing on content.

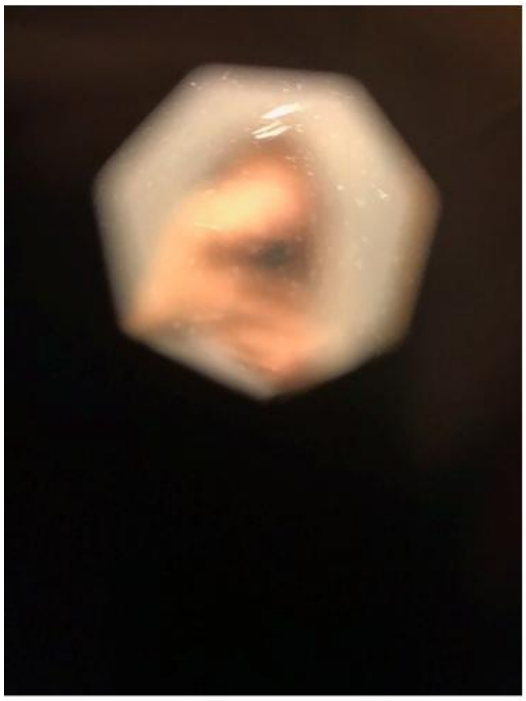
Materials:

- Through hole punch in paper.
- Through window (cut out of matte board).
- Through toilet paper/paper towel/wrapping paper tube. The longer the tube—the more abstract the images become.

Apps:

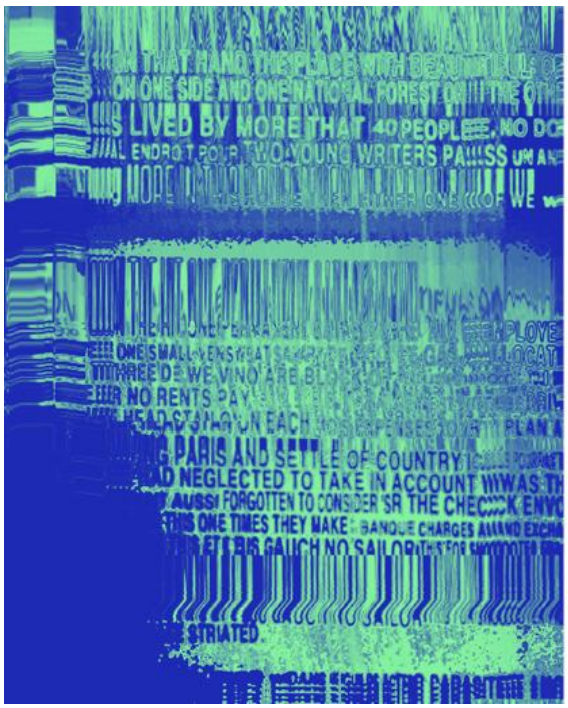
- Timetracks (slit-scanner app).
- Shrub (app).

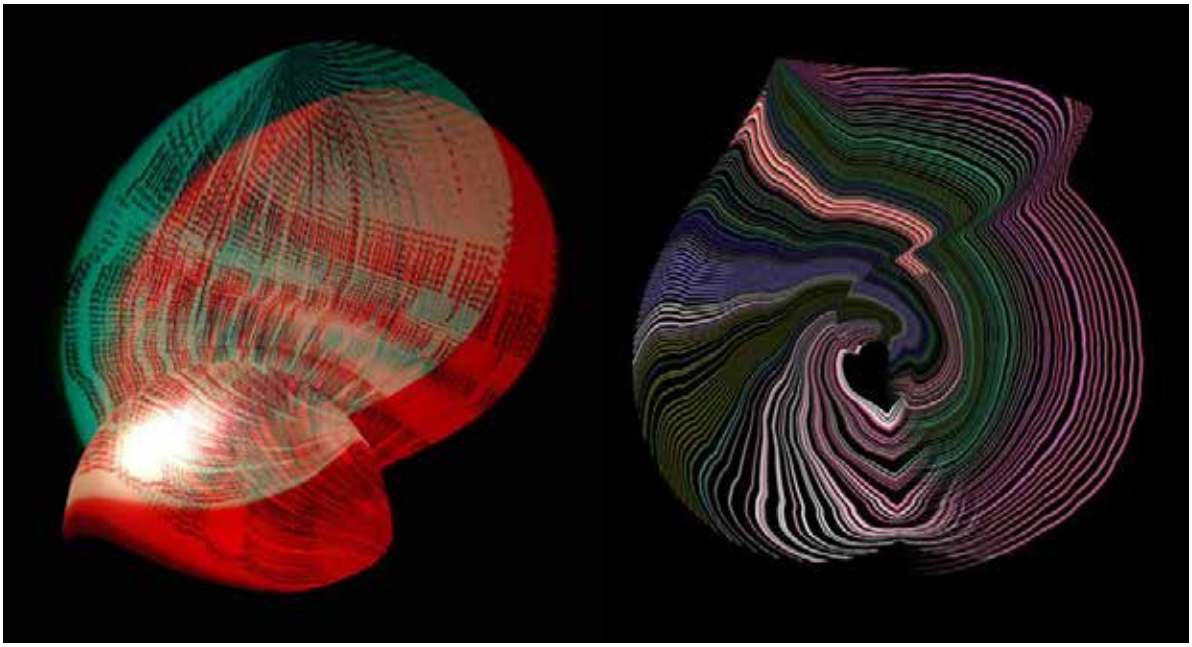




COMBINED TECHNIQUES

Obviously, students can combine the three methods after a certain comfort point. For example, bringing reductive images into multiple internal apps, etc. This more closely mimics the process that we have used in our own experiments.





STEP 2, REVIEW, COMBINE AND FURTHER MANIPULATE:

In-class review of work
After the students experimented with these various forms we had an in-class review of their work to talk about the project and its successes and failures before moving on to the second phase of their record cover project.

Further Manipulation
After review, we had students take their initial image making experiments that they made on the phone and work to further manipulate them using traditional design programs like Photoshop. As part of this process we asked them to look at color variations including Black and White, Duotone, Monotone, etc.

The goal of this was to give students the opportunity to take raw images and learn to manipulate them further into their own work through layering, transparency, collage and color application.

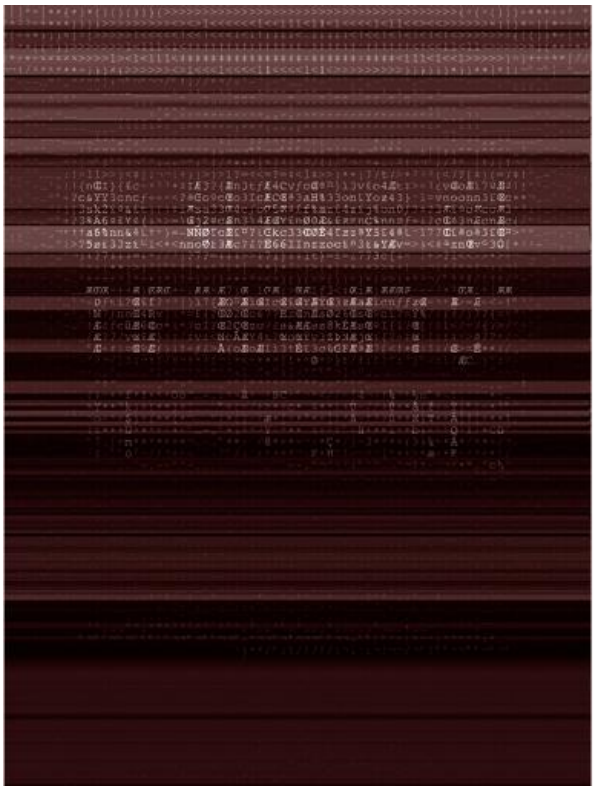
This was an important step towards bringing these phone-based images together with the type studies they had been doing for their record cover designs.

