Improving Graphic Design Education

to Meet the Changing Role of a Designer

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So you want to be a designer? There's a lot to know. Don't expect schools to teach it all. Look for it on your own.

—Gunnlaugur Briem

The role of a graphic designer has expanded greatly since I first became interested in the field in 1996. The reality of this became clear to me shortly after graduating from an undergraduate graphic design program in 2007. It seems as though many employers today are looking for multifaceted, all-in-one designers who can work in print, web, multimedia, interactive, and more. We live in a world that has become increasingly flooded with information, knowledge, and global communications. As a result, there is an ongoing issue and balance-struggle in needing to reflect these changes in undergraduate graphic design curricula. A designer needs to be able to think creatively and critically, to communicate effectively with a wide range of clients and audiences, and be a self-directed seeker of information and skills to keep up with the ever-changing world. This paper will look at the changing role of today's graphic designers, various types of undergraduate graphic design curricula, and ways in which curricula might be improved so as to be in continuous movement with the profession. Specifically, this paper will:

1. Examine various expectations for today's graphic design jobs

2. Look at various graphic design program curricula and standards

3. Review literature on the expanded role of a graphic designer and the corresponding issues in graphic design education

4. Conclude with my own thoughts on playing an active role in improving graphic design education

A Changed Role

As graphic designers, we have seen many changes since the day of traditional print media. Sassoon (2008) recalls that in the 1940's, graphic design was termed commercial art, with all the connotations that it involved (p. 6). There was a sort of hierarchy of the visual arts, where designers have often been considered to be below fine artists. Graphic designers produced textile designs, books, packaging, and the like. Today, design is *everywhere*—from books to billboards to websites to interfaces—and designers are responsible for communicating a wider array of messages to a wider array of audiences.

As Ken Friedman, Associate Professor of Leadership and Strategic Design at the Department of Knowledge Management in the Norwegian School of Management, observed, "Design has moved on from a focus on signs, symbols and things, characteristic of the initial formative stages of graphic and industrial design, to a focus on human action and the environmental systems within actions take place," and, "designers must be able to work with a far wider range of issues than any one profession can master…we need multi-disciplinary designers who recognize that giving a physical shape to an object is a small part of the design process" (as cited in Sassoon, 2008, p.13). Good design marries function and form, and the fact that an increased variety of both functions and forms exist today makes for an increased challenge, technologically as well as mentally, for the student of graphic design.

In addition to the broadened variety of design mediums to be competent in, a designer in today's world of global business needs to have a heightened understanding of various markets and micro-markets in order to communicate messages effectively. Graphic design now encompasses complex problem-solving initiatives, strategic partnerships with communities and businesses, and accountability for success measured in quantitative numbers (Churchman, 2003). Professors Sperka and Stolár (2005) from the Slovak University of Technology described the future of graphic design as:

> "Resting in its ability to be absorbed into different sectors of human activity from art and sciences to entertainment. The volume of cross-disciplinary activities that affect designers today is going to grow in the future and 'graphic design' will become a much more massive discipline…" (p. 9).

As an obvious result of an increased range of design mediums and increased global communications, the job expectations of a graphic designer have changed. In my own job-hunting experience over the last year, I have had quite an awakening. Most of the job listings today call for, "Graphic and Web Designer" or, "Multimedia Designer." Some job listings will simply state "Graphic Designer" in the job title, but will require the qualifications of a web designer. While I consider myself a graphic designer who has also designed for the Web, as I have developed websites in Dreamweaver and in collaboration with professional web and software programmers, and have an understanding of web technologies, I do not possess all of the qualifications these jobs list in their postings. Many companies want a graphic designer who is fluent in all of the web programming languages, not just the software application Dreamweaver. The reason I am not proficient in some of these areas is because they were not

taught in my undergraduate graphic design program, and moreover, because I did not, like many other graphic designers, teach them to myself. But that is the reality of the situation today. Designers must be self-motivated seekers of knowledge in order to keep abreast of the industry, intelligently inform their designs, and be competitive.

