THE SIGNIFICANCE OF ECOLOGICAL AWARENESS IN VISUAL COMMUNICATION DESIGN EDUCATION

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ABSTRACT

In this day of age where environmental concern is critical, visual communication design has to consider an integration of ecological awareness into its education programs. The principles of form and function alone are not enough anymore to evaluate a design’s success. Further studies of eco-design – often called green design or sustainable design – would prove to be important in the understanding of the design process as a whole, its interconnectedness with other fields, and its impact towards the environment. Design educators can play a role in cultivating future “citizen designers” through visual communication design education which implement ecological awareness. In our awareness as designers that our choices and decisions matter can in turn utilizes design’s powerful impact to create positive change.

Keywords: eco-design, green design, sustainable design, visual communication design education, ecological awareness, environment.

ABSTRAK

Dalam era dimana kepedulian terhadap lingkungan sangatlah penting, desain komunikasi visual perlu memperhitungkan pengintegrasian kesadaran ekologis dalam program pendidikannya. Prinsip bentuk dan fungsi tidakkah cukup lagi dalam menentukan kesuksesan sebuah desain. Pembelajaran lebih lanjut mengenai eco-design – atau sering disebut green design atau sustainable design – membuktikan pentingnya pemahaman mengenai proses desain secara menyeluruh, keterkaitannya dengan bidang-bidang lain, dan dampaknya terhadap lingkungan. Para pengajar desain dapat berperan dalam menumbuhkan calon “desainer warga” melalui pendidikan desain komunikasi visual yang mengimplementasikan kesadaran ekologis. Dengan kesadaran bahwa pilihan dan keputusan yang diambil para desainer berpengaruh, nantinya kekuatan dampak desain dapat digunakan untuk membuat perubahan yang positif.

Kata kunci: eco-design, green design, sustainable design, pendidikan desain komunikasi visual, kesadaran ekologis, lingkungan.

All design is goal-directed play. Only our questions change. We no longer ask, ‘How does it look?’ or ‘How does it work?’ We are more interested now in the answer to, ‘How does it relate?’ -Victor Papanek

FORM, FUNCTION, AND…?

Paul Rand, the legendary designer, once said “Visual communication of any kind should be seen as the embodiment of form and function: the integration of the beautiful and the useful.” In fact design works have traditionally followed these two principles, which are aesthetics and their usefulness or function. In product design or architecture we often hear the phrase “form follows function” which was first mentioned by mid-19th century sculptor, Horatio Greenough and later repeated by many designers and architects until today.

These two principles are also implemented and taught in visual communication design education. In the first and second years, the students are taught about basic design and aesthetics of form, color, composition, etc. through manual works. Then it develops in the third and fourth years into creating and developing concepts for various problem solving assignments. Students are taught real-world problem solving skills that they may later apply in their jobs after they graduate.

Students are excited to create something smart, something creative, and something that would sell in large companies. However, as proposed in this paper, there is another principle as important that students must be aware of, about the opposite side of the issues of visual communication which serves mainly to commerce. That other, often hidden, side is about the after effects of what we as visual communicators create. It is not about the materialization of cool graphics, or making clients happy, or winning ad awards, or making lots of money with big companies. It is beyond that. It is primarily about ethical awareness and responsibility towards the world we live in and the society we live with, and how our actions and creations can have long term consequences towards them. Essentially it is about an ecological awareness as another principle of design that should be considered and implemented in the education of visual communication design.

Times have changed. From the effects of globalization, such as consumerism, and the changing environment, and the exploitation of natural resources, today, aesthetics and function alone are not enough to evaluate a design or to determine whether a design is successful or not. As Victor Papanek mentions above, from his book *The Green Imperative*, there is one more issue designers have to put into consideration or bring forth into their design work, which is “How does

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3 Papanek, op. cit., p. 140.
it relate?” or specifically how does the design work have a moral or ethical responsibility towards the world’s environmental, ecological, and social issues. Therefore, this paper’s goal is to raise this specific ecological issue and its significance in the education of visual communication design. If we believe that designers are contributors to society, then there should be some form of discourse about ecology in our teaching to our future designers. As educators, we should not be too content by only preparing our students for the working world or to serve business clients, but also strive for educating them that their talents don’t only stop at the wallet, but can have larger impact for their society and environment, as this paper will later try to give some concrete examples, after first analyzing the problem we have at hand.