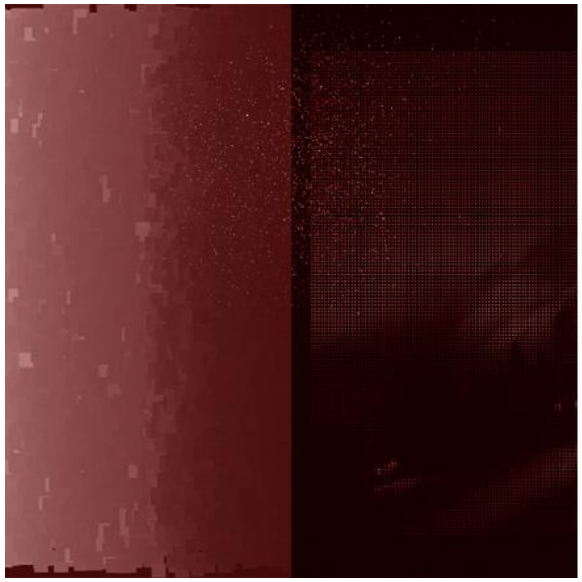
For further image making work, students are asked to begin layering various images in Photoshop. They are then asked to look at color variations:

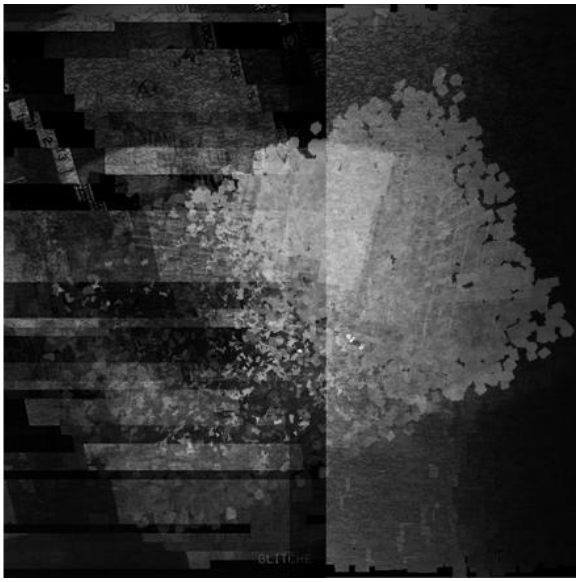
- Black and white
- Grayscale
- Monotone
- Duotone (reverse curve)
- Multicolor

This gives students the opportunity to take raw images and learn to manipulate them further into their own work through layering, transparency, collage and color.

We also asked students to take their album cover designs and expand them into additional applications related to music merchandising.

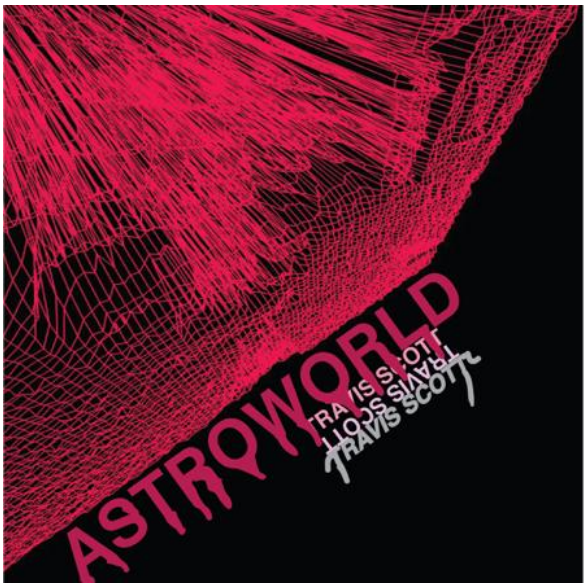







ELEPHANT
THE WHITE STRIPES


ELEPHANT
THE WHITE STRIPES
1. SEVEN NATION ARMY / 2. BLACK MATH / 3. THERE'S NO HOME FOR YOU HERE / 4. I JUST DON'T KNOW WHAT TO DO WITH MYSELF / 5. IN THE COLD, COLD NIGHT / 6. I WANT TO BE THE BOY TO WARM YOUR MOTHER'S HEART / 7. YOU'VE GOT HER IN YOUR POCKET / 8. BALL AND BISCUIT / 9. THE HARDEST BUTTON TO BUTTON / 10. LITTLE ACORNS / 11. HYPNOTIZE / 12. THE AIR NEAR MY FINGERS / 13. GIRL, YOU HAVE NO FAITH IN MEDICINE / 14. WELL IT'S TRUE THAT WE LOVE ONE ANOTHER


ASTROWORLD
TRAVIS SCOTT

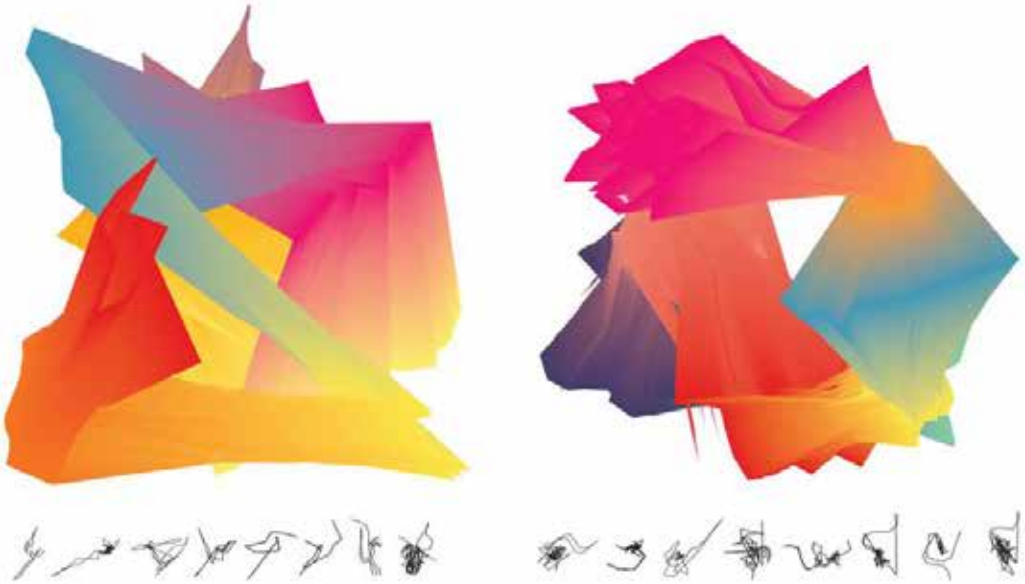

Family
Astroboy
Faded
Long Nights
Sorry
Flame

OUR WORK WITH THE IPHONE

Much of our interest in this process evolved from our own use of the phone as a creative tool and our continued exploration of this methodology will suggest ways to enhance and alter the ways we use the phone in the classroom. We included a couple of sample projects to demonstrate the manner in which we use the phone as creative tool. We especially enjoy work that uses apps and data in unexpected ways.

