The 6th edition of the BunB conference will be held from August 21 to 23 of 2017 in Plymouth, UK. Produced by i-DAT in collaboration with the Sustainable Earth Institute and Art and Sound at Plymouth University, BunB17 is being produced in collaboration with the North Devon’s UNESCO Biosphere Reserve, Beaford Arts, the Eden Project and Fulldome UK.


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Abstract: Activating Expectations, Design Change

From fashion to furniture, magazines to medical equipment, airplanes to auditoriums, design infiltrates and influences every aspect of contemporary life. But if the benefits of good design are to continue to enhance our lives practically and aesthetically then we must change our views on education for sustainable design in order to meet the greatest challenges of the 21st century. In the transdisciplinary understanding of art and design education today, sustainability issues and approaches are viewed as a complicated series of relationships, some of which go back to the early twentieth century. Art and design is a radically diversified field concerned with as many processes as concepts. This paper will endeavour to understand some of the trends, developments and responses within art and design practice in recent years, it will assess how our conceptions of art and design are relevant to the problems surrounding global debate on the future of the planet and whether art and design can play a meaningful role in the future in terms of education for sustainable development (ESD). Modern lifestyles and material cultures made possible by design are now so deeply implicated in unsustainability that a re-writing seems inevitable not only of design history but aspects of art history too.

Key Words: Change Making, Descriptive/Empirical/Validity/Design/Art

Introduction

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This piece will endeavour to understand some of the trends, developments and responses within art
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Modern lifestyles and material cultures made possible by design are now so deeply implicated in un-
sustainability that a re-writing seems inevitable not only of design history but aspects of art history
too. Conversely, a revitalised, critical history could play a major role in providing an intellectual
framework for new, re-directive art and design practices, as it is apparent that the old political,
cultural and material lifestyle debates no longer apply.
How has the teaching of art and design been influenced by increased awareness of the issues
surrounding sustainability? How are students responding to the deluge of information regarding our
future on the planet and the growing concerns of politicians, educators, academics and business
people?
For art and design educators, endeavouring to produce new creative thinkers with the ‘old
theoretical tools’ has become extremely difficult and in many instances wholly inappropriate. Now
the thrust must come from developing new thinking tools, which are adaptive (not Fordist- Henry
Ford (1)) and link to all disciplines.

Much of western art and design has evolved over recent decades through engagement with matters
like class, gender and the postcolonial. In turn, critical art and design histories have contributed to
new ways of understanding the world around us.
Sustainability education has helped check some undesirable trends by constructive engagement with
sustainability issues. This has paved the way for developments in which higher educational learning
can best harness new thinking and embrace change within the context of the art and design
curriculum.

Design historians are well aware of the role design has played in making the modern world. Design
histories have used and perpetuated ways of thinking that have fed directly into current,
unsustainable design practice, including notions of progress, newness, and obsolescence, ‘iconic
design’, and the star-designer or ‘starchitect’ (term used to refer to star designers and architects)
(\url{http://famousarchitect.blogspot.com/2008/01/36-starchitect-definition.html})
Historians of design and art need to consider the implications of their value-systems, for they have a
deep influence on practice. Climate change, resource depletion, and pollution will lead to major
changes in modern lifestyles in the near future, this will greatly impact on art and design (material
and production). Thus artists/designers/students and those that write about art and design, have a
major ethical and professional stake in the transition and the direction this will take. We find
ourselves gripped by a global economy unable to maintain the rate of lending, and we are regularly
reminded that we are over the ‘tipping point’. The consumer culture we have become so
accustomed to, finds itself under threat due to the reduction of disposable income and a massive
decrease in production. So, as designers of consumer goods, products and services re-evaluation
would seem the most appropriate form of action.
The notion of ‘self-policing’ (making informed decisions regarding the use of materials, and concept
structures within design) has, in effect, led the design community to question not only the role of
the designer, but also design as a whole.
Perhaps what is needed is a new, more critical, ethical and cultural art and design commentary that would play a major role in providing an intellectual framework for a new, re-directive, transformative culture of art and design educational practices. A cool transparency that could have the potential to ensure that artists and designers who leave the higher educational establishments still have validity in these times of crisis.