**VISUAL COMMUNICATION DISPOSAL**

Visual communication designers are responsible for the design of almost everything that we see in the supermarket, the displays in the malls, the packaging of our foods, the newspaper we read everyday, the ads in the streets, the brochures we pick up and throw away, the stationeries from offices, the merchandize from a product promotion, etc. But are we also responsible for how those things are made, what materials are used to make them, how are they consumed, how long is their lifespan, how are they disposed of after use? If as designers we only consider aesthetics and function, we may not be too concerned about these questions, because we only provide a service, not product. We might say that our job is finished after we solve a client’s problem. However, if we want to be more aware and responsible designers, we should be concerned with these questions and think comprehensively about all parts of the process of our work, as opposed to only the immediate. It is important to bring these questions as part of the design consideration and process; or even implementing them as a major part of the design decisions. Such questions are ethical questions that are open to ethical decisions that are personal. But first, let’s take into account our present condition.

Consumerism and mass production have created the term “waste.” The industrialized world has led us to become consumers, and in consuming we make waste. The system of capitalism is linear, where products go from the process of their making, and sale, then consumed and thrown away to waste. This system is contradictory to the natural or ecological system, where it is cyclical – where in nature there is no waste. “One species waste is another species
food” as Fritjof Capra says in his book, *The Hidden Connections*. But much of our waste truly has no more use, non-biodegradable, non-renewable, and cannot disintegrate, let alone be another species food, and so they can only go to the quickly growing landfills. If this unhealthy condition is prolonged and accelerated, it cannot keep this world sustainable because it is not how nature works. “According to the World Wildlife Fund, if everyone in the world consumed as much as the average Westerner we would need at least another two Earths to cope with all the waste.”

“In the US, almost a third of the waste produced is made up of product packaging. The problem is worst in the developed world, but the developing world is quickly catching up. Rubbish damages the environment. It can cause serious health problems.” In the United States, “paper accounts for 81 million tons of waste annually, according to the Printers National Environmental Center. Furthermore, the pulp and paper industry is the largest industrial buyer of elemental chlorine. Chlorine is used to whiten paper, a process which is linked to a proven cancer-causing chemical called dioxin.” What’s more, the solvent based inks used in printing produce additional toxic waste that can pollute our water. Written on a paper bag from “The Body Shop” says “Each day, citizens of Jakarta throws away garbage as heavy as 6955 elephants, plastic bags that can cover 2600 football fields, and paper that equals to cutting down 10,710 trees.” And a statistical data for waste production in Jakarta in 1992 was about 24,000 m³. That was 13 years ago (a more current data is yet to be found) and about a 32% increase from 1985. 80% of our waste gets picked up, which another 80% of that is manageable; either reused or recycled. Another data shows that about 74% of our waste is organic, but around 18% or more of our waste is from paper and plastics, which are mostly printing materials and packaging from consumer goods.

Natural resources are diminishing, landfills are piling up, pollution is increasing, and the global climate shows significant changes. Only recently oil prices have been raised double, pressing the need for conservancy, low use of energy, and even alternative resources. Natural catastrophes due to human-caused destruction such as mudslides and floods prove that degradation of nature is at the peak point. The facts are there and there shouldn’t be any reason

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not to be concerned about the world we live in, especially if we believe designers to be problem solvers. So as Joseph Duffy mentions, ‘there is really no excuse today for not combining design innovation with concern for the environment. Although there is still plenty of room for improvement in print production techniques and in the manufacturing of materials we use, the choices that allow designers to ‘do the right thing’ are there.’

ECO-DESIGN/GREEN DESIGN/SUSTAINABLE DESIGN

As part of an international agreement and commitment for the environment, and the sustainability of the world’s development, many university’s fields of study have integrated environmental education into their disciplines. One terminology for this integration in the study of design is called “eco-design” or often also called “green-design,” or “sustainable design.” Architecture, civil engineering, industrial and product design are at the forefront of eco-design, because of their direct connection towards materials and production. But what about visual communication design? Can it serve any significance in eco-design?