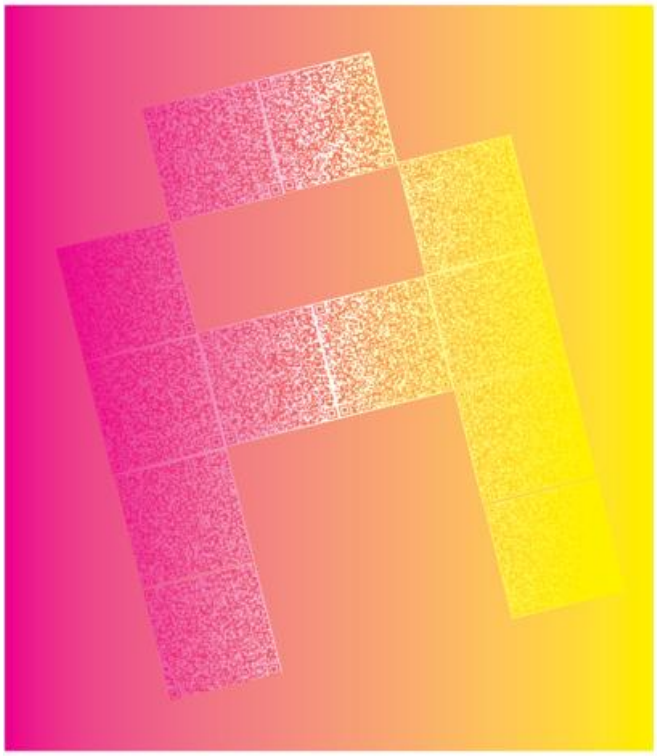
Luke:

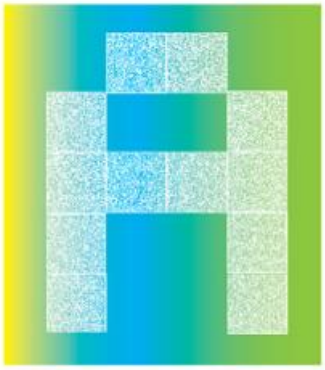
- Last summer Luke was actively using the GPS tracking built into the app Run Keeper in a variety of ways.
    - He created an alphabet by driving around and using screen grabs of his GPS movements.
    - He also used Run Keeper to record his daily movements during waking hours. He then took the forms created by the tracking and used Adobe Illustrator to blend them together, turning the varied movements of each day into a unique shape. In this image each column of shapes contains a week's worth of movement per line, with the entire collection depicting the distinct forms created by 16 weeks of daily activities.
- He also looked more closely at this data and found how it tracked to specific locations that he visited frequently and, by blending their shapes together, he made visual forms that are meant to represent specific locations. For instance, these are the shapes of two different restaurants that he visited often.

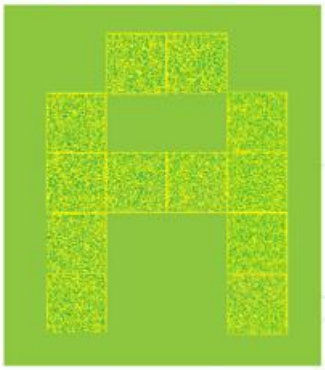


Heather:

- Heather's work investigates multi-layered narratives and cryptography. She recently created a display typeface called "Scanned". Each letter is made out of multiple Qcodes and each Qcode is a personal and private story about her life. Viewers can use their phones to interact with the letters and read the stories.
- She also takes screen shots of Google earth and creates digital and analog collages with these images—sometimes taking the collages back into phone apps to further manipulate.
- In her recent MFA work she began to collect recaptchas and use them in new visual collages. She also created anti-surveillance textiles/scarves using the collaged recaptchas.







WHAT WE LEARNED

What worked

- Students were very comfortable using their phones. The portability allowed them to do it at any time—much like a carried around sketchbook and pencil. They had no fear of the apps and really embraced abstraction, randomness and “mistakes”. They had no expectations.
- Having students combine raw images in Photoshop and then look into color options was highly effective to learn further manipulation of their own work.
- Students said that they now look at everything as a means to make something “even a sponge, a broom, a flashlight.”
- Students said they now use their phone all the time in new creative ways and that now they look at how they can hack all kinds of tools.

What worked (Student Feedback)

Students liked experimenting with additive and reductive methods especially—it was a completely new experience for all of them. Many also really enjoyed the new experiences offered by creative apps.

- *"Felt more hands on because you are using your fingers. Extension of yourself.”*
- *“Phone has become a different outlet for image making. Taking to a new level.”*
- *“Fun and new.”*

- *"Felt really fun and joyful – involves something we like-our phones we are familiar with it. The whole process felt open ended but safe. "*

- *"I Liked doing the color work in Photoshop because I learned how to push it further."*

- *"I learned to get creative with the most taken for granted/obvious things. It is so easy to get abstract if you just don't think too hard and go with your gut."*

What didn't work (Student Feedback)
Most student feedback about what "didn't work" boiled down to frustration with the ways in which their natural instincts and processes were challenged, which is actually the point of the project. Still, as we are all most likely familiar with, students don't always understand that circumventing their habits and expectations is often the goal in the classroom.

- *"Certain aspects were frustrating. I like to draw so this felt really different but once I started making I could actually see my own mark even in the digital work."*

- *"Had hard time with how un-calculated it was whereas with Photoshop you know where you going. I can see my process."*

What we will do next time
- Really push students to use other parts of phone (more so than just graphic apps).
- Encourage a set amount of combining images. In other words, encourage manipulation through multiple apps—possibly with specific required number of apps (i.e. make an additive image and then process it through 3 apps, 4 apps, etc.).
- More work with light (dark, bright, etc.) situations.

The entrepreneurial side
While students are working on this project, we encourage them to keep track of ideas they have while working—of tools, apps, etc. that don't exist but they would like to use. This teaches students they are entrepreneurial, broad creators and to not be limited by what is in front of them. It also reinforces the objectives of the project—that students can make whatever it is they don't already see in the world as long as they are creative about it. So, while the project itself provides guided constraints so as to not overwhelm, they are still encouraged to think broadly and outside of their normal areas—into product design and even business.

CONCLUSION

"If nothing else the years have taught me this: If there's a pencil in your pocket, there's a good chance that one day you'll feel tempted to start using it. As I like to tell my children, that's how I became a writer." **– Paul Auster**

In closing we'd like to add this anecdote: In his essay "Why Write?" Paul Auster tells a story about being a baseball-obsessed young boy and getting to meet his idol, Willie Mays. After gathering his courage and asking Mays for an autograph Mays replies "Sure kid, you got a pencil?" Unfortunately, neither Auster, nor his parents, nor anyone else in his group had a pencil on them and Mays was forced to leave without giving his autograph. From that day forward Auster made sure to never leave the house without a pencil in his pocket, writing that "It's not that I had any particular plans for that pencil, but I didn't want to be unprepared."

Students today already carry their phone with them everywhere they go so if we teach them that their phone is a creative tool, there's a good chance they'll feel tempted to continue using their device as a lens through which they can actively document and transform the way they experience the world around them—constantly growing as creative image makers in the process.