The following are a few examples of recent job listings I have come across that display how the role of a graphic designer has expanded:

1. "Web / Print Graphic Designer: Design firm seeks someone full time with web and print design and marketing background. The likely candidate will have a minimum of 3-5 years experience in a design-oriented position with a BFA in graphic design. Projects will involve concept development and production / development for web and print. We are looking for a self-starter who is comfortable working both individually and as part of our team. Strong verbal and writing communication skills and attention to detail are a must. Excellent graphic design and typography are also essential. The culture involves collaborating with others and the ability to work on multiple projects simultaneously while completing them on time. Proficiency with Adobe Creative Suite, Office and Flash for Mac environment are a must. HTML / CSS, web knowledge including open source (Word Press) / LAMP environment a plus."

2. "Interactive Media /Graphic Designer: The interactive media designer will develop new, engaging graphics and video for online product training and professional development courseware. This position designs and develops visually exciting presentations (via PowerPoint, original graphics, multimedia, etc.), templates, video, and courseware in collaboration with Training Specialists (content writers) for Internal and External e-learning projects. This position participates in instructional design meetings, proposes media, and makes recommendations about visual style and functionality as appropriate to the project need. The ideal candidate has strong visual design skills, works well with others, and is a quick learner.

PRIMARY RESPONSIBILITIES

   1. Graphic design, including creating presentations, developing document templates, and creating AV and interactive media for in-person, online and CD-ROM delivery.

   2. Coordinates configuration and deployment of modules and media.

   3. Performs QA testing and tracks issues to resolution.

   4. Multitasks on multiple development projects from concept through completion, working efficiently with minimal supervision.

   5. Prioritizes projects and deliverables.

   6. Edits video and audio to produce online video library.

3. "[Company Name] is looking for a Graphic Designer to provide creative concepting, maintain [Company name]'s branding and develop creative solutions in both print and online executions. Candidates must have excellent visual design skills, good technical know-how, and an excellent command of print and the printing process with solid results and attention to detail.

Requirements:

• Expert knowledge of Adobe Illustrator, InDesign, QuarkXpress, Photoshop and other related design programs

• Expert knowledge for print production, mechanical print preparation & the printing process

• **Advanced knowledge of HTML coding, CSS**, and of digital imaging with Adobe Photoshop.

• **Previous knowledge of the Content Management System Sitecore preferred**

• **Knowledge and demonstrated experience with cross-browser and cross-platform issues (IE, Firefox, Safari, etc.)**

• **Knowledge of current web-design trends and techniques**

• **Intermediate level ASP and PHP knowledge preferable**

• Understanding of print graphic design

• A bachelor degree in graphic design

• Minimum of 3-5 years of related experience

• Maintain a consistent look and feel across online and offline mediums."

The third listing is particularly interesting because the job title states, "Graphic designer with expertise in Print," and the requirements stress "advanced knowledge" in web technologies (shown in bold). The second company was seeking a graphic designer with interactive and

audio/visual editing experience. The first listing also illustrates well the expanded role of a graphic designer today—they were seeking someone with a web, print, *and* marketing background.

As Anthony Faiola, Associate Director of the Human-Computer Interaction graduate program at Indiana University School of Informatics, admitted, "Personally, I keep a close eye on job requirements of open positions throughout the U.S. Increasingly, a diverse set of skills pay the best and provide the most exciting job opportunities. There's no shame in being satisfied with designing posters and brochures for the rest of your life, but skills in design management, business strategizing, and user-centered theory and practice, can be integrated into undergrad programs to provide students with an arsenal of knowledge before they graduate" (as cited in Heller, 2005, p. 3). And there are differences in job requirements between a smaller business, who seeks an all-in-one designer, and a larger company, who has separate positions for a graphic designer and a web programmer. In addition, designers who work in smaller towns versus larger cities will be expected to posses a broader range of design skills and knowledge because those companies will likely be seeking an all-in-one designer. There are also obvious budget factors that come into play. In order to cut costs, some companies reduce their budgets for design projects, especially now that someone such as a company's receptionist can layout a brochure or business card.

