



I

MAKE

BEAUTIFUL

TRASH

“I make beautiful trash” is a thesis project that investigates how the issue of sustainability can be integrated into graphic design education. It outlines the challenges and resistance points, provides strategies that can be helpful, and proposes that a grass-roots approach with a strong emphasis on critical thinking can act as a catalyst for greater change towards sustainability. This thesis is especially relevant for graphic design institutions, tutors, students and other interested individuals who want to integrate sustainability into their teaching and learning experience but do not know where to begin. I wish for this to be a helpful and an eye-opening beginning.

ACKNOWLEDGEMENTS

Writing this thesis would not have been possible without the encouragement, countless dialogues and many challenging feedbacks that I received from many professionals, tutors and students around the world. It has been inspiring to know that there are individuals out there that not only swim against the mainstream current to advocate and push sustainability, but who have also openly and willingly shared their knowledge (and at times, personal anecdotes) with me.

I want to individually say thank you to everyone who broke down the barriers, opened up the channel and gave me hope;

ANNE GERBER, NOEL DOUGLAS, PATRICK ROBERTS, DARREN RAVEN and SIAN COOK who were kind and dedicated enough to meet with me over a cup of coffee and watermelon juice.

JOSHUA BLACKBURN, CAROLINE CLARK, JIMMIE STONE AND MARTY MCDONALD who enabled our phone conversations not just to be informative, but fun.

ERIC BENSON, EVA ANDERSON, SCOTT BOYLSTON, JONATHAN BALDWIN, TEENA CLERKE, LESLIE BECKER, EDEN POTTER, MIKE HARKINS, BETH KOCH, STEVEN McCARTHY, TRACY BHAMRA, LAURA CHESSIN, BRIAN DOUGHERTY, ELLEN McMAHON, TONY FRY, JAMES FAURE WALKER, STUART MEDLEY, PHIL JONES, CLARE BELL, PETER NICHOLSON, KATE LAMERE, PETER FINE, MELANIE WIESENTHAL, HOLLY ROBBINS, JESS SAND, DANI NORDIN, ROBERT VELIZ, YOKO AKAMA, EMMI SALONEN, KRISTINA BÖRJESSON, SARAH SANDMAN, JOSHUA TREES and KATE ANDREWS who diligently responded to my e-mails and further pushed the conversation.

STUDENTS who answered my questions and gave me hope about the future of graphic design.

And last but not least, my tutors, especially TONY CREDLAND, for supporting and encouraging my thesis topic.

I will hold on tight to your advises as I come to the end of my student-hood and enter the "real" world where I can begin to put my belief into practice. As Marty Mcdonald from Egg had said on the phone, "Keep your head above water, we are out there!"

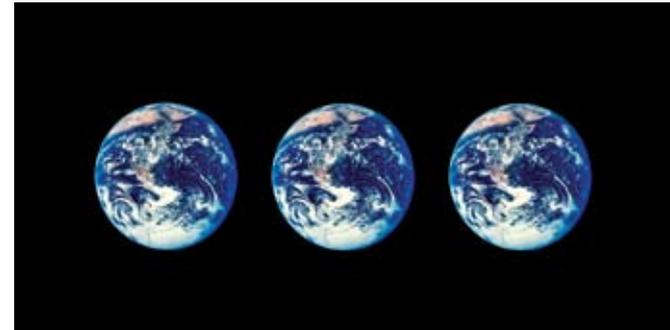
My aim will always be to keep my head out of the water...

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INTRODUCTION

“In our current state, we are overspending our resources. The UK currently consumes 1.3 of the planet’s resources. If everyone lived like the average person from the UK, we would need at least 3 earths to provide all the resources we consume.” (Simon Cordingley, Director of Compass Professional Development, Setting Standards for Sustainable Design Conference)



Earth photo from www.yerbilimleri.com

“Graphic design is a wasteful business.” (Sophie Thomas, cofounder of Thomas Matthews design agency, Re-drawing the Line Conference) So much of what graphic designers produce in the form of printed material is actually thrown away, and today there is a growing awareness of the direct correlation between waste, diminishing resources and climate change. As a graphic designer, I ask myself about my roles and responsibilities towards society as an individual, as well as a graphic designer. I have become uncomfortably aware that my current graphic design practices are wasteful, and therefore, not sustainable. In other words, I am unwittingly but actively contributing to the diminishment of resources, social degradation and the advancement of climate

change. The title, "I Make Beautiful Trash" is an attempt at revealing my acceptance and acknowledgment of the consequences of my actions. I believe that, the first step towards change can come through an open acceptance and acknowledgment of our own actions, regardless of whether they are socially or personally judged, good or bad.

There is a lack of motivation within the graphic design community, especially educational spheres, to urgently push the agenda of sustainability. This project aims to bring awareness and advocate the importance of adopting sustainable design practices within graphic design education. It intends to explore methods of integrating the issue of sustainability to graphic design education in the belief and conviction that awareness about sustainability through education will help alleviate the negative environmental and social impacts of graphic design. "We may not have meant to do so, and we may regret the way things have turned out, but we designed our way into the situations that face us today," (John Thackara, *In the Bubble: Design in a Complex World* 2006) and it is up to us, graphic designers, to be able to design our way out of it.



Photography and alteration by Eren Butler

DEFINING THE PROBLEM

According to Three Trees Don't Make a Forest, a non-for-profit social enterprise based in the UK, the paper manufacturing industry is the world's third largest consumer of fossil fuels. As graphic designers, we use a lot of paper. In the UK, the manufacturing of paper produces 1.5 million tonnes of CO₂ a year. Just to produce one sheet of A4 paper, 10 liters of water is required. We also print, often items that will be discarded quite quickly; 120 billion pieces of paper are printed which is equal to a paper mountain more than 8,000 miles high and 8.5 million tones of any printed material go to landfill, to be burned or buried, every year. This is enormously problematic as we have begun to see the serious affects of such practice. It is hotter than ever, weather events are getting more extreme, the polar ice caps are melting and sea levels are rising. As Al Gore stressed in his documentary, *An Inconvenient Truth* (2006), "currently the CO₂ level has been far above the natural cycle of what has ever been in the last 650,000 years and in less than 50 years, it's going to continue to go up... you've heard of off the charts."

Unlike other design sectors, such as architecture or industrial design, standards for graphic designers are not set up to help them consider the environmental impacts of their products at the design stage. Printing industries are now the UK's fifth largest manufacturing industry. They are "classified by global risk management company Det Norske Veritas in the same environmental risk category as the mining, oil and nuclear power industries." (www.re-nourish.com) However, some of them are expected to voluntarily qualify for certain standards: such as ISO 14001, the world's only international environmental management system that enables organizations to reduce their environmental impact while maintaining profitability, and Extended Producer Responsibility (EPR) regulations, designed to promote the integration of environmental

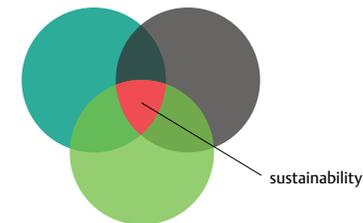
costs associated with products throughout their life cycles into the market price of the products. Even though printers are voluntarily expected to qualify for these standards, as Thomas stated, “no one expects the same from graphic designers, and ironically, currently printers are pushing this agenda.”

In addition to the unsustainable graphic design practices, the content of graphic design is also reiterating an unsustainable lifestyle. Everyday we are influencing and shaping people’s attitudes towards consuming and, inevitably, discarding more. According to Stuart Medley, a professor from the School of Communication and Arts, Edith Cowan University in Australia, “graphic design’s communicative power is an important aspect for the future of sustainability... part of the problem is that, the problem is not clearly defined for designers or anyone for that matter. Graphic design, through information design, educational and instructional graphics, has the power to alert people to these issues of sustainability... this approach is as important as telling students to use sustainable and recyclable materials. After all, what use is a sustainably made graphic design that urges people to go out and buy a four-wheel drive gas guzzling car?”

The lack of action towards sustainability both in its unsustainable practice and content is a gap in graphic design education and graphic design community that needs attention and provides room for intervention. The ideal intervention towards sustainability would happen simultaneously both in education and industry. However, we are running out of time and cannot wait any longer for these two sectors to lead together. An urgent intervention is needed and education, even with its challenges and resisting points towards sustainability, promises a freer mode of adaptation and a more processed growth towards sustainability.

DEFINING “SUSTAINABILITY”

The term “sustainability” is gaining popularity and trickling into our day-to-day language. However, the meaning of the word is still confusing and suggests that the difficulty of both defining and understanding the word is a simple demonstration of how it continues to create a sense of alienation towards the subject itself. To break down the boundaries and our reluctance towards the topic of sustainability, it is important that we define the word sustainability in the context of graphic design.



According to Jimmie Stone, executive creative director of Greenteam USA communication agency, “the word sustainable is hard to define, but we define it as the ability to maintain resources that maintain life. In other words: the balance between the environmental, social and economic.” This “three pillar” notion of sustainability in the context of graphic design specifically takes into consideration the environmental, social and economic impacts of graphic design creations and products such as printed materials (packaging, publication, advertising etc.) throughout their entire life-cycle: including, concept development, execution, raw materials, transformation, manufacturing, transportation, use and disposal. It specifically aims to reduce use of non-renewable resources, minimize environmental impact and strengthen the ties of people to their social and natural environments

while improving quality of life. Terminologies such as “green” and “eco-design” refer more specifically to effective protection of the environment and careful use of natural resources, while the term “sustainability” also takes into consideration the social progress and maintenance of high and stable levels of economic growth.

As pioneers of sustainable practice, William McDonough and Michael Braungart, in their book *Cradle-to-Cradle* (2002), demonstrate that in the natural world waste equals food and propose that human activity, as in nature, does not have to be wasteful and destructive like our current cradle-to-grave practices. As they explain,

if all the ants on the planet were taken together, they would have a biomass greater than that of humans. And even though ants have been incredibly industrious for millions of years, their productiveness nourishes their environment. Human industry on the other hand have been in development for little over a century, yet it has brought about a collapse in almost every ecosystem. Nature does not have a design problem. People do.

The cradle-to-cradle principles do not only eliminate the concept of waste but also advocate that design products and systems can provide nourishment for something new even at the end of their useful lives. These principles that model human industry on nature’s processes, can sustain the environment as well as potentially bringing high levels of social progress and economic growth. In order to successfully achieve this sort of sustainment of sustainability, it is critical that the progression of the environmental, social and economic objectives are all met.