The designer Tad Toulis (of ‘Product Studio’, Seattle, USA) has championed an argument urging the practice of design to be re-evaluated to ensure its survival. Posted on the Core77 website Toulis composed an article entitled UGLY: How Unorthodox Thinking Will Save Design: (http://www.core77.com/blog/featured_items/ugly_how_unorthodox_thinking_will_save_design_by_tad_toulis_11563.asp) He suggests that with the correct approach and consideration, the issues design faces today can result in creative outcomes set to define a new era. For example, the proliferation of contemporary furniture designers who play with the ‘aesthetics of the unorthodox’. ‘High design’s recent fascination with the aesthetics of the unorthodox has given rise to some of the freshest design proposals of recent memory’

Toulis (2008)

These radical designs are poised defiantly against the backdrop of modernity, where functionality and rationality once took pride of place amongst the ‘checklist of design’. However these newer works labour within an entirely different manifesto. It is to describe the fresh and unorthodox approach to aesthetics and new design thinking that Toulis has coined the term ‘UGLY’, not in the sense that it is aesthetically removed from beauty (though some will argue that it is), rather that it has re-evaluated the marriage between aesthetics, functionality and rationality. These works are used as ‘lessons’ in acceptance, in a profession that Toulis believes has become bogged down and stifled through artistic indoctrination and old notions. The ideas and emphasis within How Unorthodox Thinking Will Save Design is that our design achievements, with hindsight, have brought us to a situation that no one would argue is perfect.

The pursuit of ‘consumer culture’ has (within its own parameters) been successful and the evolution of ‘pretty’ objects has worked to serve the purpose of capitalism, manifested in fashionably desired goods. In this context the creation of these goods could be deemed a success. We must acknowledge at this point that consumer goods remain the driving force behind our economies. However, as a design model, this is hardly compatible with the sustainability that needs to be imminent in design. Ideally, design and sustainability should in essence, be one and the same thing. The notion of continuing within the same ‘criteria guidelines’ which have been laid down up until now isn’t the method best suited for issues which, in many ways, result from our prior efforts. The consumer culture market is a direct result of the relentless conveyor belt of product creation.

As artists, designers and consumers we must all realise our involvement and take responsibility. What critical strengths and weaknesses, within art and design sustainability-related curriculum can we use or discard? Western art and design history is littered with examples of great insight into the future of our planet. The industrial revolution of the 19th century witnessed a plethora of ground-breaking design across many disciplines, including the work of Henry Ford (bio thinking), William Morris and John Ruskin. During the fifties, many designs carried a post-war, minimalist, ‘less is more’ feel illustrated by the work of designers such as Harry Bertoia and Ernst Race: (http://www.designmuseum.org/designinbritain/ernest-race)

Fundamentally this is unintentional sustainable design. The post-war designs of the fifties were relatively sustainable, but not for the benefit of the environment. It was essential to ‘save and make do’ during the war as a lack of available materials and the technology to mass produce forced designers to minimise materials and make simple forms that could be flat-packed and reassembled easily.
Environmental concerns became more political in the sixties and the seventies impacting on industrial/product design and general art, installation and site-specific landscape work (location work). Victor Papanek’s *Design for a Real World* (published in 1971) is an example of these trends. He suggested that ecological awareness by designers and the processes used in design were important; he also made designers consider their responsibilities instead of designing for commercial interests.

A sudden rise in the price of oil, the rise of the green movement, Friends of the Earth and the popularity of ‘minimal art’ but also ‘performance and happenings’ all contributed to increased awareness of environmental issues in the early seventies. Deepening concern about decreasing levels of the world’s natural resources led to designing products/art that consumed a reduced amount of energy but focused on a high level of ocular delight.

We need to revisit and refocus our effort on affecting change in ESD by looking for opportunity in art and design both past, present and future for embedding sustainability in curriculum, teaching and learning.

The conceptual/minimal nature of much of art practice during the sixties and seventies, early video-film production etc. (particularly experimental work), was very important to the development of computer art, techniques, programmes, and software that we now take for granted within art and design practice. We have experienced an unprecedented explosion in ‘computational culture’. What is unclear is the extent to which our computer dependency is necessary or in fact desirable and whether or not it is adding to a more sustainable practice. Are we ‘better-networked’ and better able to exchange rapidly prototyped thoughts and objects through the medium of the Internet? Are we, through the power of algorithms, ‘democratising the design process’? In the visual domains of rule-based systems, dynamic graphic and algorithmic art are new aesthetic vernaculars being forged and are they more sustainable?