The field today is competitive. As David Rhodes, President of the School of Visual Arts, pointed out, "There seem to be more graduates [of graphic design programs] than entry-level positions" (as cited in Heller, 2005, p.1). In 2004, there were an estimated 40,000 graduates in a field supporting around 200,000 practitioners, not including interactive designers (Heller, 2005).

So in addition to the large number of design school graduates, there are an increased amount of self-taught, informally educated, graphic designers. This is in part due to the fact that formal education and certification are not required to practice graphic design as they are in the field of architecture, for example, and graphic design software is easily obtainable and fairly easy to learn independently. So what makes an undergraduate education in graphic design valuable today?

Before graphic design became a college major, all designers were self-taught or learned as apprentices. But unlike designers of the past, today's self-taughts are functioning in a professionalized field (Keedy, 1997), which means, as Keedy puts it, they are "outsiders" (p. 136). Keedy does not see self-taughts as a threat to the field because a) they wear their lack of formal education as a badge of honor, b) there are not many of them, and c) most self-taughts are quick to exploit relationships with well-educated partners or employees" (Keedy, 1997). But there is no question that there are successful self-taught designers out there. Dan Greenwald, founder and creative director of White Rhino, earned a Bachelor's in Psychology and became a self-taught designer, which would lead him to starting his own ad agency (personal communication, March19, 2010). Led by Greenwald, White Rhino has won various prestigious industry awards. But Greenwald's successes were not born strictly out of teaching himself graphic design software and putting together a portfolio. There is something that can always be said for talent and drive.

In the words of Ray Markwick, an art editor who employed designers, "There will always be the high-fliers, the thinkers and innovators, who will reach the top and become influential in the

international world of design – whatever training they may have had" (as cited Sassoon, 2008, p.36). As Keedy (1997) sees it, in regards to the increase in self-taught designers:

"Our more serious problem is the fact that there are so many educated designers who view design as a necessary evil instead of a lifelong commitment. Unfortunately, too many designers are content to depend on just a little bit of knowledge. They are confident that they can learn most of what they need to know on the job. They fail to understand that design education today is much more than vocational training–it is a process of discovery and renewal…Designers need empowerment, and knowledge is power. The design educator's job is to make graphic designers smarter. However, practicing 'professionals' are not only needed to support design education, but to encourage it to go further" (p. 137).

As designers, we need to think creatively and critically in order to come up with novel yet effective design solutions. But when I look back at my education, I recall the curricula focusing more heavily on design theory and production skills than on thinking skills and the idea of lifelong learning. An important question to consider—what do employers really value more in design students, thinking skills, or computer production skills? It seems that the answer to that question varies. The results of a survey done by Laurie Churchman, Assistant Professor of Graphic Design at the University of Pennsylvania, show a disconnect between areas in which the profession perceives students to be most prepared, and areas in which they would like students to be most prepared (Churchman, 2003). The survey respondents, who represented small, mid, and large design firms in 9 U.S. cities, ranked "conceptual problem solving, typography, and intellectual breadth" as their most desired competencies in recent graduates. They ranked

"software, image creation, and aesthetics" as the competencies they believed recent grads were *actually* most prepared in. This survey prompts us to ask ourselves as designers, design educators, and design students, should we be spending more time on strengthening thinking skills, or computer skills?

In a discussion with Greenwald, I posed the question of what is most important to in terms of competencies in a designer he would consider hiring. Important to note here, his advertising agency has separate positions for designers, programmers, marketers, art directors, etc., so it is not the type of company that is necessarily looking for an all-in-one designer. Greenwald ranked design/typography/computer software skills at the top for recent graduates, but analytical and problem solving skills at the top for a more experienced designer. His reasoning for this was that he would be hiring the recent graduates to do more production-based work versus creative concept development work. The more experienced, senior designers would be the ones developing the creative ideas behind the designs, hence the desire for strong problem solving skills. Greenwald also mentioned that "strong conceptual/analytical skills are certainly a plus for recent grads – It tells me that perhaps there is a potential to develop into a more senior role at some point" (personal communication, April 23, 2010).