CASE STUDIES: EXAMPLES OF SUSTAINABLE GRAPHIC DESIGN

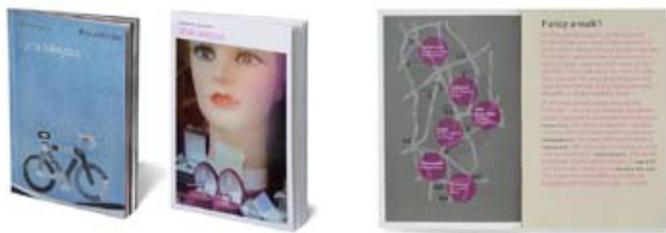
A few graphic designers and graphic design practices have already moved from acknowledging and understanding the problem to creating and adopting new solutions towards sustainability. However, this remains a small minority. Design companies such as Thomas Matthews, Provokateur and Composite Projects, all based in the UK, incorporate the framework of sustainability in their design decisions, client interactions and material allocations. These three companies demonstrate through their projects how this can be applied to graphic design, where the aim is to minimize the environmental impact of the designed product, while promoting a sustainable life-style. Below are a few examples of such projects:

A project by Thomas Matthews, commissioned by Friends of the Earth to launch International Buy Nothing Day in the UK, initially had asked for a poster in their brief. Instead, Thomas Matthews created a ‘No Shop’ in central London that sold nothing, but offered ideas and information about the campaign.



www.thomasmattthews.com

Composite-Projects, commissioned by Islington Council in London, was asked to create a guide to motivate people in Islington to walk and cycle instead of using their cars. The outcome was a compact booklet that made optimum use of the printing sheet, and utilized paper that had FSC (Forest Stewardship Council) accreditation, which promotes responsible management of the world's forests.



www.composite-projects.com

One of the nominees for the Green Awards 2008, the “We Want Tap” campaign, created and self-funded by Provokateur, aims to produce a campaigning brand that gets people to re-think about the harmful effects of bottled water on the environment. Their products, the ‘Do it Yourself Kit’, advocates optimizing the use of disposable plastic water bottles up to 10 times, while the 400ml sturdy “Tap” bottle can be re-used for a significantly longer time.



www.wewanttapi.com

WHY EDUCATION?

The issue of “sustainability is an emotionally charged subject, mostly because it runs counter to capitalism and traditional methods of communicating with consumers.” (Beth Koch, Assistant Professor at Design University of Minnesota, USA) For this reason, sustainability is often subject to heated debates. One of the debates about sustainability has been on the topic of who should lead: education or industry?

There is a strong degree of agreement that education should lead:

“...it needs to happen in education, not in the industry. It is easier to shape someone’s behavior than change it.”

- Jonathan Baldwin, University of Dundee, UK

“Education is vitally important in shaping our future generations and therefore our future society.”

- Jess Sand, Roughstock Studios, USA

“Education is critical in graphic design as much as in everything else. Sustainability should be integrated 100% into every undergraduate, community, design schools...”

- Marty McDonald, Egg Design, USA

and a small degree of disagreement;

“Academic circles don’t lead the way... the big companies are the real influences...”

- Patrick Robert, Head of Graphic Design at Camberwell University, UK

¹ Unless otherwise noted all quotations from professionals, tutors and students are from interviews with the author. Please view Appendix A: Dialogues.

"In my experience, education rarely leads, at least outside of the sciences."

- Peter Nicholson, Executive Director Foresight Design Initiative, USA

According to Stone,

the problem with education is that it is an investment that you do not see clear returns on. Politics do not invest in it enough, because no one sees it, and they shy away. Industries and consumers may be the drivers of sustainability, but we shouldn't forget that students and tutors are also consumers.

As a current student with a strong confidence in education, I believe that integrating sustainability into education is critical because not only "students are the next generation graphic designers," (Caroline Clark, founder of www.lovelyasatree.com) but as Lucienne Roberts notes in her book *Good, an Introduction to Ethics* (2006), "retro-fitting sustainability to designers is perhaps too difficult, and will only lead down a path of guilt and criticism. Students are freer to explore and take on new ideas. They have yet to commit or define, and can change." In other words, if sustainability can be learned alongside other tools, it holds the chance of becoming part of rather than a side note to the industry practice.

Even though the ideal integration of sustainability would lie equally in education and industry, currently the most influential long-term intervention lies within education. If an educational platform can be created, where the problem and the necessity for change is identified, students would have the opportunity to adapt and build their growing knowledge upon an infrastructure based on sustainability. This would guarantee a more processed growth and long-term commitment of the student critically thinking and designing sustainably.

PIONEERS OF 'GREENING THE CURRICULUM'

In response to my thesis proposal, Eva Anderson, a professor at Rhode Island School of Design in the USA told me she thought that "after 20 years of having done [her] thesis on environmentally-conscious design, there would be more progress in design education."

Attempts to integrate sustainability into design education is not a new endeavour. In 1992, Shirley Ali Khan coined the phrase 'greening the curriculum' while working for the Committee of Directors of Polytechnics in the UK and Ken Goulding wrote the Environmental Agenda for Art, Design and Performing Arts in 1994. However, the acceptance of these works, ambitious and unusual, for their time proved difficult. As Khan states in her paper for the Learning Skills Council conference (2007), at the time "some railed against me for attempting to bring values into higher education, as if they weren't there already; I was accused of inventing a gimmick to advance my career; and some older colleagues simply dismissed my views as being wrong because I was young. Being a campaigner for greening the curriculum in the 1990s was tough." Scott Boylston, a professor at Savannah College of Art and Design in the US also agrees that advocating sustainability, even as close as six or seven years ago was difficult. He explains that up until now, "colleagues 'tolerated' [his] views and discussion points as cute."

Today, however, there has been a turning point perhaps largely because of fears of and public acknowledgement of climate change. The saying, 'the climate is ripe- literally' ironically holds true as people's mood and attitudes have also begun to change, from disapproval and indifference to a sympathy towards sustainability. It is telling to see that Higher Education Funding Council for England in their strategic statement and action plan for 2008 aims for the "Higher education sector in

England to be recognized as a major contributor to society's efforts to achieve sustainability, through the skills and knowledge that its graduates learn and put into practice, and through its own strategies and operations, within the next ten years." Even though sustainability is rapidly gaining recognition and is being viewed as "the break we have all been looking for!" (Marty McDonald, creative director at Egg Design), higher education design institutions, a part from a few examples worldwide, have hardly begun to tackle the challenge. According to Khan, "lofty visions and policy rhetoric are one thing, delivery on the ground quite another."

CURRENT SCHOOLS INTEGRATING SUSTAINABILITY INTO THEIR GRAPHIC DESIGN EDUCATION

Today, there are several institutions in the UK, US and Australia that have started integrating sustainability into their curriculum either as an over-arching theme for everything, or as a specific masters program, an elective course, a funded research opportunity or as an organizer of conferences and forums on design for sustainability. They are the visible figures leading the change within graphic design education. A few examples are:

Pratt Institute (Sustainable Pratt), USA

Initiative that integrates sustainability to all design curriculum and campus operations

Griffith University, Australia

"Design Futures" one-year Masters Program

Minneapolis College of Art and Design, USA

Continuing Education "Sustainable Design" Online Courses

Savannah College of Art and Design, USA

"The Role of Graphic Design in Social Awareness" elective course, MA in Graphic Design

Art Center College of Design, USA

"Design Matters" program funds student research projects

Kingston University, UK

"Sustainable Design Research Center" funds student research projects

Loughborough University, UK

One-day seminar a year for all design disciplines

University for the Creative Arts, UK

"The Center for Sustainable Design" organizes conferences and research projects

DEEDS Project, UK

Educational platform that organizes conferences and symposiums

Project M: ThinkWrong, Location changes annually

4 Week summer program that focuses on one self-funded project

However, there are also the invisible individuals, uncredited tutors, who try to integrate sustainability into their teaching, without their institutions demanding it. Eva Anderson, upon receiving a new position as a tutor for a Senior Studio class at Rhode Island School of Design in September 2008 said “I’m going to add the sustainable materials component to it. No one asked for it, but I’m giving it to them anyway.”

“Every year there are 2 million students who graduate from a university in the UK.” (Anne Chick, Director of Sustainable Design Research Centre at Kingston University, 360 Degrees Conference) The efforts of the institutions and individuals to develop their curriculum to include sustainability demonstrates the opportunity that they recognize that education has the potential to influence the next generation of graphic designers. These efforts are encouraging, however, the progress is still very slow. According to Boylston, although sustainability amongst business sectors and the general public “has been a swell growing in size and speed for some time and no one can ignore it any longer,” design education continues to ignore it. Especially within the graphic design community, the priorities point strongly away from sustainability. As Johnson Banks, from Johnson Banks design consultancy wrote on his blog (2007) “I wish I could report that [graphic design] was doing its bit. Trouble is, tap “sustainable graphic design” into Google and you get a thousand suggested links. But tap *Helvetica Movie* in, and guess what, you get fifteen thousand. So in cyberspace at least, that makes people fifteen times as interested in a movie about a typeface than how to design responsibly. Great.”

It is important to be able to recognize and understand the motives and the challenges that these institutions and individuals have overcome while readjusting their priorities. Even amongst themselves, each institution or individual has approached the technique of integrating sustainability into education differently. A few institutions have invested in a comprehensive degree program, others provide a center for funded research, and some others show support through creating a platform for further discussions among academics and professionals.

The difference in these approaches alone illustrates that integrating sustainability into education proves difficult, and that there are no definitive solutions, yet. Among these differences, however, they all hold a strong common ideology: sustainability is important and it must be, one way or another, integrated into design education. While some institutions and individuals are seeking to lead the way, others are unaware or resistant towards this new approach. Why is this? What are the actual challenges and resisting points that prevent change from happening? Are there ways that we can engage people, students and tutors, more eagerly with the topic of sustainability? If so, what educational strategies must be applied?

CHALLENGES AND RESISTANCE POINTS:

In an attempt to find answers and open discussions, I have gotten in contact with many professionals, tutors and students around the world to gain an understanding on the attitudes and resistance points towards sustainability in graphic design (to read all the interviews and correspondences, please view Appendix A: Dialogues section). These answers shed light into the perceptions and sometimes misperceptions about sustainability and provide possible reasons for the slow progress of adopting it. Through acknowledging these challenges and learning from them, we can more readily construct a method of integrating sustainability into graphic design education.

On the opposite page, the resistance points have been categorized according to their subject matter. The groups consist of graphic design community, educational institutions, tutors and students. These categories suggest that the resistance to sustainability does not lie within just one area, but rather the challenges are present, to different degrees, in different areas. Even though these categories are separated, one must think of them as over-lapping fields, connected to and directly affected by one another. Thus, an intervention within one field can also yield an affect in another field, like a ven diagram. This is hopeful in relation to changing behaviors and perspectives towards sustainability.