They are if our levels of energy is consistent, our new government scientific adviser David Mackay says we will experience power cuts as early as 2016!

If we consider this ‘forged’ aesthetic as a restricting progression as much as it is broadening the possibilities, we have an interesting conundrum. Much of the push to a new ‘intersectional’ (inter-discipline thinking) approach to design thinking and sustainable curriculum development, is driven by a need to maximise possible informational exchanges, rapid prototyping ideas and thus spreading the uptake of sustainable thinking knowledge and material use etc.). Nonetheless, to strip the issue down to the most simple of comparisons, can you design more effectively with a pencil or a PC? This is a highly subjective question and in the case of craftsmanship, the introduction of technology is a relevant debate. However, through use of the computer, inspiration is readily available and even boundless. In many ways, the computer, via the Internet, allows the designer to call upon varying sources, enriching the design process. It is the ‘flow’ that empowers the art and design process.

Through computational culture, rapid prototyping is now a real possibility, with sites such as [www.zapfab.com](http://www.zapfab.com), [www.firstcut.com](http://www.firstcut.com) and [www.shapeways.com](http://www.shapeways.com). Through sites like these, the barriers of production and suitability within the marketplace have been lifted or broken down. One of the developments we are keen to take forward at the University of Plymouth is the creation of small networks which students can ‘plug into’ (using prototype machines to create work, linked to CNC, cutting devices) after their educational experience. This will allow a sharing of resource/material/expertise in small designer communities, organising and co-creating, certainly an economic sustainable solution, to shared making.

The technological education available to anyone with a computer has resulted in the consumer becoming as technologically savvy as the designers themselves. The power to mediate the experience is being broken down through the understanding of technologies. For example, it is
possible to hack the *iphone* in order to enhance the performance, as the consumer deems necessary.

There are interesting warnings about how the designer’s relevance is now in question as we live in a culture that has already turned its back on record labels and network television in support of *Itunes* and *YouTube* and *Spotify*. These new elements (hacking/mash ups) within arts practice are about choice and relevance as much as they are about new technological development. For example, the British artist David Hockney chooses to draw with *iphone* and use a pencil (3). In relation to ESD, some ‘open source’ networks are very useful, providing the free exchange of materials, ideas and a virtual object market place. We actively encourage our students to use these networks as the conversations are informed and highly valued and small networks grow out of shared objectives and a sharing of knowledge and equipment.

It is not difficult to predict a bleak outcome for design if we fail to re-evaluate what we have - up until now - considered common practice. Yet, the reality of implementing change is that numerous obstacles are encountered. What is clear though is that a rigorous system of re-educating must first be adopted throughout the design practice. In some quarters of the design community there is a developing methodology that encourages, openness and willingness to adopt views usually supported by other disciplines. Through doing so, it emphasizes the need to move in and out of these multiple disciplines, ensuring that our views are liberated from ‘single mindedness’. In many ways the approach appears embracive, positive and, more importantly, fresh. What we have to decide is whether art and design that rejects mindless consumerism can be embraced, by an overall consensus, to a level that still allows freedom and not just doctrine. Whilst many individuals realize that much of what they purchase is not essential for their survival or even basic human comfort, but is based on impulse, novelty, a momentary desire, they also realize that there is a hidden price that nature and future generations will have to pay.

In 2005, Antony Dunne (a partner in the design practice Dunne & Raby) argued that the technological advances we hold to be so revolutionary within western society today only scratch the surface of possibility. Focusing on the social gains that can be realized through electronic objects, and re-evaluating our experiences through subversive design, can, Dunne explains, lead us to a holistic design experience needed in order to mirror our current culture. Dunne’s *Hertzian Tales* were developed between 1994 and 1997 it was first published through the Royal College of Art in 1999. They consist of two main parts: six essays exploring design approaches for developing the aesthetic and critical possibilities of electronic product outside a commercial context (chapters 1-6), and five conceptual design proposals expressed as objects, videos, and images, by-products of an investigation into a synthesis between practice and theory, where neither practice nor theory leads (Dunne, 2008: p 37)

One of the elements within *Hertzian Tales*, is that as consumers we value the electronic object on the basis of its interactive, user-friendliness. It is difficult to identify a machine that was not designed in order to ease our mediated experience.