NEXT STEPS/GET INVOLVED

This was Phase 1 of our research, so we are just beginning. We are eager for others to try these methods and share their discoveries with us, so we encourage you to try. The image-making can be a foundational level class in and of itself or can be added on to more practical classes. i.e record album projects/concert branding, publication design, packaging and so on. There are really no limits to the application. We are beginning Phase 2 of the research in Fall of 2017 and are working towards a future publication. If you'd like to try any of the methods or work and share your results, **please email: heather.quinn@vcfa.edu**

Thank you student participants!
Work by DePaul University, School of Design
Graphic Design 200, Spring 2017
Professor Heather Snyder Quinn

- Abdus-Saboor, Yaseen
- Carter, Chyna
- Delfin, Erik
- Dobbs, Joe
- Gilbert, Daniella
- Glavin, Olivia
- Green, Samantha
- Hamilton, Bryanna
- Harris, Brandon
- Hughlett, Jackson
- Hynton, Hayley
- Katz, Rebecca
- Klawitter, Allie
- Kowalczyk, Nicole
- Law, Karen
- Lee, Eunice
- Madden, Finn
- Milligan, Lydia
- Niemczyk, Brad
- Osorio, Marianella
- Powell, Sylvie
- Ravenscroft, Olivia
- Roberts, Kaitlyn
- Rosas, Claire
- Schube, Hannah
- Scudder, Anna
- Shiparski, Madison
- Torgus, Sebastijan
- Tummino, Rachel
- Wright, Amoz
- Zaremba, Nikodem

ABOUT THE AUTHORS:

Heather Snyder Quinn is a full-time faculty member at DePaul University, College of Computing and Digital Media, School of Design. She is an award-winning creative director and educator. After she received her BFA in graphic design from the Rhode Island School of Design in 1996, she began a 20+ year career in in multi-channel and multi-disciplinary projects at the forefront of design culture and commerce. She also taught graphic design at RISD for over 8 years. Her clients have included Northwestern, Harvard, MIT OpenCourseware, and OpenPediatrics, among others. She is currently pursuing an MFA in graphic design at the Vermont College of Fine Arts.

Luke Dorman is a full-time faculty member at the Santa Fe University of Art and Design where he teaches foundations and upper level design courses. In addition to his teaching duties Dorman maintains an award-winning studio/freelance practice where he focuses on work that integrates hand-made type and illustration with computer-based media. His work has recently been recognized in Print Magazine and the International Drawing Annual. He is currently pursuing an MFA in graphic design at the Vermont College of Fine Arts.

44 Research? But I'm an artist!
Using research as an engagement tool with creative students

Rion Huffman
Pittsburg State University

Abstract

RESEARCH. What comes to your mind when you hear that word? As educators we might think about discovering new knowledge or adding to our existing knowledge base. Maybe the word conjures up memories of late nights working on projects for an advanced degree. Depending on our educational institution and how tenure and promotion are awarded, research may have a slightly different meaning. The meaning could range from "publish or perish" to "creative endeavor". Whatever your response, we know that as educators, research plays an important role in furthering education and discovering new knowledge. So it should make sense to get students involved in research, right?

The correlation between research and furthering education may seem clear to educators, but what if you ask a creative minded student the same question about what they think of when they heard the word "research"? Answers range from "Internet and books", "Notes, digging", "writing a paper", and "late nights". Some students describe their thoughts through emotions such as "curious", "anxious", "stressed". So, while students may be interested in new knowledge discovery, there is a strong reluctance by many students to engage in research. As educators, it is one of our responsibilities to show the value of research to students and get them involved as much as possible. But how do we take creative minded students and engage them in an exercise that they may have a preconceived "boring" notion about?

Identifying a student's passion is key. If a student loves sculptures, have them look into different mediums and how and when those mediums are used. If they love photography, ask them about the difference between film and digital and how that impacts how large a print can be when reproduced for a gallery. Once that passion is tapped into, the student will not even realize that they are engaging in research. Do not propose it as research; instead propose it as the student learning more about something they already have a strong interest in.

This presentation will focus on methods to encourage student involvement in traditional research, and creative endeavor. The presentation will also examine the impact student research has upon the student, educator and university.

Research? But I'm an *Artist!*

Using research as an engagement tool with creative students

Research

Above: Image used with permission from http://armytechnology.armylive.dodlive.mil/files/2012/06/

What comes to mind when you hear that word? Do you envision a scene similar to the one pictured to the right? Long hours in a laboratory or at a library, reading and studying to find a solution to a problem? Educators may think of discovering new knowledge or adding to our existing knowledge base. For students however, the word may take on a different meaning.

The correlation between research and furthering education may seem clear to an educator, but what if you ask a creative minded student the same question about research? Answers range from "Internet and books", "notes, digging", "writing a paper" and "late nights". Some students describe their thoughts through emotions such as "curios", "anxious" and "stressed". So, while students may be interested in new knowledge discovery, there is a strong reluctance by many students to engage in research. As educators, it is one of our responsibilities to show the value of research to students and get them involved as much as possible. But how do we take creative minded students and engage them in an exercise that they may have a preconceived "boring" notion about?

Importance of research

When attempting to show the value of research, one must first be able to explain its importance to the field and to the individual engaging in research. For some individuals, they may be motivated by the possibility of new discovery. Students and educators alike can be driven to find new knowledge and be trailblazers in their disciplines.

Others may be motivated to push their personal limits. Sometimes students may need guidance to get out of their comfort zone and expand what they previously thought they were capable of doing. Educators fully understand the value of new discovery for the discipline, but students may need education to realize that they can not only push themselves, but they can become content experts in their field. This level of expertise can set them apart in the job market and among their peers.

Roadblocks

Although an explanation of the importance of research can help to lay a foundation to get students motivated, there will still be multiple roadblocks that educators will need to overcome. These roadblocks may include perceived difficulty of the task, perceived enjoyment factor of the work and lack of creative content to keep the student engaged. Lets tackle these objections one at a time.

Perceived difficulty. If a student has a preconceived notion about the level of difficulty that a research project may entail, it is important not to make assumptions about the students perceptions. Instead, talk to the student and find out what they believe the study will entail. The student may think the study will take much more or much less work than

what reality may turn out to be. In either case, this should be discussed with the student to clarify the situation. Honesty is important during this phase to make sure the student fully understands how much work will be required. Clarifying a situation will go a long way towards making the student feel more comfortable.

Perceived enjoyment factor of the study. Students may have the drive and ambition to engage in research, but may be hesitant simply because they do not think they will enjoy the project. To put it bluntly, they may simply find the task boring. In this instance, clarification can once again help the situation, but may not always help. Clarifying what the student will be doing and showing the value of the project may persuade them to be engaged. In cases where clarification alone does not work though, more covert tactics may be required. Getting to know the student well can help an educator find ways to get the student engaged in research. By getting to know the student, the educator can find areas of intense interest for the student. This will allow the educator to start a conversation centered around that area of interest that may lead to a research project. For example, if a student loves illustration and logo creation, the educator may start a conversation about the parallels between the two subjects. Once this conversation is started, the educator can fan the flame be supplying the student with articles on the subject and other information. The student will become more and more engaged with the subject over time and that interest may evolve into a study into a new type of pen tool to use with a tablet for more refined control of illustration and logo creation. Whatever the student's interests are, it is the educators job to tap into the potential for expanded learning and engagement. In the previous example the educator would have helped to take a student from a consumer of information to an innovator in their field.


Above: A student engages in a macro photography project.

Lack of creative content to keep the student engaged. Students should understand that creative endeavor also falls under the umbrella of research. Not all research is created equal and students do not have to spend countless hours in the library in order to creative new knowledge and make new discoveries. Making a painting, drawing, sculpture, photograph or any creation can be considered new discovery and creation. Entering those creations into peer reviewed competitions and placing within those competitions is a testament to the strength of their abilities and the new creation that they made.

Once these roadblocks have been overcome, educators can then show the value and impact of the research upon the student, the educator themselves and their academic institutions.

Impact of research

The impact upon the student can be enlightening. Research can open a new way of thinking for a student. Instead of simply consuming knowledge on a daily basis, they may have a motivation to dig deeper into any given subject to see results for themselves. This will lead to expanded possibilities for students as well. A student that has graduated


Above: A research student presents a poster at a research colloquium and receives an award for the presentation.

from consumer to innovator is more well rounded as a thinker and is more marketable for employment. Students simply look at knowledge consumption in a different manner and tend not to buy information at face value. The students may also present their research at conferences or other competitions.