GRAPHIC DESIGN COMMUNITY

- > LACK OF KNOWLEDGE WITHIN THE GRAPHIC DESIGN COMMUNITY
- > GRAPHIC DESIGN IS GOING THROUGH A PROLONGED IDENTITY CRISIS
- > GRAPHIC DESIGN IS GUILTY OF JUST TEACHING GRAPHIC DESIGN

EDUCATIONAL INSTITUTIONS

- > PROBLEMS WITH THE CURRENT EDUCATIONAL SYSTEM
- > LIMITED INSTITUTIONAL DRIVE
- > SHORT-TERM OUTLOOK

TUTORS

- > LIMITED TUTOR AWARENESS AND DRIVE
- > DISAGREEMENT ON HOW SUSTAINABILITY SHOULD BE TAUGHT
- > DIFFERENT VIEWS ABOUT WHETHER STUDENTS ARE AWARE

STUDENTS

- > MISPERCEPTION THAT STUDENTS ARE NOT INTERESTED
- > THE ISSUE SUSTAINABILITY PRODUCES A SENSE OF GUILT
- > SUSTAINABILITY IS FEARED AS A LIMITATION
- > SUSTAINABILITY IS TOO ABSTRACT

GRAPHIC DESIGN COMMUNITY

> LACK OF KNOWLEDGE WITHIN THE DESIGN COMMUNITY

“Lack of knowledge by graphic design community on sustainability makes me frustrated.”

-Eric Benson, founder of www.re-nourish.com

Even though the topic of sustainability has been gaining recognition, especially within other design disciplines such as architecture and product design, the graphic design community even today seems to be behind the currency of dialogue on sustainability. Due to the lack of acknowledgement, there is also a lack and inability to draw connections between graphic design and understanding of the urgency to adapt sustainability. This inability is also apparent in an “astounding number of very educated people who are clueless about sustainable issues.” (Eva Anderson, Rhode Island School of Design, USA)

The greatest driving force for embracing sustainability within the graphic design community can only begin with the acknowledgement and awareness of the problem. According to the RED Design Council in the UK, “it is often in the identification of problems and in the definition of paradigms where the real design problem lies.” The obliviousness of the graphic design community towards the issue of sustainability is the primary reason for the lack of change. The attitude is, ‘if it ain’t broke, don’t fix it.’ The issue of sustainability needs to be communicated effectively to the graphic design community and who better can do this than the graphic designers themselves?

> GRAPHIC DESIGN IS GOING THROUGH A PROLONGED IDENTITY CRISIS

“Graphic design is going through a prolonged identity crisis in regards of whom it should serve and to what ends.”

- Scott Boylston, Professor at Savannah College of Art and Design, USA

Today, graphic design is most often described by a continued search for cutting-edge visual styles that help define the next trend in order to drive consumer demand for new products. Due to this current reality, there is a continued and growing concern that graphic design has fallen victim to an increased inattention to social considerations. As Patrick Roberts, head of Graphic Design at Camberwell University in the UK points out, “graphic design exists because there is a commercial necessity.” The significant role of commercial demand in relation to graphic design cannot be ignored. Every year, millions of dollars are spent on advertising in order to meet this growing demand. This level of investment consequently contributes to a growing number of graphic design products that are considered problematic since they “support and implicitly endorse, a mental environment so saturated with commercial messages that it is changing the very way citizen-consumers speak, think, feel, respond and interact.” (First thing First Manifesto, 2000). Consequently, “the relationship between people is becoming the relationship between things because advertising is reinforcing this relationship.” (Noel Douglas, Professor at Bedfordshire University, UK)

The issue of sustainability is inextricably intertwined with environmental and social responsibility. The strive for balance within these two areas can be challenging which can make the integration of sustainability within current graphic design practices that much more difficult. The priorities within graphic design need to be readjusted so that graphic design, by its inner and outer circles, can be perceived as a form of communication that not only responds to the requirements of market demand but simultaneously responds to the needs of society. Therefore,

if graphic design can re-define not just the 'who?' and 'what?' it serves, but also the 'why?' it serves, the practice of graphic design can start working towards a more sustainable future. As Jorge Frascara, in his book *User-Centered Graphic Design* (1997) boldly states, "a technically excellent but ethically and socially irresponsible designer is a social, cultural and ecological hazard."

One can then conclude that, if graphic designers can pose such a threat, then they are also powerful enough to provide an important opportunity for positive impact. On the road to self-reflection and sustainability, it is important that graphic designers strive to define themselves through the latter motivation. In order to accomplish this, we need a big shift in how graphic designers define graphic design, as well as how the individual views his or her role in society and culture.

> GRAPHIC DESIGN IS GUILTY OF JUST TEACHING GRAPHIC DESIGN

"Graphic design is guilty of just teaching graphic design... the perception of graphic design has generally been that graphic design is for thickies, non-academics. The whole "critical thinking" is new."

- Darren Raven, Professor at London College of Communication, UK

Perhaps the lack of a multidisciplinary outlook towards what should constitute a graphic designer is the primary limitation towards why graphic design is having difficulty redefining itself as an agent for social improvement. If designers are to be engaged in communication that aims to tackle social and environmental concerns, they must also be able to enter a productive dialogue with a variety of other disciplines such as; sociology, psychology, anthropology, marketing, economics and the sciences. As Ellen Lupton, in her essay *The Designer as Producer* (1998) emphasizes, "in order for designers to take charge of the content and social function of their work, they need not become fluent writers, no more than an art director must become a professional photographer or illustrator in order to use these media effectively." By exposure to different fields and interdisciplinary initiatives, graphic designers can

deepen their sense of cultural, social and environmental literacy, which would inevitably provide them with the confidence to take action at the decision-making, not just at the designing stage.

"In America, designers are encouraged to be specialized and focused. They become toothbrush designers, but designers need to reject being specialists, and need to become more generalists." (Pio Barone Lumaga editor-in-chief of Loft The Nordic Bookazine, Greenengaged Conference) To propose graphic designer as a generalist or multidisciplinary negotiator also requires reassessment of graphic design education which currently lacks wide-spread interdisciplinary teaching. This is problematic in regards to integrating sustainability into graphic design education since sustainability- explained earlier in the context of the 'three-pillars'- is a result of the synthesis of three branches of knowledge. The interdisciplinary nature of the topic of sustainability also calls for the need to embrace an interdisciplinary approach in graphic design education. According to Peter Fine, co-author of *Eco-graphics* to be published in 2009, "educators who are integrating sustainable design principles into their teaching are also committed to interdisciplinary and collaborative coursework." Unfortunately, however, integrating multidisciplinary education is especially difficult within universities that lack cross-curricular opportunities. Paul Denison, a professor at Teesside University at the 360 Degrees Conference, in reference to an attempt to integrate sustainability into their design education, pointed out that "within the six schools, there were strong definitions of territories and very little cross-cultural activity, which I think is a common characteristics of most universities."

The big shift in the way we define graphic design, as mentioned earlier, can only really begin with breaking cross-curricular boundaries, abandoning a single-discipline and adopting a multi-disciplinary approach instead. As Anne-Marie, director of Team D/E/S in Australia firmly stated at the 360 Degrees Conference, "designers need an intellectual and analytical edge" which can only really be accomplished if graphic design can go beyond itself.

EDUCATIONAL INSTITUTIONS

> LACK OF CRITICAL THINKING WITHIN EDUCATION

“You see, I believe there is a parallel climate crisis. There is a global crisis, not in natural resources, though I believe in it, but a global crisis in human resources.”

- Sir Ken Robinson, RSA Edge Lecture Online

One of the issues with education comes from a lack of critical thinking. The article “Robotic Children” published in the *Ecologist* magazine in September 2008 refers to the research conducted by George Land and Beth Jarman. They have found out that, divergent-thinking which is a central component to creativity and defined as the ability to generate many or more complex or complicated ideas from an original idea, and then to elaborate upon those ideas, diminishes with age. According to their research, 1,600 children aged 3 to 5, who were tested on divergent thinking, 98 per cent showed divergent ways of thinking and when tested again at age 8 to 10, only 32 per cent could think divergently. When the test was applied to children aged 13 to 15 years old, they found that divergent thinking had dropped to 10 per cent and astonishingly, when the test was used on 200,000 25 year olds, only 2 per cent could think divergently.

Our diminishing ability to think divergently is problematic, as this may indicate that we are not just failing to tap the full potential of our creativity, but that we are also more prone to accept and endure circumstances that otherwise need questioning. As Jess Sand, founder of Roughstock Studios in the USA states, “the public education system has moved away from teaching critical thinking skills, the

public at large has moved away from questioning the status quo. And the result is a degeneration of civic engagement, and an increase in corporate malfeasance.” Divergent thinking enables individuals to push boundaries and to think differently than what seems to exist. Thinking in this way, however, can create a sense of fear or discomfort, especially when it holds the possibility that it may be considered wrong or may contradict the norm. “We’re now running national education systems where mistakes are the worst things you can make. The result is: we are educating people out of their creative capacities.” (Sir Ken Robinson, TED Lecture Online)

According to Noel Douglas, Senior Lecturer at University of Bedfordshire in the UK, there is also a massive problem in the way education is reflecting existing consumer values. “We live in an economic system that is based on profits and consumption. Students are learning knowledge, but students are becoming customers, so their relationship to education today is one of the consumer.” Education needs to be about more space, more freedom where students can put forward other visions of reality, and not only our consumeristic reality. “[Education] should always make people realize that the world can change and what they accept is natural is not natural at all. Education is under pressure because there is a lot less freedom.” (Noel Douglas)

Sustainability is about questioning the status quo. It requires divergent thinking within the already accepted norms of graphic design education, and for this reason, in order to encourage students to care about sustainability, it is essential that they feel that they have space and freedom to question and push boundaries. Often mistakes are regarded as the worst thing you can do. Students, however, need to freely explore without the fear that they may be wrong. Sustainability is about best practice, which attempts to find the best environmental and social solutions to a problem for its time. As technology and processes change, what is considered best practice today may not be the best practice of tomorrow. For this reason, today’s right may, after all, become tomorrow’s wrong.

> INSTITUTIONAL LIMITATIONS AND LACK OF DRIVE

“New systems are starting to shape outside of the academic model. Perhaps it’s a reaction to the lack of it or there are too many restrictions. Sustainability is a fast developing area and there is the urgency of ‘let’s get on with it!’”

- Anna Gerber, Professor at London College of Communication, UK

“Design education feeds itself from what is going outside, rightly or wrongly.” (Emma Dewberry Senior Lecturer in Design for Sustainability at the Open University UK, Greengaged Conference) Even though there seems to be a fast growing adaptation of sustainability within educational platforms outside academia, the academic circles have been slow at feeding itself from this progress. The delay in the adoption of sustainability within academia may not only depend on the institutions’s attitude, but also the dark reality of how readily institutions can embrace change. Quickly adopting sustainability into graphic design education within an institution may be challenging, as it may pose limitations. John Crinion, a product designer who is currently in the process of developing an MA in Holistic Ecology, in a discussion about institutional limitations at the 360 Degrees conference stated that “[he] could not work within the constraints of education [and that] the best solution is to create your own school.”