First, let’s define eco-design. “‘Eco’ in ‘ecology’ comes from the Greek word “oikos” which means home; a home where all men and women, animals, plants, water, air, and the sun live. Ecology studies the relationship between human beings and the environment – connecting humanities and natural science through interdisciplinary studies. Ecological awareness tries to examine the reality of the world in an integrated and holistic way.” According to Douglas G. Marschalek, “green design or eco-design takes into consideration the environmental impact of products. What amount of material and energy is needed to produce it? What is the life of the product? How will the product be disposed of, with respect to recycling, re-purposed parts, and extraction of materials for reuse? Does it require fewer materials than previous products? Are there fewer steps in its manufacture? Does it have quality, ease of service, and disassembly for repair and recycling? What is the impact of the manufacturing process and use on the environment and resources? Does it use sustainable resources?”

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Metropolis Magazine describes it as follows:

Sustainable design, sometimes called green design, is in its infancy in 2003. Though the environmental or green movement is at least 30 years old, by some accounts dating back to the world-wide oil crisis of 1972, the interest in using our resources (including fossil fuels) more efficiently is growing. As a result, sustainable design, like a healthy infant, is developing quickly – both as an approach and a practice. …this is not a passing fancy or even a marketing trend, but a changing world-view. …Today we’re shifting from an understanding the universe as a mechanical construct – which brought on the Industrial Revolution, with its many conveniences but also environmental degradation – to an ecological one. And that’s no small task. …Designers… are asking for the safest, cleanest, best-performing material. They are looking to understand how a material is extracted, processed, manufactured, distributed, recycled or absorbed into the earth after its useful life. They are searching… for ways to see the whole system, not just its particular parts. Ecological design refers to the marriage of nature and technology, using ecological principles as the basis of design.12

From these two sources of definition, it seems that visual communication design is only closely linked to eco-design in the area of graphic design or graphic production, due to its connection to materials and processes. However, this paper is pointing out here is that eco-design should very much be about changing our world view and the design paradigm. It goes beyond appropriating use of materials, and more towards a consciousness and understanding of ecological sustainability. In fact, that is the first step in eco-design according to Fritjof Capra,13 which describes eco-design as “the process which our human purposes are carefully meshed into the rest of the world.” And he then further mentions that the first step to eco-design is “to learn the wisdom of nature, how ecosystems have evolved to sustain the web of life. We must be ecologically literate; our ability to understand the basic principles of ecology and to live accordingly. ‘Eco-literacy’ must become a critical skill, a critical element of education. Then the next step is to move from eco-literacy to eco-design, applying this eco-literacy to our technologies and systems.” Eco-design must begin as an awareness, then to understanding and knowledge, and afterward application.

Joseph Duffy in the book Eco Design: Environmentally Sound Packaging and Graphic Design states that:

“Environmentally sound design… should begin long before these choices (for materials and production techniques) are made. At the conceptual stage of design development we need to consider the impact that our work will have on the Earth.

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12 http://www.metropolismag.com/
Design innovation and environmental concern are not mutually exclusive. A design cannot be considered “best” unless its environmental impact has been considered and dealt with in the most innovative way. Every design competition should... have the designer’s concern for the world we live in as one of its criteria for excellence.”

Eco-design very much puts ecological considerations into the whole process of the design and its effects throughout its life time towards the environment and society. Its concern is of the sustainability of the Earth and the whole natural system in it, including our own sustainability as human beings and as developing societies. Ecological sustainability demands that we think comprehensively about all parts of a working process rather than only the immediate. By doing so we can start to understand all the implications of our actions and hopefully create a better condition for the Earth.

ENVIRONMENT AS CLIENT – CHANGING THE PARADIGM

It is true that statistically developed countries have a much pressing need for eco-design because they have felt the direct impact of what they do to the environment. However, developing countries are heading the same direction. Although developing countries like Indonesia have done satisfactorily with reducing and reusing materials, it is unfortunately not due to ecological awareness, but for economic reasons. Thus education for awareness and action is crucial to this growing global problem. And implementing ecological awareness in visual communication design is one way we can take part in and dedicate our skills for offering better solutions for our environment.