The impact upon the educator should not be overlooked in this equation as well. If educators mentor their students they will also gain knowledge in the field which can help with curriculum development in their courses. Mentoring a student through a research project can also make a foundation of research within the department that may help foster a culture of research to engage other students.

Summary

Many students will never engage in research activities, and likewise some educators may not as well depending on the requirements of their academic institutions. The fact remains that research is a vital part of progress though and the torch must be passed. Educators play a vital role in passing this torch in our society. Getting students involved in research ensures new knowledge in the discipline and ensures a steady stream of information and discovery to build upon. Getting creative minded students engaged in research activities may be daunting at first blush, but it is a rewarding challenge to conquer.

45 Unconventional Conventional: Letterpress Printing in Design Education

Chair:

Erin Beckloff
Miami University

Panelists:

Dan Elliott
East Carolina University

Troy Patterson
York College of Pennsylvania

Vida Sacic
Northeastern Illinois University

David Wolske
Indiana University Bloomington

Panel

Letterpress printers are connected through the shared language and materials of the craft; a combination of manual, mechanical, and technical processes. Design educators Dan Elliott, Troy Patterson, Vida Sacic, and David Wolske are united by their use of the letterpress process but have distinct methodologies in their own creative practice.

While making his expressive—and often abstract—work, Elliott expects to run into hurdles that would/should prevent him from completing the piece as he had imagined. He is a trouble maker, an instigator that begs the question, "what if?" who believes that responding to challenges in the process often leads to more interesting outcomes.

Investigating his collection of print ephemera, Patterson cuts and pastes in a contemporary mixed media style as a way to release objects, ideas, and design back into the world. He explores type design and printing through materials reclaimed from junkyards: serpentine belts, maps, car manuals, and salvaged lettering from abandoned automobiles.

Sacic blends collagraph and relief printing, pairing clean lines of type with ethereal biomorphic shapes and gestural line motifs. Her prints often feature English and her native language, a particular local Croatian vernacular. She works to create an experience and a potential for transmitting a message which is purposefully obscured or unfinished, an opportunity for reflection.

Wolske combines letterpress and fine art printmaking with digital tools to create abstract compositions that honor the history of wood type while striving to evolve and extend its visual vocabulary. He developed a masking technique called isotype printing; subtractive experiments of deconstructing letterforms and obscuring recognition without compromising the integrity of antique moveable wood type blocks as reusable modular objects. Each incorporates their letterpress printing methods into their teaching, engaging design students with the craft and introducing the printing press as a tool for experiential learning, exploration, and expression.

Questions:

- How does the letterpress process affect you and your work? (ie. time/pace, limitation/ constraints, physical/hands-on)
- Do you incorporate your process in your teaching? How? Why or why not?
- What do graphic/communication design students learn from letterpress printing?
- Compare traditional versus experimental methods, evidence of impact on learning.

46 UX Methods for Beginners

James Pannafino
Millersville University

Workshop

User experience (UX) is relatively new to many design programs and has unique aspects compared to visual design courses. Where do design educators start when it comes to user experience? What courses should incorporate UX methods and how does that affect the research currently already being done?

This workshop will cover various methods that design educators can use as part of the user experience process. Methods will be covered ranging from research, stakeholders' communication, prototype processing, testing and others, as time permits. Participants will be asked to engage in various exercises to gain a firsthand experience in how UX methods are navigated and work. Toward the end of the workshop, a short discussion on how the methods can be incorporated into the class will be discussed. Writing/drawing tools (pencils, pens and markers), a notebook and an open mind are needed for this workshop. Smart devices (phones or tablets) are recommended but not necessary. Other supplies, such as post-it notes and large format paper, will be supplied by the workshop moderator.

47 Recycled Alphabet Workshop

Gayle F. Hendricks
Northampton Community College

Workshop
This hands-on workshop will have participants stepping away from the computer and creatively crafting freehand letter forms out of found objects.

Each participant will create one or more letters using a 9x12 inch mat board as substrate. Some objects provided could include: beverage caps, twist ties, bread tabs, yarn, rope, wallpaper samples, paint chips, paper clips ... the choices are endless. Bring additional items from home to add to the communal supplies.

During the workshop, transform these ordinary items into a unique and extraordinary alphabet by a variety of methods. Crafting methods could include gluing, piercing, cutting, and flattening. A variety of adhesives will be available for use. Rulers, pencils, hammers and other transformation tools will be provided.

The completed letters of the hand-made recycled alphabet will be photographed and have a creative commons copyright applied. The original letters will be returned to participants. At the completion of the workshop, jpgs of every letter will be shared with participants via a dropbox link for use in future projects.

Poster 1 Past Meets Present: Applying Traditional Techniques to a Current Design Problem

Mitchell Christensen
The College at Brockport, State University of New York

Poster

As computers have come to dominate the graphic design process, design students and practitioners are becoming increasingly isolated from the traditional roots of graphic image-making — letter press, collage, woodblock printing, photograms, etc. Design studios have become computer labs, while, in many cases, photography and print making workshops that once were nearby have vanished. The loss of the creative synergies, cross-pollination of ideas, and tactile connection to imagery that occurred though proximity and ready access to those specialties has left a gap in graphic design that deserves attention.

A benefit of teaching a design concentration inside a fine art department is that students interact with traditional media and faculty on a regular basis and have access to traditional studios and equipment. The chance for our design students to help promote the upcoming 2017 Purple Run 4K Change — a student-developed event to raise awareness about relationship violence, an important social issue affecting our local community—seemed the perfect opportunity to integrate traditional media into their solutions. The design team will develop a promotional plan for the event at the beginning of the 2017 spring semester. Each student will choose a traditional technique to create imagery for the campaign. A standardized design system incorporating these diverse, yet thematically related, images will provide graphic unity for the various materials produced.

I would like to present a poster documenting the students' work developed up to the time of submission and include case-study observations about the process. My hope is that this project becomes a springboard for an interdisciplinary design class where different traditional techniques are specifically incorporated into assignments. The course goal would be to have students gain practical experience integrating diverse media into their design work, reconnect with tactile image-making, and form direct connections to historical models that utilized those techniques.

Poster 2 Comfort Toys

Benjamin Evjen
Utah Valley University

Poster

When I was young my mother had epilepsy. I remember her seizures always began with a heavy sigh, raising in pitch until her body fell against a hard surface. Pots and pans crashed and chairs tipped as mom's body crumpled to the floor. When this happened at home I found a distraction – from toys to television – while the seizure ran its course. The difficulties that arose when a seizure occurred in public while grocery shopping or at the mall were worse. I often felt as if I had little to no power to control what materialized around me. Strangers panicked, calling emergency services that were completely unnecessary. It was as if roles reversed, placing me as parent while parent became child. Yet, I was still perceived as a child.

When a caregiver suffers from epilepsy, a child can often feel frightened, vulnerable, and alone whenever a seizure occurs. These struggles children face when experiencing a caregiver's epilepsy are often neglected. There is little a child can do during these moments of panic, worry, and fear. At this point, no tool exists to provide them with the ability to take action, offer reassurance, or give empowerment.

In my current research, I intend to help children negotiate this struggle by creating therapeutic toys. Through play, children can navigate feelings that are often overlooked by adults. The visual appeal, simplicity, and materials used in their creation help facilitate comfort through sensory cues. By applying coping mechanisms to deal with stress caused by the passage of time, provide tactile comfort, and equip the child with tools to take action, their emotional needs are met. These toys address an overlooked need for children who consistently deal with the emotionally taxing occurrences that come with having an epileptic caregiver.