It makes sense that designers strengthen their problem-solving skills as they grow and as they face design challenges, so perhaps it is more important to focus on design theory and computer skills in college. One could also argue the opposite, however, as the survey respondents in Churchman's survey did—that conceptual problem solving skills are more important to gain in an education, and that one's software skills will get stronger with practice. Churchman posed the question to design educators, "Could our assignments be tougher in posing

problems to solve, demanding more research, more knowledge and less form making? And of course, is the profession really prepared to accept recent graduates that are stronger thinkers but are less versed in software and aesthetics?" (Churchman, 2003).

Ellen Lupton, author, award winning designer, and director of the Graphic Design MFA program at Maryland Institute College of Art, tells her students to "Think more, design less. They need to focus on ideas and concepts" (Lupton, 1998). It is absolutely true that stronger concepts make for much stronger designs, but the technical execution and visual presentation are quite important as well, not only for the sake of the design product itself, but also for the sake of the design student's portfolio. So it would seem safe to say that designers need both strong thinking skills and strong technical skills to be competitive today, and that design students need a curriculum that encourages both sets of skills. But is this entirely possible with the time allotted in an undergraduate curriculum?

Various Types of Curricula and Their Potential Shortcomings

Having examined how the role of a graphic designer has expanded, it would be beneficial for us to now look at various existing types of undergraduate graphic design curricula. While I am interested in looking at various international curricula so as to compare it to the United States, the focus of this section specifically encompasses US schools. According to Heller (2005), "insufficient undergraduate preparation is, in part, attributing to the current graduate school boom" (p. 3). But design students must not be encouraged to view graduate school as merely a two-year supplemental and remedial extension of their undergraduate education (Heller, 2005).

Ideally, undergraduate education would prepare students well for the field of design. Let us look at some of the ways schools are trying to do that.

Because there is no standardized certification required to be a graphic designer, curricula can vary greatly from school to school. Despite the fact that it [is] 2010, we still have a sharp divide between colleges that focus on the technical aspects of things (BS, MS) and those that focus on the artistic side of things (BA, MA, MFA) (Maier, 2010). Prospective undergraduate students have a plethora of programs to shop. Articulating their alternate missions is the challenge for design education and a necessary step in full disclosure to those potential students (Davis, 2004). Aside from what a school advertises as their philosophy, a lot also depends on the individual philosophies of the instructors.

My own undergraduate degree was a Bachelor of Science in Graphic Design from The New England Institute of Art. I appreciated that a couple of my instructors were business-oriented and informed students of the importance of the business side of the profession. I also appreciated the required liberal arts courses. We were required to do an internship, worth 3 credits. In retrospect, and after having researched what some other programs are doing today, I think it would have been very beneficial to have had more hands-on, project-based learning, perhaps through partnering studios and clients, and more interdisciplinary interaction with the other majors (web design, multimedia, etc.). I wish that the curriculum had been richer in thinking skills and concept development. And lastly, it would have been beneficial for me to have an additional web design course. But here we find ourselves again at the question of how to fit all this in.

In a recent conversation with Andrea Brenner-Shaevitz, a personal mentor of mine, and Assistant Professor of Graphic Design at The New England Institute of Art, she informed me of

how the college is making changes to the curricula. They are now offering a second web design course to graphic design majors, as opposed to only one, introductory level course that was required when I was a student. They are offering more opportunities for students to take electives and have specific areas of focus (i.e. Illustration, Web Design, etc.) if so desired. Brenner-Shaevitz is personally introducing more interdisciplinary projects to her students so that they can be exposed to and collaborate with other department majors and design disciplines (personal communication, February 12, 2010). They are also trying to introduce the computer as a tool sooner into the curriculum, as more and more students are coming into the program with previous computer experience. This will allow for more time to focus on advanced lessons, with less time being spent on computer basics.