As the publisher in the Eco Design book wrote in their introduction: “In this age of environmental concern, designers are faced with an increasing ethical dilemma: the key to true environmental concern eats away at the very core of our means of making a living.” Some might say that it would be taking too much time and money to reconsider a design piece because of environmental reasons. It is even worse if one has to sacrifice visual impact to reduce printing processes or materials. Let alone deciding how much media will be used for the design. Shouldn’t the client have much more responsibility than the designer? Shouldn’t the designer’s job be just designing the visual message and make it communicate effectively? What influence or purpose can the designer have? Furthermore “green” processes and materials sometimes can be

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much more expensive than the usual. Why then spend more? Many might consider all these to be too idealistic to be implemented in a developing country such as Indonesia. Actually, these are all important questions and points to consider, especially because they start awareness. Because in eco-design, all these questions become important challenges that will call for creative and innovative solutions. They should be questions inherent in our consciousness even before a conceptual stage of design development, and thus require a significant part of design education.

![Figure 1. The Designer serving Commerce, Society, and Environment](image)

The new paradigm proposed in this paper would be to think of us designers as part of the ecological system, and what we do and how we do our work as part of a holistic, cyclical system of a network or interconnections, or a web as posed by Capra. Designers have been typically placed at the center of commerce and society; serving either for commercial or social. However, with the new paradigm, we can add another, which is the environment, and view the previous two as responsible businesses and as healthy societies of people, not consumers. Therefore, as skilled communicators – in this paradigm – we are placed in between three constituents, and are equally responsible for them fully; commercial, social, and environmental (Figure 1). Alastair Faud-Luke once said that “Designers actually have more potential to slow environment degradation than economists, politicians and environmentalist. Their power is catalytic.”16 As mentioned before, ecological awareness is essentially a part of ethical values. And ethical values is one that can only be informed and taught where all the ethical thoughts and works then are up

15 Ibid.
to each individual. This is where educators can play a role, where we can educate students by way of implementing ecological teachings through lessons, lectures, and projects. It is important to enlighten students about their environment and that indifference must not be an option.

Figure 2. “Grow-A-Note” Plantable Greeting Card that when planted the paper degrades and the seeds grow into flowers (greenfieldpaper.com)

The many amazing new inventions in recent years have increasingly shown a greater respect and concern towards the environment. Products are becoming more and more eco-friendly, such as hybrid cars, hydrogen powered vehicles, and recyclable video cameras. Or even simple innovative design approaches such as plantable greeting cards. This is a good direction we are heading and proves optimistic for our future generations. “Green” design agencies are growing, and can be seen in their many websites in the Internet. Also in the field of graphic design, the use of recycled paper or recycled post-consumer waste paper has increased. Alternative tree-free paper such as hemp paper is also available. Soy-based inks, which are natural and less pollutant, have been innovated to replace the toxic oil/petroleum-based inks. This technology has not been used in Indonesia, possibly because of costs and the lack of suppliers for raw materials. If a significant amount of designers demand them, the printing presses will have them soon enough. This is one way we could make a difference, which is to opt and push for the availability of ‘green’ processes and materials. Other considerations we can set forth as designers could be to think of how we could reduce materials without sacrificing the impact of the visual or the message of our design.
Another way for designers to have impact is to be of influence to our clients. Or choose to work with ‘green’ companies; companies that have eco-labeled products; companies that have Corporate Social Responsibility (CSR) programs; or companies that have environmental management systems (such as ISO 14001). It is worthy to note that with creative eco-design, actually companies can save on materials and processes, therefore cutting costs and extra expenses, but still have effective communication. Furthermore, when a company’s concern with the environment is exposed correctly, it would actually enhance its public image, such as done with Unilever Indonesia. And the company would further help create environmental awareness for communities and the general public.

Visual communication designers could also get involved in getting the message of ecological sustainability to the general public through PSA’s or Public Service Announcements, to educate communities and persuade people to purchase ‘greener’ products, to consume responsibly, to conserve, reduce, reuse, and recycle. This could be targeted to all age groups. Visual media is considered effective in cultivating environmental education towards children at
an early age. Moreover, it is increasingly necessary for many disciplines to collaborate, including design with other disciplines such as sociology, civil engineering, economics, and so forth, where the expertise is needed to create better solutions for the planet that are integrated, systematized, and sustainable.