Poster 3 Determining Typical Human Color Difference Thresholds Between Opposite Sexes

Rion Huffman
Pittsburg State University

Hannah Burns
Pittsburg State University

Dillon Lewis
Pittsburg State University

Gage Rogers
Pittsburg State University

Poster

In an effort to answer the problem statement: "It is not known if there is a difference between the color difference thresholds of males and females with typical color vision" a student and myself are working on a study to make that comparison.

It is widely regarded that women have superior color vision compared to men. This has been backed up with research in the past. However, previous research has been based upon different variables such as genetics, with no qualifying pre- tests to exclude people with inferior color differentiation. The study that we are working on currently minimizes chances for variance by putting the potential participants through qualifying tests before judging their color difference thresholds.

The study uses two qualifying tests to determine if a participant has "normal" color vision. They are first given a color blindness test, then a visual color acuity test known as the FM 100. Once they have passed those tests, they are asked to view several sets of printed hues that either spectrally match, or are close matches and are asked if they see a match. The printed hue sets will have a variance of less than 1 Delta E color difference up to 4 Delta E's of difference. It is said that typical humans cannot see a difference below 1 Delta E, and also that a typical human can easily see a color difference of 3 Delta E's or above. We are putting that theory to the test and seeing which, if any sex has superior color discrimination using very exact measurement. This study fits the "Hand and Machine" theme perfectly as this testing must be done with both techniques. The tests that the subjects take are all paper and ink. The technology to measure the samples however is state of the art.

The results of this study can be used to guide curriculum development for any design class based around color theory or color reproduction.

Poster 4 Pitch & Roll: How can student designers sell their ideas?

Jennifer Kowalski
Tyler School of Art at Temple University

Poster

The new generation of designers face an increasing pressure to have a side hustle: a part-time design project that can be used for additional income, creative exploration, or as a portfolio piece. How are today's design students incorporating these passion projects into their busy academic schedules?

This poster discusses the ongoing process of Pitch & Roll, a graduate student project exploring several different forms of "passive" income streams for designers. These are products that designers can make and sell with primarily up-front work and no physical inventory. Pitch & Roll explores, through trial and error, ways for design students to effectively pitch product ideas and develop their passion projects while still in school. The project involves pitching physical product ideas to licensing companies such as Fred & Friends, Kikkerland, and Areaware with the goal of getting a product to market. The project also involves exploring different platforms for selling digital products: print-on-demand websites, digital resources for other designers, and digital resources for non-designers.

The goal of Pitch & Roll is to successfully pitch and market product ideas. In the process, the project will encounter, illuminate, and solve potential issues in the "passive" income process for the benefit of other student designers. The formalization of the process of idea generation, refinement, and product release to market could turn this project into a course curriculum that would allow design students to explore rapid idea generation and put student work in the real market.

Poster 5 Der teufelshaufen: Computational Generative Typeface Modeling

Nathan Matteson
DePaul University

Poster

Efforts to develop a rigorous mathematical understanding of the relation- ships among letterforms have been undertaken since the shortly after the advent of typefounding in Europe in the 15th century. Der Teufelshaufen continues this line of inquiry by constructing a trigonometric model of a textura alphabet.

Rather than using a Noordzij-esque model of the pen-drawn letter's linear path, expansion, and fronts (Cf. Metafont), Der Teufelshaufen takes a 'shape-based' approach to determining the letterforms' contours, treating each letter as an amalgam of component parts (eg, shoulder, bottom right serif, vertical ascender, etc.). Each of the components is deter- mined by a set parameters that describe the vertical stroke and counter widths, amount of overlap, angle, and contrast between vertical and slanting forms. Effectively a reduction of the characteristics of a hand- drawn letter to a mathematical model, the result of which is a hypercube of possible typefaces. As such, Der Teufelshaufen doesn't describe anything about the 'proper and just proportion' of the letters—it makes available all possible proportions within its scope.

This project is far from complete—currently only the lower case is fully described and implemented. However, once completed the model will be exposed through an online interface, allowing larger numbers of users to generate and download fonts that express desirable combinations of parameters. These parameter sets will be collected and analyzed for significant correlations. 'False positives' due to scraping or whimsy will be controlled by an as yet undetermined mechanism—eg a paywall or questionnaire.

This project doesn't intend to replace the hand in future typeface design. But seeks to guide the hand by developing a clearer understanding of the acceptable distributions of a typeface's anatomical features—and to connect this knowledge to further research and education into typeface design and history.

Poster 6 3D Printing Materials Research for Letterpress Printing

Christine Medley
Marywood University

Poster

This poster presentation will be on an in-progress materials research study determining what 3D printing materials will best serve in relief printing processes applicable to letterpress printing and fine art printmaking.

Topics addressed:

1. Which printing filament for 3D printed type can hold up best to the pressure of a printing press and long print runs.
2. Which 3D printing filament will allow for similar surface properties that you would get with wood or metal type.
3. Which 3D filament will hold fine detail at small point sizes resulting in an alternative platemaking method to polymer plates.
4. What 3D filaments allow for manipulation after 3D printing such as sanding, carving into such as a linocut or using fillers.
5. How to set up 3D printing and incorporate as class projects in the fine and applied visual arts curriculum.

Relevance and Significance:

- Create entire fonts: A-Z, 1-0 and punctuation for letterpress printing that replaces traditional wood and metal type fabrication
- Fabricate missing letters for wood typeface fonts
- Create an alternative platemaking process to polymer plates currently used for letterpress printing.
- Create a new relief printing process for studio artists, which allow the integration of digital images printed as a 3D block and then relief printed the same way as a woodcut or linoleum block.

Poster Display Details:

- 3D printed type and plates
- Prints made from 3D models
- Comparison prints from 6 different printing filaments, ranging from different plastics, cork filled, bronze and carbon.
- Summary book

HI TECH MEETS OLD TECH:

3D Printing materials

By Christine Medley
Associate Professor Graphic Design
Marywood University, Scranton, PA

PROJECT NARRATIVE:
In-progress materials research study determining what 3D printing materials will best serve in relief printing processes applicable to letterpress and printmaking.

Topics addressed:

1. Which filament hold up best to the pressure of a printing press?
2. Which filament will allow for similar surface properties to wood or metal type?
3. Which filament will hold fine detail?
4. What filaments allow for sanding, carving or using fillers?
5. How do you incorporate 3D printing into a visual arts curriculum?

Relevance and Significance:

- Create letterpress fonts that replaces traditional wood type
- Fabricate missing letters for wood type fonts
- Create an alternative plate making process: polymer, linocut, woodcut
- Classroom projects for printmaking, graphic design, product design, package design and more. Students only need Illustrator (vector program) and free Tinkercad.com for modeling.

3D FILAMENTS TESTED

COLORFABB NGEN (CO-POLYESTER)
Co-polyester based material that is low-odor and styrene-free. Good flow properties through the printer nozzle - even at lower temperatures than some other polymers require resulting in less waste.

COLORFABB_HT (CO-POLYESTER)
Co-polyester based material that is low-odor and styrene-free. Suited for advanced 3D printing use particularly for durability.

COLORFABB PLA/PHA
PHA (polyhydroxyalkanoate) is like PLA a bio-polyester and is 100% biodegradeable. Less brittle and more durable than other PLA brands.

PROTO-PASTA CARBON FIBER
Finely chopped carbon fiber filament in a black PLA matrix. Very high stiffness which almost feels more like the rigidity of metal than plastic.

COLORFABB BRONZEFILL
80% by weight finely ground Bronze Powder in a PLA/PHA matrix for a matte shimmery surface. 3x heavier than PLA filaments. Sands and polished easily.