A Bachelor of Science degree in graphic design typically has more general education infused into the curricula and much less fine arts, where schools that offer a Bachelor of Fine Arts, such as Indiana University Herron School of Art and Design, Rhode Island School of Design (RISD), MassArt, and Northeastern University, still have liberal arts, but more fine arts required as core classes. Some MFA programs even require senior theses. The University of Pennsylvania offers a BA in Fine Arts (different from a BFA) with a Graphic Design concentration. This means that students are required to take 20 general education/liberal arts courses, and only 16 in design. [Upenn has] a keen interest in multi-disciplinary study and graduate strong thinkers, but less strong practitioners (Churchman, 2003). As a result, I would imagine that there is a risk of graduates' portfolios not being visually executed as strongly as they could be because less time was spent developing technical skills.

The University of Cincinnati offers a Bachelor of Graphic Design (not a BS, BFA, or BA), and gives students one and a half years, or six quarters, of co-op experience during their education. This is a substantial amount of time for undergraduates to get hands-on experience in the field. Northeastern University offers a BFA in Graphic Design, in a liberal arts university experience. They have a 5-year curriculum option, and also require students to do co-ops. Students complete 3 co-ops in the course of their study, amounting to about 6 months each. What I did not see much of in my observation of Northeastern's curricula was focus on concept development and the thinking side of design.

Christopher Vice, Chair of the Department of Visual Communication Design at Herron, spoke of their program in a recent email: "The critical lens that we apply to how we determine and assess student learning objectives (as well as the organizing curricula) is directed with the understanding that institutions, programs, faculty, students and citizens must have the capacity to be flexible and adaptable if they are to be relevant. We embrace the notion that continual reconfiguration is the only constant in our 21st century realities" (personal communication, February 12, 2010). I find Herron's philosophy and BFA curricula, which seems strong in critical thinking, problem identifying and solving, and integration of knowledge and skills, especially interesting. What they are lacking in is liberal arts. And while they do not have co-ops, students do work collaboratively with students from other majors as well as with real clients.

These are only a small sample of programs, and as you can see they vary in curricula and philosophy. There are many choices for undergraduate programs, and there is no "one size fits all" design education (Churchman, 2003). But they all face the challenge of reflecting the ever-changing role of a graphic designer. So, is it impossible to fit everything a designer needs to

know and experience into an undergraduate program? If so, how can we maximize the time allotted?

<u>The Suggestions for Improving Curricula</u>

Now that we have looked at some of the different types of graphic design programs existing today, I would like to share some of the suggestions I have come across in my research on improving the curricula. The first widely discussed topic is that of the importance of the liberal arts in graphic design curricula. There are designers and educators who feel strongly about the benefits of the liberal arts for design students. Baseman wrote, "A strong foundation in the liberal arts will help utilize communication skills and strengthen these information-gathering and research skills" (Baseman, 2004). Having attended a program that included the liberal arts, I feel that they were beneficial to me because I was able to transfer concepts from those classes to my design classes. But not all students are able to transfer concepts in this way, and some students even find it a distraction or a "waste of time." So the challenge is to find a way to include the liberal arts without distracting from valuable time for learning design theory and thinking, software skills, and portfolio composition. As Churchman (2004) wrote about UPenn, "Our liberal arts model seems to be what the profession is asking for but there are challenges when the balance is tipped this heavily in favor of general studies; students don't have enough time to master all of the concepts and technical skills" (p. 2).

In addition to the question of whether or not, or how to successfully, include liberal arts, another time related issue is that of offering design focuses. Should design students specialize in one design discipline? Is it more important for students to graduate with a deep understanding in

a specialized field of design, or with a broad, shallower knowledge of all aspects of the design field? (Higgins, 2008). Heller and Fernandes state that beginning designers would be wise to choose a media the designer plans to devote the time and energy to acquiring expertise in as a career, yet be fluent in as many other areas as possible (as cited in Higgins, 2008). But when many undergraduate students are quite young and/or new to design, how can they know what area they want to focus in? In the article, "*Give Back, Grow Forward*," McCoy argues that specialization will narrow an entry-level designer's options. "It is important to receive a broad undergraduate education, working between different media and a range of communication problems" (McCoy & McCoy, 2006).