It is evident that the integration of sustainability, even though it may be slower and more challenging, needs to happen within design schools. The integration can begin through individual efforts, however, in order for sustainability to gain permanence and have a promise of continuity, “institutions need to show their (symbolic) support in some way, shape or form -- initiatives, task forces, curriculum, etc.” (Joshua Trees, visiting lecturer at the London College of Communication and San Francisco Art Institute) Needless to say, for sustainability to hold further permanence within society and culture, not just in design values, “we cannot think design education as the only solution since that won’t get us too far- it needs to happen in every education.” (David W. Orr, professor at Oberlin College USA, quoted at the 360 Degrees Conference)

> THE SHORT-TERM TEACHING VERSUS THE LONG-TERM

“Short-sightedness and limited views allow us to make choices and act in ways that ignore the inter-connectedness of human civilization to the natural world. Design education should be preparing the next generation to take in a longer view.”

- Laura Chessin, Professor at Virginia Commonwealth University, USA

In order for sustainability to have a long-term effect, design education also needs to embrace a long-term outlook. Currently graphic design education focuses mostly on the immediate, short-term problem solving considerations. Often, a long-term outlook is difficult to adopt as it means more of the unknown and less of the definite results that often satisfy short-term expectations. As Marty McDonald, from Egg Design in the USA pointed out,

sustainability needs to be a part of the long-term thinking, but it is hard to relax and sit-back and think of the long-term, when the short-term is challenging. But then again, will the short-term ever get better? Probably not. It’s like the chicken and the egg. We wait to solve the short-term in order to solve the long-term, but the short-term won’t really get solved before we solve the long-term.

Today, a situation has been created where the future is less assured because of our short-term outlook.

TUTORS

> LIMITED TUTOR AWARENESS

“Faculty that have been trained in the old way of thinking, know what they know, and they know it well. But the ground has shifted underneath us, and we need a body of hungry, diligently curious people to help drive this change.”

- Scott Boylston, Professor at Savannah College of Art and Design, USA

Tutors are figures of inspiration as well as examples for students. Their role, as teachers, harboring a wealth of information and experience directly influences a student’s educational development, and often even shapes their personal interests and future choices. Tutor’s choice of teaching materials and sources are important, as they signify the level of priority given to certain subjects and the amount of influence it will have on their student. “The young learn from what they see (and don’t see).” (Jess Sand, Founder of Roughstock Studios) The subject of sustainability is still what students do not see because schools and tutors have not yet been at the forefront, choosing to push the agenda of sustainability. As Anna Bakken, a student from Savannah College of Art and Design in the USA wrote in her e-mail response, “I never have [thought of sustainability issues when I design] and only now as a senior I am starting to learn about it and consider it. I think that it is something that needs to be taught to students so we are aware of it because only now, through my own research, have I started to learn about it.”

There may be a perception that there is a lack of demand among students and weighing student’s interest towards this attitude is the main reason for the lack of integration of sustainability within design

education. However, according to Tracy Bhamra, from Loughborough University in the UK, “the disconnect between design education and sustainability is most often due to the lack of knowledge and understanding of the issues by the majority of design educators.” Sustainability is uncharted territory for tutors, as much as it is for students, and thus, it may cause a sense of discomfort and lack of confidence, as it may challenge their expertise. However, it is important that tutors overcome this sense of discomfort because “in order to teach students these values, [tutors] must first internalize them, digest the big difficult issues and assign them the appropriate level of importance within [their] pedagogical sensitivities. TELL, SHOW, INSPIRE.” (Scott Boylston, Professor at Savannah College of Art and Design, USA) Without tutors internalizing the values of sustainability and making head-way in this area, expecting students, though motivated and interested, to adopt sustainability may never be possible.

Tutors need to internalize, not only the values of sustainability in itself, but also the importance of their own role in the process of integrating sustainability into design education. To demonstrate this, Anne Chick, from Kingston University in the UK, at the 360 degree conference explained that the 8 year journey toward sustainability within their institution “happened from the ground-up, mainly from the academic staff who were comfortable with the issue, not students. Ex-students were brought in to structure the University towards sustainable activities... eventually, it mushroomed out and the students made it their own.” As Emma Drewberry from Open University stated, “where education programs [in sustainability] exists, it is driven by highly motivated individuals.” Attempting to make sustainability a part of one’s nature and practice requires self-empowerment, comfort, and motivation. Once these characteristics are attained, and the seed of sustainability is planted and growing, students can hopefully then learn and develop from the transformation they see.

> DIFFERENT VIEWS ABOUT WHETHER STUDENTS ARE AWARE

The amount of awareness and concern for the issue of sustainability among students perceived by tutors differs greatly. Some tutors, like Stuart Medley, from Edith Cowan University in Australia, think that “very few students, initially, seem at all concerned with environmental responsibility- some are interested and concerned and show this in everything they do, but most do not care, at least not openly.” James Walker from Camberwell College in the UK also thinks that “awareness of [his] students are not as much as you might expect.” However, others, such as Peter Nicholson, the executive Director of Foresight Design Initiative in the USA, “find many students already or at least willing to engage the issue.” And according to Laura Chessin, from Virginia Commonwealth University in USA, “all students are actually conscious of these issues, very often to a greater extent even than [myself].”

The difference in the perceptions could additionally be telling of how tutors assess their own knowledge in relation to their students. It is evident that, awareness among both students and tutors needs to be developed and it is hopeful to know that, lack of awareness does not necessarily mean lack of interest. There may be a lack of awareness, however, Walker optimistically added that “students may be gently pushed “in the direction of sustainability. Awareness is easier to address. The main difficulty is evoking an interest and promoting the incorporation of a sustainable frame work.

> DISAGREEMENT ON HOW SUSTAINABILITY SHOULD BE TAUGHT

There is a difference of opinion and variety of ideas about how sustainability should be taught. The disagreement on this topic can often be paralyzing because any new attempt or approach seems to fall prey to scrutiny for not fully addressing the complex problem of sustainability.

On one side, there is the school of thought that argues “sustainment

means the re-design of design and the re-education of educators” (Tony Fry, director of Team D/E/S and professor at Griffith University in Australia) and that the education of sustainability cannot fit into the already established paradigms in teaching. Holly Robbins, Co-founder of the Minneapolis College of Art and Design’s Online Sustainable Design Certificate program in the USA, expresses her concern by stating, “I suspect that many [tutors] simply skim the surface, show some examples, talk about recycling and such. I don’t know how they could really in the span of a regular course introduce a new design model, which is what I believe sustainable design is.” And on the other side, there is the belief that the education of sustainability can effortlessly fit into the already established paradigms of teaching through “keeping [design education] as it is now and adding the concept of production and sustainability as another phase of the design process.” (Melanie Wiesenthal, Parsons School of Design, USA)

Sustainability is both an emotionally-charged and a difficult subject, as sustainability is about best practice, about knowing and accepting that what is right today may be wrong tomorrow. Therefore, there is often a sense of loss as where to begin and which direction to continue. As Yoko Akama, from RMIT University in Australia straightforwardly states, “I have a love/hate relationship with sustainability. My hate of it is to do with its ideology that one could never do ‘enough’- it becomes more and more complex when one goes deeper into the issue.”

Even though there are disagreements on how sustainability should be taught, there is an agreement that sustainability is an urgent and critical issue. Perhaps we must first try to accept principles from both ends of the spectrum in order to find a middle-ground from where we can begin to tackle the issue. According to Jess Sand, founder of Roughstock Studios, “applying a sustainable filter to current coursework and programs can be useful. But at some point, we need to develop new approaches, take a few risks, and recognize that sustainability moves beyond simple question-and-answer paradigms.” Within sustainability, there may always be the feeling that one could never do enough of

towards it. However, the reality is that it needs to be somewhere and a drip, drip, drip approach, where it is integrated into everything” (Ian Capewell, author of the Sustainability Handbook for Teacher Trainers, Greenengaged Conference) can be a starting point. The ‘drip, drip, drip’ approach has the potential for transforming the teaching of graphic design with a touch of sustainability, into graphic design that integrates sustainability as a frame of mind. If sustainability can become a frame of mind within design, it can also influence our choices beyond design, of how we live and how we interact with our society and environment. In the grand scheme of things, this should in fact be our ultimate goal for graphic design.

STUDENTS

> MISPERCEPTION THAT STUDENTS ARE NOT INTERESTED

Even though students may have a low level of awareness, there is a high and growing amount of interest towards the issue of sustainability. “Students are interested and curious, but uneducated.” (Eden Potter, AUT University, New Zealand) According to Marina Nikolaiewsky, a third year student from Universidade Federal do Rio de Janeiro, who conducted a research among her classmates, stated at the 360 Degrees Conference that “when students were given a questionnaire they mostly answered that they did not know much about sustainability, but when they were asked if sustainability was important and if it should be integrated into the whole curriculum, 94 percent said yes.” These numbers are steadily growing. Even Tracy Bhamra, leader of the Sustainable Design Research Group at Loughborough University in the UK, noted that “I’m amazed that 50 out of 120 students chose a thesis related to sustainability this year.”

In the report by Dawe et al. (2005) ‘student lack of interest’ is pointed out as one of the challenges towards adapting sustainability. The perception of the lack-of interest of students may have direct influence in the attitude of tutors and design institutions, as they may accept this as a significant justification for not integrating sustainability into their teaching. Today, according to my own research, the interest is visibly growing. There were 40 responses to my questionnaire that was distributed or sent to approximately 80 individuals. The responses to the question of whether students wanted to learn how to be more sustainable in their design were mostly all positive. Below are a few examples of student answers (please view ‘Dialogues’ booklet for all student answers):

“Yes, any new ideas would be most welcome.” (Sue Gerrard, London College of Communication)

“Always open to something good and new!” (Michael Clemens, London College of Communication, UK)

“Yeah, I would be willing to learn because I do think you become a better designer...” (Omar Ortiz, New Mexico State University, USA)

“Yes! I do care about the planet but don’t know how to take care of it!” (Anonymous, New Mexico State University, USA)

“Of course. Learning about something that can help our environment during these critical times, I think, is very important and worth it!” (Janessa Herrera, New Mexico State University, USA)

“For sure! I would love to be able to incorporate this into my work. I think customers wouldn’t mind paying a LITTLE more to be eco-friendly...” (Jemma Tockuss, University of Western Sydney, Australia)

It could also be said that, the students who chose to respond were already interested in the subject matter, therefore, their responses were positive and the students who did not respond, were simply not interested. Inevitably, it is true that “not all students are going to buy into it.” (Eva Anderson, Rhode Island School of Design) As Jonathan Baldwin, from University of Dundee, UK explains, “largely the attitude is positive but it varies. You get some who wish we covered it more, and others who could care less, and everything in between.” The issue of sustainability may still not receive full acceptance and interest among all students. However, even the challenging response from my classmate, Jan Paepke, “surprise, impress, convince me!” and the enthusiastic student responses I was able to collect, at the least, demonstrate that the once firmly shut door is now ajar.