Am I a man or a machine? There is no ambiguity in the traditional relationship between man and machine: the worker is always, in a way, a stranger to the machine he operates, and alienated by it. But at least he retains the precious status of alienated man. The new technologies, with their new machines, new images and interactive screens, do not alienate me. Rather, they form an integrated circuit with me. (Baudrillard, 1988 cited in Dunne, 2005. p. 21)

We can argue that this represents the more sanguine point of view. However, we must also take into consideration the notion of mediated progression through thinking in relation to non-decision
making. If you apply this sociological theory of control, the electronic object in some respect embodies the false hope granted by the political ruling powers, in order to control free will through a blanket of farcical possibility.

Camcorders have many built-in features that encourage generic usage; a warning light flashes whenever there is a risk of “spoiling” a picture, as if to remind the user that he or she is about to become creative and should immediately return to the norm. (Dunne, 2005, p. 22)

This highlights how mediated we are in terms of thinking we’re being creative! The recent glut of affordable, easy to use digital camera technology has created a situation where many amateur photographers allow the camera to dictate a creative agenda. The consumer has relinquished control on the assumption that the equipment is more knowledgeable about the subject than the artist. You could argue that high street retailers supply cameras with the primary goal of interactivity, rather than creativity.

In contrast, there are many examples of creative exploration using limited technological aid. This may seem to contradict what has been previously stated, but within art and design practice, both ‘opportunities’ are given validity. For example, some photographers choose to work with ‘primitive equipment’ and antiquated photographic techniques in order to produce purposely ‘flawed’ or ‘retrospective’ results.

The design practice (www.droog.com) (Bootleg Objects) cleverly exploits the emotional draw of nostalgia successfully combining the advantages of contemporary technology with aesthetic design. Clearly appropriated from well-known classics, the look of the furniture and domestic items is reassuringly familiar but the internal mechanics have been completely re-evaluated and deconstructed. The result is a collection of entirely new objects. However, they remind us of rationality, and the application of form through the iconic aesthetics. But we are asked to consider these objects with a sensibility that contradicts the aesthetic, not remaining focused primarily on the packaging and the appropriation.

‘Why should I invent new forms if reality already offers so many fantastic images, so many special solutions. As a designer I only have to discover them and to restructure them into new stories.’ (Bey, 2006 cited in Schouwenberg, 2006, p36)

It is the play on existing images, which helps to bring us back to a state in which we recognize, empathise and understand. It is the ambiguity of contemporary product-design that can leave some feeling disconnected. Familiarity or a sense of ‘nostalgia’ can help us overcome these feelings of alienation and confusion by connecting us to a process, or processes that are supportable (reused from existing objects).

This need to make visual or sensory connections with the past is partly responsible for our readiness to embrace innovative interactive technology as a substitute for traditional forms of communication. In his book Designing Interactions (www.designinginteractions.com/), Terry Winograd of Stanford University, explains why the domestic computer has been so successfully assimilated by contemporary society.

“The desktop and the mouse have really dominated the way we interact with computers, pretty much the last twenty years. We think of it as sitting down, interacting by doing things with our hands, primarily typing, because that’s a very efficient way to get large quantities of text in, and also by pointing, dragging, moving, and drawing, and so on.” Winograd (2007 cited in Moggridge, p: 460)
This form of interaction works rationally and functionally. The core elements within the design are helping the user by making the most of what we as humans already consider strong interactive skills, our passive sight and our proactive and dominant interaction - touch. Through these basic principles the computer, complete with interaction, grants the user an experience. On the other hand, this experience is restricted to pre-constructed outcomes, denying certain senses thus restricting the experience.