Another proposed way to maximize education is to increase the curricula to five years. This would allow extra time to cover a broad design education. Heller (2005) is an advocate of this idea: "More time could also allow for longer and more varied internships as requirements toward graduation. Five years of dedicated design pedagogy will better prepare students to enter the workforce, where doubtless they will learn even more" (p. 130). The most obvious problem with this idea is financial—both in regards to schools getting support and students having to pay extra tuition. But it is a great idea nonetheless, and schools such as UPenn are exploring it.

A few educators interviewed by Steven Heller in his AIGA article, "Too Many Grads or Too Few Competencies? The Design School Dilemma" estimated that as many as fifty percent of their own B.A. and B.F.A. graduates or certificate holders actually quit design within a year of graduation. The reasons for this vary from inadequate education to simply being "ill-suited to be graphic designers" (Heller, 2005). The latter reason is where program acceptance standards come into consideration. Should graphic design programs have strict entrance

requirements for portfolios? Or, should they even require portfolios at all? It all depends on the program. Like many of my other classmates in my undergraduate program, I did not have a portfolio prepared upon applying to college. Had they required one, I may not have had the opportunity to attend and excel. The idea that if entrance standards are raised, a more rigorous program can be nurtured and better designers will come out, is not necessarily a guarantee in itself.

One way a more rigorous curriculum could take effect, without having to lengthen it or require stricter acceptance standards, is by increasing problem-based or work-based learning in project assignments. This could be achieved by creating partnerships with local businesses and non-profits so that students can get a hands-on experience working with clients. The problem with internships is that a curriculum can only allot so much time for them, and sometimes it is only one semester. In addition to time constraints, students don't do much real design work with clients in one semester long internship. To maximize the time *within* the classroom, problem-based learning could be facilitated by increasing group-based projects in and among courses. Because of the large numbers of students enrolled in graphic design programs, instructors are unable to spend as much time with individual students as they would like (Barnett, N. & Raven, D., 2008). By playing the role of facilitator instead of teacher, they can oversee group projects that require students to collaborate with students from other departments (i.e. web design, multimedia, marketing, etc.), as Brenner-Shaevitz has begun doing. They will simultaneously be exposing students to interdisciplinary experiences that emulate the real world of design.

In a recent online forum discussion (The AIGA Design Educators Yahoo Group), multiple educators talked about the issue of students having difficulties transferring concepts from one

class to another. Perhaps more interdisciplinary project-based/work-based projects would be beneficial to students in their transfer of concepts. In order for interdisciplinary problem-based learning to work within a program, it seems that a collective and continuous communication between educators would be crucial. And if work-based learning with clients via partner firms or agencies is possible, a collective effort between the profession and educators is necessary.

The suggestions for and discussions on improving design education are many and ongoing in the community of design educators, as they should be. Perhaps there is no one best solution for creating the ultimate curriculum. But as designers and design educators, we can continue to strive for continuous efforts to make innovative improvements both in the curricula and beyond.

<p style="text-align:center;">The Road Ahead</p>

Who knows what changes lie ahead for the field of graphic design, and how that will further challenge design programs and students. With the curriculum and costs of a[n education] being what they are, I'm convinced that the best way, the only way forward, is by taking responsibility for one's own design education (Maier, 2010). Being a successful designer requires a continuous effort to learn, and this sort of attitude should be instilled by design educators. As Davis (2004) stated: "The mission of professional curricula should be to instill in students a disposition for scholarship in both the academic and professional settings; to use Carnegie Foundation President Ernest Boyer's terms, the scholarship of discovery (mastery of new knowledge), the scholarship of integration (making connections), and the scholarship of application (service)" (p. 71). Bo Bothe, President at BrandExtract and visiting instructor at Texas State, also pointed out: "It is true that many are being trained in the "trade" of graphic design but are we educating young

designers to be leaders and independent in their search for knowledge, information and learning?" (as cited in Heller, 2005, p. 10). The idea of a "platform for lifelong learning inherent in any good design education" (Heller, 2005) speaks directly to the issues in the curricula. The concept of designers as lifelong learners persuades me to continue my research on improving graphic design education. The following are of particular interest:

- Further examination of the existence of and ways to strengthen critical and creative thinking skills in the curricula