> THE ISSUE SUSTAINABILITY PRODUCES A FEELING OF GUILT

One of the reasons why sustainability may be considered an emotionally-charged subject is due to the fact it can easily produce a feeling of guilt. Teene Clerke, doctoral candidate at University of Technology in Australia, in her response said that, “the idea of asking about my attitudes about sustainability issues are highly personal, and is cause for some anxiety and emotion... when you asked, my initial response was guilt, concern, a fear of being found to be deficient in some way.” Often people feel guilty or feel insufficient in what they do, because no matter how sustainable we may try to live our lives or attempt to make socially and environmentally minimal impact decisions, there is always the sense that what we do is never enough. This feeling of helplessness can be paralyzing, leading us to feel as though our decisions on a greater scale may not make a difference and hence, there may be no reason to change. This thought process, in return, can also lead to the rejection of sustainability. For this reason, it is essential that the topic of sustainability does not point fingers. We are all on the same boat and focusing on the factors that make us feel guilty will not take us forward. Especially for students, injecting a sense of empowerment through the emphasis of the individual as an agent for change is essential. Without it, students may succumb to feelings of guilt and powerlessness.

In contrast to what the authors of *Cradle-to-Cradle* stated about the design problem lying within the people, according to John Thackara author of *In the Bubble: Designing in a Complex World* (2006); “there are many things wrong with design in our world, but designers, as a group of people, are not the problem... no designer that I ever met set out to wreck the planet, force us to eat fast food, or make life miserable. Our dilemma is that small design actions can have big effects- often unexpectedly.” We have to grasp the importance of our design decisions, because only by recognizing our positive and negative influences, we can overcome our feeling of helplessness and paralysis.

> SUSTAINABILITY MAY BE FEARED AS A LIMITATION

One of the greatest reasons to resist sustainability is because of the belief that sustainability is a disadvantage. A student from New Mexico State University in the USA, in response to whether he would want to become more sustainable in his design explained that, "I would like to learn how to become more sustainable in my design, but at the same token I don't, because I'm sure there would be many materials that we wouldn't be able to use, so expressing ourselves in our work would be a little more difficult." Sustainability in this context is feared as a limitation to creativity and use of materials. Sustainability is also feared as a financial burden. Lauren Hoffman, from Savannah College of Art and Design, USA explains that, "I wouldn't mind [becoming more sustainable in my design] but till the price or till the time where I'm not designing out of my pocket, then I would be happy to."

The misperceptions of sustainability are that it is costly and can hinder creativity. However, technology, manufacturing and production progresses are developing so rapidly that the realities of a decade ago do not all hold true any longer. Even though production processes, access to information and costs are developing and changing, the knowledge and perception are slow moving and not disseminated properly. Therefore, people often depend on information and perceptions that have not been updated. According to Jimmi Stone, from Greenteam USA,

5 years ago, to persuade companies to change their paper to FSC (Forest Stewardship Council) certified was difficult, but it was mostly because of a misperception. Today, FSC paper is not only good quality, but it's the same price, and easily accessible. Plus, corporations are now demanding this and printing more responsibly. More printers are now FSC

certified and more locally distributed. Printers now even support 'on demand' type of printing, they have learned to optimize the sheet of paper and they print with correct calibrating best to their abilities in order not to waste too much.

Jonathan Baldwin, a professor from University of Dundee in the UK, raised the concern that due to these misperception they received "complaints from some students that [they] were 'bursting their bubble' because they used to think design was nice and cosy and pretty but now they don't." Sustainability is not only seen as a creative and financial limitation, but it is also a subject that often confronts the bitter realities of our social and environmental world. For this reason, sustainability may be regarded as gloomy rather than a cheerful subject. However, as Stone, optimistically points out, "this is a historic moment- the same species that destroyed the world, consciously or unconsciously, now has the opportunity to re-invent things." Sustainability may paint a gloomy picture of today, but it holds the potential to paint a hopeful picture of tomorrow. Just as much as it can create a sense of guilt, putting these ideas into practice can foster hope and excitement about 'doing the right thing.'

Overcoming misperceptions through researching current technologies, and processes in manufacturing and production is critical because innovation is an integral part of sustainability. After all, "sustainability represents an opportunity for this generation of designers to radically re-invent our current communication systems and young people are excited about the opportunity to be part of something that has never been done." (Brian Dougherty, author of upcoming book 'Green Graphic Design') Even though, Joshua Blackburn, founder of Provokateur design consultancy in the UK, explains that "sustainable design involves compromise, which may be seen as an obstacle, it actually opens up a whole new avenue of creativity." It is important that sustainability is seen as an opportunity not just for students, but also by tutors because it is important how sustainability is taught. As Stone explains,

“limitations will strangle the movement, because creativity is the wild child.”

> SUSTAINABILITY IS TOO ABSTRACT

The meaning of sustainability is still confusing. It is not only difficult to define it, but also difficult to understand it and for this reason the idea of sustainability is often regarded as being too abstract. One of the main reasons for this may be that there is “a disconnect between the computer screen and everything related to production; forests, pollution etc.” (Caroline Clark, founder of www.lovelyasatree.com) Without an understanding of what goes beyond our computer screens, the idea of sustainability is not possible to grasp. According to Melanie Wiesenthal from Parsons School of Design in the USA, “only when students understand how things get made, can they make conscious choices about sustainability, because it is intimately linked to production.” Thus, sustainable design calls on designers to “learn about what happens with their work well outside the studio; in marketing departments, paper factories, printing plants, shipping trucks, at the point of use and in a landfill.” (Brian Dougherty, author of upcoming book ‘Green Graphic Design’) In order for graphic design students to understand and internalize sustainability, they need to be exposed to the processes beyond just delivering the concept. Only by doing so can students begin to connect the dots of their small design decisions and their big effects and make informed choices about where and how production should take place.

GRASS-ROOT CHANGES

An awareness of the challenges and resistance surrounding sustainability are helpful as it draws a clearer picture of what we are up against in our goal to integrate sustainability into education. As the case studies of educational institutions tell us, there is an array of different ways that sustainability can be integrated. Perhaps the most difficult goal is to integrate sustainability as an over-arching theme for everything that is being taught within design education, including graphic design, so that sustainability can be at the forefront of every tutor’s and student’s mind, and can be recognized as a “common-sense” outlook rather than just as an add-on. The ways in which we can begin to implement this change towards sustainability can happen at several levels.

According Anderson, from Rhode Island School of Design, change can start at grass-roots level if enough concerned students [and tutors] demand that it be incorporated into their curriculum. It can start at the top leadership level if the university president or dean is a bold visionary, or if a trade organization like the AIGA creates strong models and policy guidelines and lobbies for them. It can also start at the legislative level if our politicians have been convinced that graphic design is contributing significantly to global warming or other environmental maladies. Most likely, it would come through a mix of any or all of the above in varying degrees.

Even though the most solid integration of sustainability within education may happen through the synthesis of these different levels, can we really wait for a synchronized growth and understanding on all levels? There is no doubt that we should be lobbying and putting pressure on top leaders, however, in the mean time we can begin to create educational projects at grass-roots levels because we are running out of time. Just like Chick demonstrated that the grass-roots movements among tutors and then students could bring institutional change. Thus, similar attempts have the potential to become agents of change, affecting those who are inspirable and the next generation of graphic designers.

BUILDING A WORKSHOP AS A CATALYST

As a first step towards adapting sustainability, a grass-roots, in other words, a bottom-up initiative such as a small and short workshop, can act as a catalyst for students to embrace and change their design processes towards sustainability. Introducing the subject of sustainability in relation to graphic design through an informative and interactive workshop can be highly valuable. It can provide an easy and accessible starting point for institutions, tutors and students. This type of bottom-up approach can hold the advantage of building a solid base for further growth. Before a workshop can be set-up and tested, however, it is important to acknowledge the techniques needed to be employed so that sustainability can be taught and welcomed by students more easily. Exploring the resisting points to sustainability have already given a wealth of information about the challenges to sustainability and how we can overcome them. Additionally, there are specific attitudes that outline how the workshop can potentially be run, and provide reasons for why a lecture and a talk may not be sufficient. Understanding the challenges and also employing specific teaching and learning strategies may be key for successfully engaging students with the topic of sustainability.

HOW SHOULD SUSTAINABILITY BE TAUGHT? FACTORS TO PAY ATTENTION TO WHEN SETTING UP A WORKSHOP

- > OPTIMISTIC ATTITUDE
- > GUILT WILL NOT WORK
- > DO NOT LECTURE, BUT DISCUSS
- > WALK THE TALK
- > DRAW PERSONAL CONNECTIONS
- > SHOW EXAMPLES
- > ENCOURAGE GROUP WORK
- > DEMONSTRATE DESIGNER AS A LIAISON
- > TAKE IT OUTSIDE THE CLASSROOM
- > SUSTAINABILITY DOES NOT HAVE TO BE A MORAL CRUSADE

> OPTIMISTIC ATTITUDE

"Optimism is the only way out, not naivete."

- Jimmie Stone, executive director of Greenteam USA

The emotional and philosophical state of optimism is probably the most important quality that one must harbor towards the issue of sustainability. There is already a growing frustration about how little we think we can do. This can make us cynical or disabled because we think that our decisions and actions have no influence. For this reason, it is especially important that we approach the subject of sustainability with optimism because an optimistic approach takes into consideration what is doable and not doable. By emphasizing and focusing on what is doable, a goal that is achievable can be created. Thus, a sense of empowerment can be restored.

> GUILT WILL NOT WORK

"Guilt is not going to change behavior."