COLORFABB CORKFILL
Natural cork material mixed with colorFabb PLA/PHA

COLORFABB WOODFILL
New type of wood filament fconsists of 30% pinewood in a binder of colorFabb PLA/PHA.

3-D FUEL ENTWINED HEMP
Filament produced from USA-grown and processed industrial hemp. Visible bio-fill and somewhat iridescent.

PROTO-PASTA MATTE FIBER
Plant-based fiber with a low luster surface that is similar to carbon fiber but does not require a hardened nozzle. Can be carved, glued and painted easily.

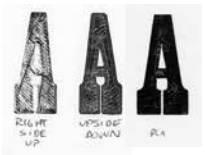
RESIN
Printed on a $350K Stratasys Connex printer.

Tested on the same Showcard press with the same ink, but printed at a different facility as part of a student project.

ORIGINAL FRENCH CLARENDON WOOD TYPE

Selected this letter because one "A" is cracked in the font and the goal is to replace it with a 3D printed letter that most closely matches the wood surface when printed.

COLORFABB NGEN (CO-POLYESTER)



1 2 3

1. Too much texture
2. Printed upside on heated bed to smooth out but the filament expands and fills the counters/negative spaces in the letter form.

   Discovered the model was not quite accurate and made a new one for subsequent printing.
3. Corrected model, reprinted & lightly sanded with an emery board.

PROS:
- Easy to print
- Short print time

CONS:
- Too much texture and required more effort to sand
- First print cracked sideways. The only filament to do that in testing.

RECOMMEND? NO

COLORFABB_HT (CO-POLYESTER)

1 2 3 4 5

1. Printed upside on heated bed to smooth out but the filament expanded and filled the counters/negative spaces in the letter form. Discovered the model was not quite accurate and made a new one for subsequent printing.
2. Lightly sanded
3. Novaplex gloss medium painted on surface
4. Corrected model, reprinted & sanded with emery board and painted with Novaplex gloss 2x.
5. Same model as 4, but printed with Van Son oil-based ink (harder/stiffer ink than Charbonnel)

PROS:
- Seems more durable than the NGEN & PLA filaments.

CONS:
- This filament was a bit touchy at times to print because of the high temperature. Interesting to note it was initially listed under "Experimental" in the printer profile.
- Shows a lot of texture and takes more effort to sand

RECOMMEND? NO

COLORFABB PLA/PHA

Sample sanded with 120 & 320 grit.

PROS:
- Easy to print
- Short print time

CONS:
- It seemed no different than the NGEN or HT when printed with the amount of texture and sanding.
- Seems like it might be less durable than the HT under the pressure of the press.

RECOMMEND? NO

study for **Letterpress**


LULZBOT MINI 3D PRINTER 2017


SHOWCARD PROOF PRESS C. 1950


KELSEY 6 X 10 C. 1964

Testing Process:

- Recreated the letter in Illustrator, saved out as SVG and used Tinkercad to create a STL 3D model.
- Letters were printed on the Lutzbot Mini purchased for $1250
- All letters had to be sanded, most of the time an emery board sufficed.
- Most samples were hand inked with a brayer using Charbonnel Aqua Wash relief ink which only requires water to wash up. Van San oil based ink was used on some as noted and mineral spirits were used for clean up with no adverse effect to the surface.

Tips:

- Make models slightly higher to allow for sanding. 3D modeling is measured in mm.
- Make sure sanding is even
- Print large items 5 mm high and mount on plywood to save time and material
- Have patience.

After printing all 9 filaments on the Showcard, I chose my favorites and printed on the Kelsey to see how they held up to the pressure and how they well they inked with Van Son.

All 6 held up great to the pressure, but revealed over sanding on edges of some samples and more texture was evident.

It was also evident that I need to print the letters slightly higher to allow for sanding as I had to build up the base so they would take ink.

PROTO-PASTA CARBON FIBER PLA

Sample is sanded with an 120 and 320 grit.

I was told that some in the letterpress community have had the best success with this fiber.

PROS:

- Durable, rigid
- Smoother printed surface

CONS:

- You have to switch the brass printer nozzle to a hardened one because the carbon will wear away the normal nozzle after going through a couple of spools. The Lutzbot printer is not easy for switching out nozzles and the support page recommends against it.
- Still has texture which is harder to sand out
- Filament is brittle

RECOMMEND? NO

COLORFABB BRONZEFILL

1 2

1 Sanded with 120 & 320 grit.

2 Sanded with emery board

PROS:

- Durable, heavier weight like metal
- Very smooth printed surface that requires little sanding.
- Easy to sand & polish and looks beautiful
- Easy to ink

CONS:

- Higher cost than other filaments
- Longer print time for high quality
- Can be harder to get off the printer bed

★★★★

RECOMMEND? YES

COLORFABB CORKFILL

Sample sanded with 220 grit & emery board.

PROS:

- Smooth surface
- Easy to sand
- Easy to print
- Short print time

CONS:

- Still a bit of surface texture after sanding
- Filament slightly brittle compared to regular PLA

★

RECOMMEND? YES

3-D FUEL NATURAL ENTWINED (HEMP)

Sample is sanded with an 120 and 320 grit.

PROS:

- Surface is easily sanded to be very smooth
- Less printed texture
- Short print time

CONS:

- 3D prints very textured and rough

★★★

RECOMMEND? YES

COLORFABB WOODFILL

Sample is sanded with an 120 and 320 grit. Tried wood filler to smooth, didn't work.

PROS:

- Feels smooth like wood
- Short print time

CONS:

- Prints very textured and is hard to sand smooth
- Prints textured even after sanding

- Tends to expand so counters are slightly smaller.

★★

RECOMMEND? NO

PROTO-PASTA HTPLA MATTE FIBER

Sample is sanded with 320 grit.

PROS:

- Smoothest surface of all filaments tested
- Easy to sand
- Short print time

CONS:

- It can ooze when printed depending on moisture and temperature. I've had to turn down the printing temp to 210 and then it works fine.
- Filament is brittle and easily breaks

RECOMMEND? YES

Poster 7 3D Wooden Type for Letterpress

Jane Milkie
Northern Michigan University

Poster

Introducing new experiences to the classroom inspired the transformation of digital processes into three-dimensional physical form. This poster will present class assignments that extended the design of digital typographic glyphs into wooden typographic blocks that were imprinted on paper. The course was a sophomore level graphic design class titled: *Graphic Communication: Typographic Systems.*

Students were first assigned the design of 52 alphabetic glyphs, upper and lowercase letters. They researched, sketched, and constructed each glyph using Adobe Illustrator software. Then with the use of Font Lab TypeTool 3® software, (.ttf) font files were generated and installed onto Macintosh laptop computers.

The second assignment continued from the first using the student created fonts to create a word describing each student's personality. The words were laser engraved into 1/8 inch birch and glued onto 3⁄4 inch plywood blocks. The intent was to create a block "type high (.916 in)" to run on the letterpress. To print the imagery students used ink brayers to coat the blocks and then manually imprinted on paper.

Learning outcomes were that students gained an appreciation for creating imagery with hand processes; they learned patience in waiting for ink to dry; they learned how to clean up as a team; they learned about subtractive color processes; they also, created unique artifacts that reflected something authentic about themselves.

Tactile visual form was something that (generationally) many of the students in the class did not previously fabricate. It is imperative to offer opportunities that are outside of a student's comfort zone if they are expected in life to problem solve and to "think outside of the box." Potentially the blend of antiquated techniques and state-of-the-art equipment lends itself to endless forms of experimentation resulting in new skill sets and in new forms of communication.