- Embedding said skills into existing design courses as well as the option of offering separate critical and creative thinking courses

- Interdisciplinary learning and collaboration with other department majors

- Ways to enhance problem-based learning and work-based learning

- The prominence of constructivism and the encouragement of lifelong/lifewide learning in the curricula

The University of Adelaide in Australia describes some of the reasons lifelong learning as an undergraduate educational goal is important: the need to meet expanding educational needs, the emergence of new occupations and careers and the rapid transformation of others, the explosion in knowledge and technology, and the shift to an information society (Kiley & Cannon, 2000). Each of these reasons speaks to the expanding role and corresponding educational needs of a graphic designer. The abilities to become self-directed learners who can effectively research and apply knowledge, and then integrate knowledge from different subject areas when needed, are priceless and crucial tools for design students to develop. Designers need to be self-motivated to do critical research on every design project they embark on, or to learn the newest software, or

simply to keep their eyes and ears open for any knowledge they can absorb that could benefit them as effective, far-reaching communicators.

The University of Adelaide also published an employee handbook on problem-based learning, in which they wrote:

"The amount of knowledge (in every field) is increasing and the rate at which it is increasing is accelerating. Students cannot learn all the material, but they can learn how to learn the material. This is an important step in helping students become self-directed learners. In problem-based learning students learn to be self-directed, independent and interdependent learners motivated to solve a problem." (Kiley, Mullins, Peterson, & Rogers, 2000).

As mentioned in the previous section, problem-based learning could potentially also be beneficial to students' abilities to transfer concepts from classroom to classroom. I am interested in researching this idea further by discussing it with educators and developing problem-based project ideas that could be implemented and experimented with. A[nother] component worthy of further investigation is the role reflection can play to provide a framework for engagement with the design process to enhance learning outcomes for the graphic design student (Ellmers, 2006). Due to the fast-paced style of today's education, students rush from class to class, from semester to semester, without much time to reflect on what they are learning or doing. I believe transfer and thinking skills could be strengthened in students by allowing more space for reflection in the curricula, and look forward to further research on this idea.

Beyond college, how can designers best sustain lifelong learning to inform their design work, intelligence, and continue learning new technologies to keep up-to-date and competitive? What

are the support systems out there? Aside from the seemingly obvious—independently learning

new information and software—professional development and professional organizations are also beneficial to designers. The AIGA is the largest and oldest American professional association for design, which describes as its mission: "to advance designing as a professional craft, strategic tool and vital cultural force" ("About," n.d., para. 1). I am extremely interested in and plan to further my research on what other types of organizations exist for professional designers and their lifelong learning.

As graphic design today is an interdisciplinary practice, one idea I am in the process of developing is that of a *local* organization for designers to convene and learn each other, designers of other specialties, design employers, educators, students, and professionals from any and all other fields. This organization would be a place for diversity, encouragement of group collaboration, creative play, and reflection in our design processes. It could function in a number of ways, from a resource center, to a networking group, discussion group, to hosting workshops and conferences, to a general place for the exchange of ideas. This would benefit educators and students because they would be communicating with today's practicing professionals and design employers, and they could discover new ways to improve their teaching and learning. They could build relationships leading to internships and work-based learning partnerships with businesses. It would benefit professional designers by serving as a place to network face-to-face, to exchange resources, give and receive feedback, and to have guest speakers from various other fields share their knowledge and information. My vision for this is still developing, and in this vision I see myself bringing elements of critical and creative thinking practices into my role as facilitator of this plan.

In conclusion, given the changed and ever-expanding role of a graphic designer and the struggle to accommodate everything a graphic designer needs to know in an undergraduate curriculum, one of the most priceless things we can teach young designers, and ourselves, is to be self-motivated lifelong learners. My plans for continued research and action will explore specifically how we can teach and practice this proposed idea. As Gunnlaugur Briem, Icelandic font designer, declared, "So you want to be a designer? There's a lot to know. Don't expect schools to teach it all. Look for it on your own" (as cited in Sassoon, 2008, p. 36). There is no doubt about the value of a college education, but as designers, our education must be expansive and continue throughout life.

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