- Andrea Koerselman from IDEO, Greenengaged Conference

As mentioned earlier, the reason why sustainability may be considered an emotionally-charged subject is because the issue of sustainability can easily produce a feeling of guilt. Terrance O'Connor, in his essay for the book *Ecopsychology*, states that people act differently towards the global crisis. Some avoid the topic, others do not want to hear about it, and some others even convince themselves that it is not happening. However, "more common are those who will admit to feeling a bit guilty about not doing anything. The [expected] equation here is: doing nothing + feeling guilty = doing something." Furthermore, according to Terrance, action is called for, but action driven by guilt may only aggravate the problem. "We are in disharmony with the world because we are in disharmony with ourselves. Guilt is an indication of this. Guilt is a warning that there is an incongruity in our value system, a schism in our sense of self that needs to be investigated. If we act without

introspection, we simply throw our weight to one side of the inner conflict, increasing the disharmony. Our actions will be incomplete and fragmented. We will make some token move and fall back into denial and minimization." Caroline Clark, founder of www.lovelyasatree.com, also states that "sustainability seems to be a token gesture." Feelings of guilt can encourage token gestures that are temporary solutions to momentary remorse, however, it cannot generate long-term solutions. Perhaps as Jimmie Stone, from Green Team USA, noted "no one is perfect, perfect is unattainable." Instead of feeling guilty and focusing on the things we do that produce our guilt, we must focus on the things that we are proud of and continue to develop and encourage those behaviors.

> DO NOT LECTURE, BUT DISCUSS

"Don't lecture, but discuss."

- Caroline Clark, founder of www.lovelyasatree.com

"Preaching out can alienate."

- Lea Simpson from Unchained Consultancy, Greenengaged Conference

Lecturing about sustainability can create a sense of wrong-doing and reinforce a sense of guilt. Students must not feel as though they are being lectured, which may proclaim that sustainability is "right" and everything else is "wrong." If this is the case, students may naturally feel they are in the "wrong", since they do not practice sustainability. The topic of sustainability needs to be inclusive, not exclusive, meaning that students are not told they are wrong through preaching but rather through self-reflection in discussions they can work out for themselves what is right and what is wrong. Only by doing so will they be able to embrace sustainability as their autonomous choice, rather than an imposition. "Sustainability should not be imposed on the students, but act rather as a responsibility filter. It will stick to them eventually without forcing it." (Jimmie Stone, Green Team USA)

> WALK THE TALK

“Teach what you preach.”

- Greenengaged Conference Discussions

It is important that tutors ‘walk the talk’ in their attempts to introduce sustainability, because students are influenced by what they see and do not see. If students spot an incongruity in what they are learning, with what they are seeing, they will lose their trust in their tutor and the topic itself. In class, tutors should make every attempt to conduct the workshop in-line with sustainable principles. In addition to examples of sustainable work, conducting the workshop with sustainability in mind will allow students to see how easily it can become a frame of mind, not solely as a part of design. Often though, ‘teaching what you preach’ in context of the institution may be close to impossible. As Sian Cook from London College of Communication, stated, “the institution is the most difficult thing. It is like maneuvering a very big ship... we are not setting a good example at all.” The reality is that the institutions will often fail to set a good example. For this reason, it is important that this reality is pointed out rather than ignored entirely. Most often students’ linear thought process will be; ‘if the institutions are not setting a good example, then the topic at hand is probably not important, because if it was, why wouldn’t they do something about it?’ Just like maneuvering a big ship, bringing change to institutions is also difficult and students need to be informed about this reality in order to judge the lack of action as a space to interfere rather than a reason to remain inactive.

> DRAW PERSONAL CONNECTIONS

“Draw connections between student’s own life and that of topic in hand.”

- Jess Sand, founder of Roughstock Studios, USA

When trying to engage students with any topic, especially sustainability, it is important that the student is able to make connections between the

topic and their own life. This connection can especially be strengthened if an example can have a physical or behavioral presence that students can relate to in their personal life. For example, creating an opportunity to critically challenge a favorite consumer object, electronic device or a day-to-day behavior: such as taking a shower, turning on the light, traveling to school, buying food and taking out the trash can help students relate to the issue of sustainability on a more individualized and intimate level. Without the ability to draw direct connections from everyday life, sustainability may fall victim to being perceived as too abstract.

> SHOW EXAMPLES

“Students are inspired by what other people have done.”

-Darren Raven, Lead Tutor at London College of Communication, UK

In addition to drawing connections between the topic at hand and a student’s own life, it is also important to show examples of current individuals or groups who have successfully embraced sustainability. This will not just help inspire students, but it will also give them a sense of not being isolated. One of the difficulties with the subject is that, most often people who want to embrace sustainability feel alone in their endeavor because it runs counter to the widely-accepted economic, political and social systems. Today, choosing to work sustainably means swimming against the current. If enough people adopt sustainable working methods then tomorrow will change. Until then, it is in the hands of the tutor to help students who want to pursue sustainability recognize that they are not alone.

> ENCOURAGE GROUP WORK

“Designers like to do their own thing but the future is not about that, it is about cooperation, collaboration and co-creation. We need to be a group of

people doing it together, otherwise we will not get there."

- Karen Blincoe, Director of ICIS, 360 Degrees Conference

As important as it is to strengthen the individual as an independent, free and self-governing being, it is also critical that an individual can adapt, and respond to the dynamics of a group, where group works and decisions are expected to go beyond the individual. Group settings create a platform for individuals to develop their listening and public speaking skills, as well as help create an inter-personal bond that holds individuals together. Especially in regards of sustainability, it is important that students practice and experience the dynamics and many factors that accompany group work. It can strengthen their professional position as a liaison between clients and vendors, and on a larger scale, it can help them gain an understanding of the individual belonging to a greater whole.

> DEMONSTRATE DESIGNER AS LIAISON

"Graphic designers also must often be the liaison between the clients and the printer- this is already the professional dynamic -and if, at that place in the middle, we encourage and work with both ends of this equation, we can trigger great change."

- Scott Boylston, Professor at Savannah College of Art and Design, USA

In order to influence clients, vendors and the public to adapt sustainability, a designer must also develop his/her management and communication skills. "Client management is lacking in standard design education. It's been my experience that many designers are informed about and concerned with sustainability, but they lack the ability to convince their clients that incorporating these principles into their work can be balanced with creating an effective marketing tool." (Dani Nordin, founder of The Zen Kitchen, USA) To provide students with an understanding of the responsibilities and the dynamics of designer as liaison, a task could be set up where students are given a design

brief and expected to role-play as a printer, a client and a designer. An activity of this sort would able students to recognize the many factors that come into play when realizing a design project. It is important that students recognize that management and communication skills are as important, sometimes can even be more important than their design creations.

> TEACH OUTSIDE THE CLASSROOM

"Take it out of the classroom."

- Jonathan Crinion, Jonathan Crinion Associates, 360 Conference

The workshops may be located in diverse social and physical contexts, including urban and natural environments. Sustainability requires an understanding of an array of different fields in relation to environmental and social issues, and often it is difficult to draw these connections exclusively from a classroom. If a workshop was held in a forest, a paper manufacturer, a printer's shop or a garbage dump, the connection of a graphic designer in relation to his/her own environment would drastically change. As Anne-Marie at the 360 Degree conference said, "designers are focused on the creation, which obscures the perception of destruction. What is being created, is also a form of destruction." Our understanding of creation or destruction within the classroom can only go so far. In order for graphic design students to tackle the larger picture, they must actively be a part of that picture and that means taking them outside the small picture of a classroom.

> SUSTAINABILITY DOES NOT HAVE TO BE A MORAL CRUSADE

As Teena Clerke from University of Technology states "like ethics, there will always be an emotional component to the word sustainability, regardless of your intentions." Even though sustainability as a subject matter is unmistakably emotionally charged and is an ethically and

morally just frame of mind, in the context of teaching sustainability, “setting yourself up as a moral guardian can be dangerous.” (Sian Cook, Professor at London College of Communication) As Joshua Blackburn, states;

“There was the industrial revolution, and then the silicon revolution. This is the environmental revolution... like training to be an architect, engineer etc. if your school isn’t teaching you, then the schools are f&#*ing up...the reason why design schools should change is not a moral issue but that this is a revolution, and new skills need to be learned in order to navigate the revolution. Students and graphic designers need to learn about sustainability, otherwise they will be ill-equipped.”

Sustainability can be taught as an ethical or moral subject, however, it does not have to be. Rather, it can act as a survival scheme not just in the context of the environment and society but also in the context of our own professional success.

DESIGNING A WORKSHOP

As a means for testing the factors outlined under the topic ‘How Should Sustainability be Taught?’, I created a “I Make Beautiful Trash” workshop for 2nd year FdA Design for Graphic Communication students at the London College of Communication. The “I Make Beautiful Trash” workshop was a part of the 55 different workshops developed for the Term One: Research Book Project running over 7 weeks conducted by a mix of full-time FdA lead tutors, other full-time or fractional tutors from the School of Graphic Design at London College of Communication, associate lecturers and one-off special workshops by visiting industry people and alumni. The Research Book Project assignment required the 2nd year FdA students attend a minimum of 20 workshops and as an outcome, they were expected to produce a Visual Research Book that featured 15 workshops that excited, provoked and stimulated them.

My goal for creating “I Make Beautiful Trash” workshop was to test, amongst other workshops, whether students would be interested. More importantly, however, through employing the teaching factors discussed earlier, I wanted to determine whether the workshop could act as a catalyst for evoking further interest and become one of the workshops that would excite, provoke and stimulate them. Delightedly, based on the attendance and the student feedbacks, the workshop demonstrated that it carried the promise of being catalytic.

Below is a detailed description of what the workshop was about and how it was conducted (For a video documentation of the Workshop, please refer to the “I Make Beautiful Trash” DVD provided with the book).

ATTENDANCE

Attendance for the workshop was made possible with a sign-up sheet. The information on the sign-up sheet consisted of the title and a short description of the contents of the workshop.

Topic: I Make Beautiful Trash

Description: Do you see a connection between climate change and graphic design? Let's discuss. This workshop will provide students with the opportunity to question our current graphic design practices and explore methods of using graphic design as an agent of change.

Based on the topic and description, each of the 20 positions for both the two and a half hour sessions between 10.30 am - 1.00pm and 2:00 - 4.30pm were signed up for. The high interest rate for this workshop was also telling in context of other workshops that had a lower interest rate.

OUTLINE OF THE WORKSHOP

The workshop was divided into 3 main sessions; Discussion Session, Slide Show Session and Group Workshop.

1/ DISCUSSION SESSION (15 minutes):

The Discussion Session began with the initial question; "Do you see a connection between climate change and graphic design?" The students had the opportunity to discuss amongst each other what they thought about this particular question and furthered the conversation by asking related questions such as; What is the role of a graphic designer? Do graphic designers have a responsibility towards society? How can a graphic design work and/or a graphic designer be influential?

2/ SLIDE SHOW SESSION (55 minutes):

The Slide Show Session was divided into 5 sections. Each section provided an opportunity to continue the dialogue from the Discussion Session.

1. Factual Slides (20 minutes)

These slides provided students an overview of the statistics that relate to the environmental and social impacts of graphic designers in relation to the materials and procedures they use in order to realize their projects.