Some of the works discussed in Hertzian Tales explore the interpretation and role of aesthetics and how they help to create ‘experience’. At the UK Royal College of Art (RCA) in the early 1980’s, the Department of Industrial Design began numerous innovative projects on the premise of representation and interpretation, rather than interaction or functionality. Designs that were taking place throughout this period moved away from the practical solutions demanded by the manufacturing sector. The similarity between the work which came out of the Industrial Design Course at the RCA in the 1980’s, and today’s celebrated, ‘high-end designer furniture’, is that we are asked to experience the design from a more holistic perspective. The intersecting combinations represent the world we live in today where nothing is black and white, rather a confused but engaged, shade of grey. In the light of this a handful of designers choose to methodically construct their work in the order, ‘comment and then question’. In the 53rd issue of ‘Icon’ magazine German born London based designer, Julia Lohmann, was presented on the front cover. Lohmann’s view towards design, and how it manifests itself within society, is compelling. The Lasting Void was one of numerous stools designed for ‘Galerie Kreo’ in Paris. The object was constructed by pouring plaster into the cavity of a calf (the calf having died of natural causes). The cast that was left demonstrated the “void” found within the pre-butchered carcass on its way to becoming a consumer product. The article’s appeal encompasses the debate, which is captured through the words of Christine McGuirk. ‘She is one of only a handful of designers today whose work comes with a social critique of any depth’. (McGuirk, 2007, p56).

Social and psychological ethics and morals are put into focus in a way, which clearly makes some feel uncomfortable. Within design, issues being addressed don’t tend to be so brutally pronounced. A large proportion of design issues and designs which tackle them, such as sustainability and economic regression, don’t contain the aesthetics that relay such poignant recognizable images. The Lasting Void has very little function, but to transport the user back to the starting point. It has to be said that there is nothing new in the ideas expressed by Lohmann, embodiment, positive, negative spaces, but it is just this reworking on old ideas and setting them in new contexts (art ideas into design) which is of interest, because it makes comment and is issue directed. The interest is in the ambiguous relationship between art and design and the work clearly incorporates design philosophy and sculpture. It is also apparent from this marriage of ideas, that the connection between art and design generates a new experience, and the basic function works through sensibility in the correct context. Do we need to continually critique our approach in this way? Maybe not, but it highlights that it is the availability and issue based nature of the work that breaks down barriers in some respects. Bruno Munari explains, in Design as Art, that it is the positioning of design, which makes it the perfect tool for conveying your message.

The Designer of today re-establishes the long-lost contact between art and the public, between living people and art as a living thing. Instead of pictures for the drawing room, electric gadgets for the kitchen. (Munari, 2008, p25)
It is interesting how, as designers/artists, we work within a supplementary process. Interaction between the design and the user/audience on some levels it is almost always key within the design process (4). The final product has a duty to incorporate an element of consumer needs whether designing a light or a garden spade. The success of the product rests primarily on how suitable the designs blend into our lives. However, concerning art, the process of creation works autonomously,
or at least some of art production does. The work of Gamper, Lohmann, Tjep, Mike and Maaike to name but a few, fail to rely on consumer participation in a classical manner. What you get from Mike and Maaike’s ‘Juxtaposed: Religion’ shelf: [http://www.gnr8.biz/product_info.php?products_id=339](http://www.gnr8.biz/product_info.php?products_id=339) (Generate LE, 2009) isn’t a conventional shelf that enables you to hold your own book collection, but a message of equality, acceptance and celebration, focusing on an issue such as religion using the language of design? The subjects/issues being tackled give the objects the function. To remove function from design opens the design up for interrogation, and rightly so. But once you start to examine the ‘issue’ you realise that the function of the piece is to interact with it not only on a functional level but an intellectual level as well, adding value, adding surprise.

*Do we have to restrict/abandon the way of making to truly fulfil the ambitions of education for sustainability?*

The central claim made about modern art—the one on which all others depend—is that it is an autonomous field of practice. Art, the argument goes, strives to stand apart from the interests that are everywhere manifested in the rest of the world. To the degree that it succeeds, it is a zone of free practice. Both at the level of the individual art work and that of the total field (modern art itself) it can achieve independence. Adamson (2007, p9)