Poster 8 Making Good, From Next to Nothing

Kelly Porter
East Tennessee State University

Poster

Using a recent class project as a case study, I would like to open a dialog on resourceful design as a means to work within tight budgets, as well as a basis from which to make sustainable design decisions.

Case Study: Service Learning classroom project
Client: Campus Department of Sustainability

Problem: How can we create awareness of eating local, organic plant-based foods on a campus that is a sea of printed propaganda. How can you make something memorable that will break through the visual clutter?

Audience: Campus population—Students, faculty, and staff. Budget: $250

Resourceful solutions: Students worked in groups of 2 or 3 to ideate various interactive design solutions, avoiding posters or flyers as a solution. With client buy-in, we moved forward on creating an interactive, themed carnival that a would take place in conjunction with the campus farmer's market. The pieces served to educate, inform about plant-based, organic, local food while entertaining and engaging the audience.

Producing multiple pieces, we had to be wise with the budget. I had the students make a list of the supplies they would need, sizes and types of materials for each of their designs and we made a trip to the campus Surplus. Their lists served to focus the students on salvaged materials; desks, shelves, hinges and pallets that could be deconstructed and repurposed. In addition, we mixed and used our own color palettes throughout all the pieces from remnant paints we culled from campus Facilities.

The client was hugely excited about the interactive games we fashioned from repurposed materials. We came in under budget, created a stir of excitement on campus and kept our choices in alignment with the Department of Sustainability's mission.

Can this be replicated?
Could this work with other projects? Other clients?
Would this model work outside of the classroom in a professional practice?
I would love to hear about other projects involving resourseful design in the classroom.

Poster 9 The Cross-Pollinated Graphic Design Curriculum: Extending Singular Projects Throughout Multiple Courses

Robert J. Thompson
Youngstown State University

Michelle Nelson
Youngstown State University

Poster

The Graphic + Interactive Design curriculum at X State University provides students with a foundation of critical and creative design processes and prepares them for the profession of graphic and interactive design. Based primarily on computer technology, students investigate new ways of solving complex visual problems, and use fine art, print, and interactive designs to create inventive solutions.

To best accommodate the goals of the Graphic + Interactive Design curriculum, faculty members X and X have strategically constructed the course curriculum to swiftly adapt to industry standards, maintain agility with integration of new design technologies, and cross-pollinate projects across several intro and sequel courses that introduces depth of meaning, breadth in expression, and creative and critical continuity.

The strategy of cross-pollinating projects from course to course poses risks if not implemented correctly. Cross-pollinated projects must be developed with continuity in mind and cannot be appended to a project arbitrarily, otherwise the experience is incompatible with student learning outcomes and realistic professional experiences found in the industry. The pattern for continuity typically begins with a print-based project in an intro-level design course then extends into an intermediate or advanced-level interactive design course where students can convert a print- based project to become interactive or can create a complimentary interactive design component that effectively increases the versatility and breadth of a students' design methodology and final design solution.

This poster presentation seeks to identify how XSU effectively created a cross-pollinated curricular strategy and display student design work examples of this cross-pollination in effect in the following courses: Intro to Graphic Design, Intro to Typography, Intro to Interactive Design, and Intermediate Interactive Design.

Poster 10 Metaphor: A Creative Thinking Model for Web Designers

Kay Youn
Seton Hill University

Poster

Metaphors have been used in web user interface designs from the earliest stages of the web. As technology has evolved into various web fields, metaphors have become even more useful and at the same time more sophisticated. A current-generation site not only has an overall theme for the site, but the organization of the information and the navigational scheme is based on a metaphor of the theme, called a Web Metaphor. A web metaphor is a design element that helps the user to leverage their existing experience in the abstract environment of the web.

In this poster, an approach to a thinking process model for web design is proposed through the concept of metaphors, and a theoretical analysis based on creative thinking for solving design problems is studied. This poster aims to provide a glimpse into the world of metaphors and how they can be used in user interface design, to analyze selected examples, and to introduce a model web design process. As the case study of the essence of creative thinking in web design is ongoing, diverse possibilities for solving problems in web design can be found through the theoretical modeling of thinking in web design. The poster will also explore strategic and effective web design by establishing a mental model for web design students in design education based on the study of metaphors that will inspire the thinking of design students.

Poster 11 Learning to Learn: Flipping the Classroom to Enhance Learner Engagement with Graphic Design History

Cam Davis
Liberty University

Poster

The history of graphic design is a rich tapestry of persons, cultures, events, visual communications, and fascinating stories. The study of this history is essential for design students to inform, enhance and expand their own work. It is also important to help learners connect with their artistic roots in order to see their own place in history. However, there is a challenge to help the twenty-first century learner engage with and gain a deep understanding and connection to their own lives and work. Honestly, teaching history to a group of primarily hands-on learners is an imposing task. How does the twenty-first century teacher meet the requirements of not only presenting the required body of information but also, assisting learners to make those connections in an interesting and effective way?

This poster presents a case study of a semester long journey in which a number of pedagogical methods were implemented. Those methods included "student as teacher" and metacognitive learning strategies. Students were engaged with discussions both on the formal aspects and characteristics of art and design movements but also the philosophical and historical contexts that motivated and informed aesthetic choices. Class projects were incorporated to allow students to explore, research and present topics and information on artists of their own interests to help make connections with artists from the past.

The results of the pedagogical journey proved to be encouraging and hopeful. The resulting conclusions both positive and negative will be presented along with ideas for future improvement in the classroom experience to help learners embrace this important aspect of their education.

Poster 12 Creative Concept Design for Digital Media Majors

Diane Zatz
Drexel University

Poster

This case study presents an outline and student work from a required sophomore-level course for Game Arts, Animation, and Interactive Design majors. The course explores methods to develop unique design concepts. Topics include recognizing one's imaginative potential, and developing a visual language.

Class exercises investigate modes of creative problem solving, and experiment with both individual and team-oriented approaches. Learned activities, techniques, and procedures from the course hopefully enhance the effectiveness of the student's future creative problem solving and communication skills; especially, within real-world media.

Students studying Digital Media, who are consumed by the rigors of learning code and challenging software applications (such as Maya and Unity) are encouraged to "play" and to think with their hands, using analog media to develop unique, often unexpected, concepts. Experimentation with Model-Magic®, markers, blown ink, cut-up words and cut-paper collage, generates assets that can be incorporated into digital production. Exploration with lo-tech materials helps students gain the confidence to recognize innovative ideas based on sound design principles. There is a weekly mix of fast-paced, individual writing, drawing and observation exercises, and longer collaborative brainstorming activities.

Students are also guided toward an appreciation of visual literacy, media, civic engagement and communication. Resource material has been gathered from Maria Popova's Brainpickings, Lynda Barry's *Syllabus*, David Sherwin's *Creativity Workbook, IDEO,* and Kirby Ferguson's *"Everything is A Remix."* Creativity theory is introduced through exposure to exemplars such as Steven Johnson, Neil Gaiman, David Lynch, William Burroughs, Tim Burton, Noah Scalin, Stefan Sagmeister, Milton Glaser, etc.

Throughout the 11 weeks, students develop a "Fantasy Avatar" whose physical characteristics, narrative, and setting evolves through a variety of techniques. The final project is a three-minute video that documents the student's further experimentation with novel media to explore a feature of their character's anatomy, story or environment. Ingenuity trumps the mechanical, and students share their processes, along with curious stumbles, in an engaging on-screen presentation.

The course was developed and refined over a three-year period by an adjunct faculty member and a full-time tenured associate professor in Media Arts.