2. Defining "Sustainability" (10 minutes)

The "three pillar" and "cradle-to-cradle" principles were explained.

3. Good News vs. Bad News (1 minute)

Even though the factual slides created a grim picture, outlining the good news as well as the bad news attempted to re-draw a more hopeful picture. (The good news was identified as the growing number of graphic designers that are practicing as well as helping other graphic designers practice sustainability, while, the bad news was identified by not having enough of these graphic designers. The hopefulness in relation to the bad news was outlined as an opportunity for students to re-define the problem as a chance to fill the void by becoming an integral part of the solution to the problem.)

4. Three examples of Informative Websites (10 minutes)

The three websites; www.designcanchange.com, www.lovelyasatree.com and www.threetreesdontmakeaforest.com were shown to demonstrate that there is a growing number of websites that are set-up by graphic designers to help other graphic designers practice sustainability. These websites provide information about sustainable materials, tips and check-lists to help graphic designers consider sustainability in their design processes.

5. Four examples of Sustainable Graphic Design (15 minutes)
 The Sustainable Graphic Design examples consisted of 4 examples; three booklets, which were brought to class for analysis and a one visual depiction of a re-usable coffee package designed in 2006 by a MA Graphic Design student at London College of Communication. The examples allowed students to critically think about what these particular projects considered in their design process, such as; the designer's need, client's needs, re-thinking the brief, printing options, paper, inks, packaging, post-press, distribution, second-life and end-of-life decisions.

3/ GROUP WORKSHOP (One hour and twenty minutes):

The Group Workshop was divided into 2 sections.

1. Group Assignment (1 hour):



Photography by Eren Butler

The students were asked to divide into small groups of four or five. Within their groups, they were asked to distinguish the positive and negative aspects of the familiar 2007-2008 and 2008-2009 London College of Communication prospectuses in relation to the issue of sustainability and propose a more sustainable solution for the new 2009-2010 prospectus. The students were asked to critically approach the project in relation to the issues and questions raised during the first and second sessions. During this session, I acted as a mediator, analyzing the group's progress while attempting to provide challenging and useful leads.

2. Group Presentations (20 minutes):



Photography by Eren Butler

In the final session, groups were asked to present their findings to their classmates. This allowed for different and alternative proposals to be shared, questioned and discussed.

STUDENT FEEDBACK

Upon completion, students were asked to provide feedback on the positive and negative aspects of the workshop. (For full details on Student Feedback, see AppendixB)

The feedbacks were mostly positive. Students said that the workshop was “*very interesting*”, “*informative*”, “*productive*”, “*intriguing*”, “*inspirational*” and “*insightful*.” A few students also said that the workshop influenced the way they would complete their future projects;

“*Made me want to push my work to be more environmentally friendly.*”

- Simone Piromalli

“*Really inspired to make my whole research book from recycled/ sustainable means.*”

- Kate Burn

“*Made me more determined than before to use recycled paper for my book that I make this term.*”

- Rachel Irwin

Among the students there was a slight disagreement on whether the workshop should have been longer or shorter in duration. A couple students commented that the “*workshop could have been more condensed*”, while other students “*wish[ed] it could have been a longer session.*”

Additionally, the students thought that the negative aspects of the workshops, in addition to the slight technical projector problem, mainly related to the need for more information about sustainable design methods, useful websites and graphic design examples. The negative aspects potentially hint at the need for a longer session in order to incorporate these requests.

WORKSHOP OVERVIEW

My goal for creating this workshop was to first test whether students would be interested and secondly, through employing the factors outlined under the topic ‘How Should Sustainability be Taught?’, I wanted to determine whether the workshop could act as a catalyst for student to embrace sustainability.

During the workshop, 2 sessions total of 5 hours, I attempted to show an optimistic attitude, recognize that employing guilt would not work, discuss rather than lecture, walk the talk by providing scrap paper collected from the trash for students to take notes on, draw personal connections in the discussions, show examples of websites and graphic design works on sustainability, encourage group work, demonstrate the importance of designer as liaison and approach sustainability as a professional orientation rather than a moral crusade. I was not, however, able to take the workshop outside of the classroom due to technical difficulties and time limitations. Based on the factors that were employed and the positive responses I received from students demonstrated that a workshop, even though small in size and duration, could have a big influence on students’ attitudes. This being said, however, the hopeful outlook inevitably poses another important question; What is next? Should the “I Make Beautiful Trash” workshop develop into a more detailed, longer workshop, spread over a few weeks? or can other methods be developed to continue to engage the students who have already attended the short workshop? What other factors can be employed to further integrate sustainability into graphic design teaching?

The following section will outline alternative proposals that can hopefully be tested and applied in the near future.

**WHAT IS NEXT?
FURTHER DEVELOPING THE “I MAKE BEAUTIFUL TRASH”
WORKSHOP**

- > CREATE AN ONLINE INFORMATION PLATFORM
- > CREATE A LONGER WORKSHOP BASED ON PRODUCTION
- > CREATE AN ELECTIVE COURSE
- > CREATE A NON-ELECTIVE COURSE
- > TARGET BOTH THE INTERESTED AND UNINTERESTED
- > EMBED SUSTAINABILITY INTO THE LEARNING OUTCOMES

- > CREATE AN ONLINE INFORMATION PLATFORM FOR STUDENTS WHO HAVE ATTENDED THE “I MAKE BEAUTIFUL TRASH” WORKSHOP

As an extension of the workshop, an online information platform can be created where more information and examples of sustainability in graphic design can be provided because “students are very active online.” (Sian Cook, London College of Communication, UK) This online platform can also allow students to post information of their own, and comment on each others’ posts. In addition to creating an information platform, it can also provide a networking service for students who want to connect to students and people who share similar ideas about sustainability. This online version could also be integrated as a part of the e-learning platform already set-up for tutors and students by the educational institution, i.e. blackboard Inc.

- > CREATE A LONGER, MORE IN-DEPTH WORKSHOP BASED MORE SPECIFICALLY ON DESIGN AND PRODUCTION

A workshop may be set-up where “I Make Beautiful Trash” becomes a lengthier workshop, spread over a few weeks with a group assignment and an anticipated final outcome. The length of such a workshop would provide both a critical-thinking and production-based approach, where students are expected to apply their critical thinking skills directly to their design approach and outcome. This longer workshop can also be taken out of the classroom, which could expose students directly to the factors influencing design and production decisions.

- > CREATE AN ELECTIVE COURSE BASED ON THE SAME TEACHING FACTORS OF THE “I MAKE BEAUTIFUL TRASH” WORKSHOP

This course would retain the same teaching factors of the “I Make Beautiful Trash” workshop; however, students would also be expected to expand their research, design and produce their final outcome on their own. Additionally, as an elective course, the students would be expected to be marked on their research, analysis, experimentation and

final outcomes.

According to Jonathan Baldwin, professor at the School of Design, University of Dundee, UK, “telling students they should consider the environment in their projects isn’t going to work if they’re not assessed on it.” If a student chooses an elective course based on the issue of sustainability, it would be expected that the student is marked on their progress and development in this area. It is essential as Tracy Bhamra, Leader of the Sustainable Design Research Group at Loughborough University UK explains, “students need to be given confidence that they are not graded for a ‘pretty picture’ because there is still a fear of not being able to show a polished product.”

> TARGET BOTH THE INTERESTED AND UNINTERESTED

All three approaches provide the opportunity for students to choose whether they want to attend these workshop/courses or not. Their personal choice would demonstrate their direct interest towards the topic they select. It is expected that, students who choose to attend the “I Make Beautiful Trash” short and lighthouse workshop and the elective course will be motivated and receptive to learn about sustainability. However, this would be more difficult to predict for students who choose to attend other workshops. This would not suggest the students have no interest towards sustainability, but rather, that it is not one of their priorities. It could be assumed that, as Andrea Koerselman from IDEO mentioned at the Greenengaged Conference, “if sustainability is not as intertwined, it will still rub off onto others.” Without directly targeting the uninterested students, we can perhaps still expect students who attend these workshops and classes to naturally influence those that demonstrate less interest. “If we pick specific people to influence their actions towards sustainability, then their behavior can influence others. We don’t have to reach out to everybody.” (Lea Simpson from Unchained, Greenengaged Conference)

However, waiting for these influences to have an effect is likely to take

time, and in order to accelerate the process of integrating sustainability into graphic design education, we must try to reach out both to the interested and the uninterested. This is key for reaching our ultimate goal of making sustainability an over-arching theme of graphic design education.

> CREATE A NON-ELECTIVE COURSE BASED ON THE SAME TEACHING FACTORS OF THE “I MAKE BEAUTIFUL TRASH” WORKSHOP

This course would be the same in content and execution as the elective course, however, all students would be expected to attend. The student group would be a combination of interested and uninterested students. Hence, among some students, there would be more resistance and less engagement towards the topic. In this case, it is important to note that, despite its mandatory nature, the course would be careful not to preach or impose sustainability, but rather act as a platform for motivating the students to think critically not just towards graphic design, but also towards the issue of sustainability. According to John Biggs as he states in his book ‘Teaching for Quality Learning at University’ (2003), “motivation is an outcome of teaching, not as its precondition.” The ultimate goal of a non-elective class would be to implant motivation among those students who are not as interested, instead of expecting interest as a precondition.

> EMBED SUSTAINABILITY INTO ESTABLISHED LEARNING OUTCOMES OR AS AN EXTRA CRITERION

As an attempt to influence both the interested and uninterested, and to take, perhaps, the most influential step towards making sustainability an over-arching theme within graphic design education, the issue of sustainability should be integrated into the learning outcomes for all graphic design courses. Integrating the issue of sustainability within established learning outcome groups, such as ‘research’, ‘analysis’ and ‘experimentation,’ or creating an extra group as a supplement to these

groups would demonstrate that the issue of sustainability is important and should be taken into consideration when tackling a project. However, forcing a final outcome solely based on sustainability for all students and projects may be difficult and unsuitable. As Sian Cook, leader of BA Honours of Graphic and Media Design at London College of Communication UK suggests, “instead of being specific, the extra criteria could be structured in reference to a consideration of the wider issue.. is it sustainable, accessible, social, political? It’s fine if they answer no to these questions, as long as you have prompted them.”

Hence, if a learning outcome is partially designated to the research and analysis of the issue of sustainability, students could then be prompted to apply their findings from their research to their final outcomes. As long as students consider the wider picture and take into consideration issues of sustainability in relation to their own projects, their actions towards sustainability will grow from self-reflection and consequently, be viewed as an autonomous choice rather than a forced imposition. The issue of sustainability cannot be forced upon students, nevertheless, students can be gently pushed towards that direction.