Figure 4. Created by re-using envelopes and then labeled with the company’s ID using laser printer as needed, eliminating waste (designed by J. Otto Seibold: Eco Design, Rockport, 1995)

As educators in design, we should find ways to implement ecological awareness in design education, to discuss comprehensively the full impacts of visual communication design to raise critical issues. This might be applied in a graphic production process class. Design students can start to discover how designers must work together in supporting greener designs, and to reexamine our processes and materials – their impacts to the environment, and to demand for ecological processes and materials. There could also be special assignments that deal directly with eco-design. “But to be as well-rounded as possible, mentors need to foster greater awareness that entire design lifecycle matters – from project inception, to design creation, to materials assessment, to involvement in message creation, to delivery of product to customers and disposal of products” wrote Sanjay Khanna, who is involved in design education. When students learn


Figure 5 – Herman Miller, the office furniture company is strongly committed to a
about the many different media that are available today for visual communication, there may be a value to challenge reducing or limiting the amount of media used while still having impact and effectiveness in conveying a client’s message. Students on the other hand would learn to reduce media clutter, cut cost and media budget, thus designing for efficiency and affectivity, while at the same time creating environmentally friendly designs.

Figure 5. Herman Miller, the office furniture company is strongly committed to a sustainable natural environment and communicate it through their brochures (www.commarts.com/ca/feadesign/green/)

Figure 6. Poster promoting recycling with message not only to customers, but employees as well (www.commarts.com/ca/feadesign/green/)
It is also important to create a sense of responsibility in the students, that as designers they would play a critical role in the society and that they should develop concerned and purposeful creativity for the society they live in. In developing critical ecological awareness, students would hopefully have further consideration about the consequences of how their ideas and actions could affect positively or negatively. Ethical decisions are then up to each student, whether he would use his talents to save himself before the Earth crumbles or save the Earth so it doesn’t crumble. It is hopefully the latter. Therefore, as educators we should encourage, offer a vision, and inspire students to care for sustainability and future generations.

According to Quentin Newark, author of “What is Graphic Design,” there are two basic activities of a designer. First: ‘Making Sense,’ that is thinking simply and clearly in ideas and visuals. Second: ‘Creating Difference,’” which is having the enthusiasm to not only creating original and innovative works, but also having broader responsibility than commercial business towards social and environmental issues. “Design is a response to social change,” said architect and designer George Nelson. Minneapolis College of Art and Design has a course called “Graphic Design for the 21st Century: Design as if Life Matters.” Its adjunct faculty, Holly Robbins, has written about sustainable design that:

Few designers, producers or purchasers of design today are equipped with the information or skills they need to meet the challenge of sustainability, yet design is a powerful tool that will help shape our future. In the creative industries, the choices we make and practices we engage in have a significant impact on the rest of the society and the planet. It is important that we demonstrate a commitment to sustainability, both to serve our clients and our companies effectively and to continue to improve our craft. The challenge – and the promise – of sustainable design is not necessarily to made do with less but to design better. Sustainable design is a more evolved approach in which the entire life cycle of an object or a process is considered from cradle-to-cradle, where everything is part of a larger, interconnected system, where we learn from the creativity of nature itself. In the new sustainability economy, designers will be engaged to reconceive, redesign and innovate nearly every element of everyday life. It really is an exciting time to be a part of design.

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20 http://online.mcad.edu/
CONCLUSION

Let’s then sum up that in design, the two principles of form and function are not enough to evaluate its success in this day of age where environmental concern is critical. Ecological
awareness should be another principle, important in the design process. Visual communication design is not free from the issue of waste problem, environmental degradation, and other ethical issues. Understanding the significance of ecological awareness means understanding that besides being commercial, visual communication designers also have other important role and responsibilities towards our environment and society. Visual communication designers should actively gain knowledge of the real world condition and grow consciousness or responsiveness towards the problems that occur in our environment, and in the process constantly try to implement what we can do best – which is communicate visually – to be a part of the solution rather than the problem. This would also involve learning comprehensively about the design process, from concept to execution, to production, and to the effects of our resulted design work towards ecology and society. Ecological awareness demands us to be able to look wholly and have an understanding of the interconnections of what we do or make with the rest of the world.

By understanding this significance, educators can play a role in cultivating ecological awareness in visual communication design education by implementing eco-design in assignments, real case studies, collaborations with other fields of study, lectures and discussions of local ecological problems, and by giving related references available to the students, especially from the web, for alternative materials, resources, communities, discussions, innovative solutions, and countless other information. Hopefully through such education, future designers would have integrity as “citizen designers” and not just workers of employers. Nonetheless, more discussions about eco-design should be brought up in the future, especially concerning actual implementation into the education program for visual communication design, or studies of actual cases solved by ecologically-concerned visual communication design.

REFERENCES