CONCLUSION

This thesis project demonstrates, based on extensive literature reviews and interviews, and the findings from the small-scale “I Make Beautiful Trash” workshop that, there is an undeniable growing interest and demand towards the issue of sustainability within graphic design. Perhaps even more importantly though, there is a need today, more than ever before, for graphic designers to become the solution, and not the cause of the environmental and social problem. Graphic design education holds the power to inform, inspire and guide its students towards adopting sustainable solutions. And yet, each year, the lack of integration of sustainability into graphic design education poses a detrimental loss in the opportunity to positively influence the next generation of graphic designers and prepare them for today’s and tomorrow’s conditions. As Joshua Blackburn stated earlier, “students and graphic designers need to learn about sustainability, otherwise they will be ill-equipped.” If a small-scale grass-roots approach with a few particular teaching strategies can be influential, a large-scale approach can even have a greater, and more wide-spread affect.

This is a ‘historic moment’ not just for students and graphic designers to radically re-invent our current communication systems, but also for tutors and educational institutions to lead the way. The good news is that there is a visible but slow growing interest and action towards sustainability. The bad news is that there are not enough of them and unfortunately, we are running out of time.

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CONFERENCES ATTENDED/

JUNE 10, 2008/ SETTING STANDARDS FOR SUSTAINABLE DESIGN AT THE DESIGN COUNCIL, LONDON UK
Speakers: Simon Cordingley (Director, Compass Professional Development), Rob Holdway (Director, Giraffe Innovation), Jenni Rosser (Head of Cleaner Design Envirowise), Dr. Tracy Bhamra (Reader in

Sustainable Design, Loughborough University), Leigh Holloway (Eco3 Ltd.), Dan Palmer (Head of Market Development, BSI British Standards), Dr. Brian Griffiths (Reader in Manufacturing Engineering, Brunel University), Anne Chick (Director of Sustainable Design Research Centre, Kingston University) & Sophie Thomas (Thomas Matthews Ltd.)

JUNE 5, 2008/ RE-DRAWING THE LINE CONFERENCE AT LONDON COLLEGE OF COMMUNICATION, LONDON UK

Speakers: Adrian Shaughnessy (Freelance art director, writer and design consultant), Mark Wigan (illustrator & educator), Ollie & John from McFaul, Si Scott, Justin Moore (Art director, Bartle Bogle Hegarty), Sophie Thomas (Thomas Matthews Ltd.), Chris Knight, Lawrence Zeegen (illustrator & educator), Jody Boehnert (EcoLabs) & Leo De Freitas.

SEPTEMBER 19, 2008/ 100% SUSTAINABLE? DESIGN EXHIBITION, EARLS COURT, LONDON UK

Speakers: Alastair Faud-Luke (Author of Eco-Design Handbook, 2002), Rob Holdway (Director of Giraffe Innovation), Susannah Hagan (Head of MA Architecture: Sustainability + Design, University of East London), William Wong (Clare Leadership Programme Fellow), Jonathan Chapman (University of Brighton, IF Lab) & Guy Robinson (Sprout Design)

SEPTEMBER 20, 2008/ 360 DEGREES: CHARTING NEW TERRITORY IN SUSTAINABLE DESIGN EDUCATION, UNIVERSITY OF BRIGHTON, BRIGHTON UK

Speakers: Anne Boddington (Dean of Faculty of Arts & Architecture, University of Brighton), Karen Blincoe (Director of ICIS and Schumacher College), Anne-Marie Willis (Team D/E/S, Australia), Tom Ainsworth (University of Brighton), Karin Jaschke (University of Brighton), Jonathan Crinion (Jonathan Crinion Associates), Anne Chick (Kingston University), Karolina Tylka (Academy of Fine Artz, Poznan), Paul Denison (Teesside University), Guy Robinson (Sprout Design). [I was invited to present my thesis research for this conference.]

SEPTEMBER 15-23, 2008/ GRE(EN)GAGED LECTURE SERIES AS A PART OF THE LONDON DESIGN FESTIVAL, AT THE DESIGN COUNCIL, LONDON UK

SEPTEMBER 16 'GAUGIN THE GREEN':

'Communication and Graphic Design' speakers:

Sophie Thomas (Thomas Matthews Ltd.), Joshua Blackburn (Provokateur Ltd.) & Anne Chick (Director of Sustainable Design Research Centre, Kingston University)

'Behavior Change' speakers:

Fiona Bennie (Forum for the Future), Andrea Koerselman (IDEO) & Lea Simpson (Unchained)

SEPTEMBER 17 'THE POWER OF DESIGN':

Workshop: Designer as agent of Change conducted by Pio Barone Lumaga (editor-in-chief of Loft the Nordic Bookazine)

SEPTEMBER 22 'TOMORROW'S DESIGNERS':

'How can design education prepare designers for tomorrow's challenges?' speakers:

Ian Capewell (Practical Action), Tracy Bhamra (Reader in Sustainable Design, Loughborough University) & Emma Dewberry (Open University)

INTERVIEWS (In order of contact from July to October 2008. Please view Appendix A to read all the interviews)/

IN PERSON INTERVIEWS

- > Anna Gerber (BA Graphic Design Tutor at London College of Communication, UK)
- > Noel Douglas (Senior Lecturer, University of Bedfordshire, UK)
- > Patrick Roberts (Head of Graphic Design, Camberwell University, UK)
- > Darren Raven (Lead Tutor, FdA Design for Graphic Communication, London College of Communication, UK)

- > Sian Cook (Leader of BA Honours Graphic and Media Design, London College of Communication, UK)

TELEPHONE INTERVIEWS

- > Joshua Blackburn (Founder of Provokateur design agency, UK)
- > Caroline Clark (Founder of www.lovelyasatree.com, UK)
- > Jimmie Stone (Executive Director of Green Team, NYC USA)
- > Marty McDonald (Creative Director at Egg, Seattle USA)

EMAIL CORRESPONDENCES

- > Eric Benson (Assistant Professor of Graphic Design at University of Illinois School of Art, USA & founder of www.re-nourish.com)
- > Teena Clerke (Doctoral candidate at University of Technology, Sydney, Australia)
- > Leslie Becker (Professor in Graphic Design, California College of the Arts, San Francisco, USA)
- > Eden Potter (Designers Institute of New Zealand Associate Member, Education Sector and AUT University's School of Art & Design, New Zealand)
- > Mike Harkins (Senior Lecturer BA (Hons) Graphic Design, University of Portsmouth, UK)
- > Beth Koch (Assistant Professor of Design, University of Minnesota, USA)
- > Steven McCarthy (Professor of Graphic and Interactive Design, University of Minnesota, USA)
- > Sarah Sandman (M.F.A Graphic Design Student at Rhode Island School of Design)
- > Eva Anderson (Tutor at Rhode Island School of Design, USA)
- > Tracy Bhamra (Reader in Sustainable Design and Leader of the Sustainable Design Research Group, Loughborough University, UK)
- > Laura Chessin (Associate Professor, Virginia Commonwealth University, USA)
- > Brian Dougherty (Author of upcoming book 'Green Graphic Design' & founder of Celery Design Collaborative, USA)
- > Ellen McMahon (Associate Professor, University of Arizona, USA)
- > Tony Fry (Director of Team D/E/S, founder of Eco Design Foundation, Adjunct Professor to Griffith University & author of 'Design Futuring',

Australia)

- > James Faure Walker (Reader, SCIRIA, Camberwell College, UK)
- > Stuart Medley (Professor at School of Communication and Arts, Edith Cowan University, Australia)
- > Phil Jones (Associate Professor, Arts Institute at Bournemouth, UK)
- > Jonathan Baldwin (Professor at School of Design, University of Dundee, UK)
- > Clare Bell (Dublin Institute of Technology, Ireland)
- > Peter Nicholson (Executive Director of Foresight Design Initiative, Chicago Sustainable Business Alliance, USA)
- > Kate Lamere (Assistant Professor of Graphic Design, East Carolina University, USA)
- > Peter Fine (Assistant Professor of Graphic Design at New Mexico State University & co-author of 'Eco-Graphics', USA)
- > Melanie Wiesenthal (Graphic Design adjunct professor at Parsons School of Design & co-author of 'Eco-Graphics', USA)
- > Holly Robbins (Co-founder of the Minneapolis College of Art and Design's Sustainable Design Certificate Program, USA)
- > Jess Sand (Founder of Roughstock Studios)
- > Scott Boylston (Graphic Design Professor at Savannah College of Art and Design, author of 'Creative Solutions for Unusual Projects' 2001 & author of upcoming book, 'The Complete Package', USA)
- > Dani Nordin (Founder of Zen Kitchen communication studio)
- > Robert Veliz (Strategy Director SODO creative, LLC, USA)
- > Yoko Akama (Tutor of Communication Design, School of Applied Communication, RMIT University, Australia)
- > Emmi Salonen (Founder of Emmi Design practice, UK)
- > Kristina Börjesson (PhD thesis 2006, 'The Affective Sustainability of Objects' completed at Central Saint Martins College, UK)

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- *Design for Social Change: www.arts.arizona.edu/change/arts.html* (educational body)

- *Design for Social Impact: www.dfsi.org* (company)

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- Design Observer: www.designobserver.com (informative platform)
- Design Philosophy Papers: www.designphilosophy.com/dpp/home.html (informative platform)
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- Forest Stewardship Council: www.fscus.org/paper/ (informative platform)
- Forum for the Future: www.forumforthefuture.org.uk/ (informative platform)
- Higher Education Funding Council for England: www.hefce.ac.uk
- Icograda : www.icograda.org (informative platform)
- Implementing Designism: www.implementingdesignism.org (designer)
- Johnson Banks: www.johnsonbanks.co.uk (blog)
- Lovely as a Tree : www.lovelyasatree.com (informative platform)
- Massive Change: www.massivechange.com (informative platform)
- Project M: www.c2llc.com/projectm.html (educational body)
- Provokateur: www.provokateur.com (company)
- RED Design Council: www.designcouncil.info/mt/RED (informative platform)
- Renourish: www.re-nourish.com (informative platform)
- Redesign: www.redesigndesign.org (conference/ exhibition)
- RSA: www.thersa.org (Sir Ken Robinson Talk)
- Social Design Site: www.socialdesignsite.com (network)
- Sustainable Design Network: www.sustainabledesignnet.org.uk (educational body)
- TED: www.ted.com (online lectures)
- The Centre for Sustainable Design: www.cfsd.org.uk (educational body)
- The Designers Accord: www.designersaccord.org (informative platform)
- The Graphic Alliance: www.graphicalliance.org/about.php (network)
- The Graphic Imperative: www.thegraphicimperative.org (conference/ exhibition)
- Thomas Matthews: www.thomasmatthews.com (company)
- Three Trees Don't Make a Forest : www.threetreesdontmakeaforest.org (informative platform)
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