To a certain extent this may be true. However, art has, throughout its early history, been exploited in order to serve the needs of others (sustainable income for artists and designers, or powerful images for those in power!) There are many examples of art being expressed in such strong, forceful and poetic terms as to change periods of history in a radical and affirming way, I would argue this has always been ‘sustainable’ as we know the term now. In some ways the early twentieth century ‘micro movements’ (Dada, Surrealism, Arte Pov’rre, Fluxus generated through word of mouth and specialist interest mixed with public exhibition, have given us much of what and why we value in the power creativity set. ([http://sdrc.lib.uiowa.edu/atca/subjugated/one_2.htm](http://sdrc.lib.uiowa.edu/atca/subjugated/one_2.htm))

It is also worth mentioning how when politics disrupts what Adamson calls, ‘autonomous field of practice’ (Adamson, 2007, p 88) perhaps more interesting things have happened. His views, it has to be remembered, are predicated by, an American fine art training, during the early seventies, the days of Greenberg et al.

As a design profession and educationalists we must re-evaluate to understand what purpose we wish to fill. We perhaps need to radicalise our education to regain our sense of experimentation and fun. Realising that the products we create, contribute to powerful economies, gives us a unique position. Consequently, our students need to have the ambition to change these relationships and have the confidence to pursue a different agenda. The sad part of this reality is that due to the demands of markets, a vast quantity of design plays upon the weaknesses of the consumer. To design in this way undermines the profession. This does not mean that all designs must go deeper than face value, as there are many forms of design, which meet the needs of the consumer instead of their desires. In ‘Humble Masterpieces: 100 Everyday Marvels of Design’, compiled by Paola Antonelli (2006) we see outstanding design which has revolutionised how we live. So we realise that not all design is to be condemned and in fact the more socially useful and socially inclusive the design the better it functions.

We have to question in art and design teaching the function and indeed the irrationality of the design strategy. The *Smell Blind Date, Lasting Void, Droogs Bootleg Objects, Four Boxes and One Radio and Juxtaposed: Religion Shelf* ([www.droog.com/products](http://www.droog.com/products)) all question the role of design and whether designed objects must meet some form of strict criteria. What these designs do is recognize the need to think on a bigger scale, to question the past, the present and the future. Much of this is what students need to know first hand, as experience and as a new first principle.
The introduction of the concept behind the design doesn’t have to result in the object’s removal from function or beauty, or even both. However, in the cases of the designs mentioned it has been the removal of one of these elements, which forces the message to exert itself as the purpose of the object. It is important to stress at this point that conceptual designs like these only work because their function is to question. They are in essence validated due to the concept, thus the removal of the obvious function can be justified. As for the Smell Blind Date, the purpose of the design is to question the exclusion of certain senses. This is important because the vast majority of designs don’t work in this way. As Martino Gamper states, his work has adopted the language of art, but he remains a creator of furniture. (Gamper, 2008) (http://www.gampermartino.com/) The question of whether he is more of an artist or a designer is in every sense futile. What we know, is that the work he produces comes from the simple desire to create. Both art and design succeed when they provide us with symbols that re-categorize things and people in ways we find useful. It is this usefulness, not a connection to a world beyond all categories that we actually seek when we generate both theories and art/design works. Notice that we do in fact stop our seeking when we achieve this kind of satisfaction.

Conclusion
Can we change our views on education for sustainable design to meet the greatest challenge of the 21st century? The problems surrounding global debate on the future of the planet are complicated, that’s for sure, can art and design play a meaningful role in the future, lets hope so, but in terms of education for sustainable development (ESD) surely it needs to. Some artists and designers have the skill for making new connections, pulling together strands from different fields and integrating them into new ways of looking at the world (5). These men and women should be more in demand by global strategy departments, governments and producers, who prize the ability to tackle complex problems through synthesis and expert assumptions. Much of the work we do with our students at the University of Plymouth is about creative thinking, being able to approach complexity with an open mind and an ability to utilize the skills of others. Whilst the media often presents a stream of negative stories relating to unsustainable trends, it is good to remember that change throws up opportunities as well as challenges. If we shed the blinkers for a moment and see the world differently there are many positive shifts. These include the mainstreaming of design in business and the public sector, better understanding by designers of the problems facing the developing world and design companies taking on the initiatives of socially inclusive projects. A good example of this is The Green Heart Partnership, an initiative between Arts Council England, East and the eleven local authorities of Hertfordshire that aims to achieve growth and partnership between the arts and environment sectors. The project is aiming to effect social change through policy development and realise creatively led capital development through informed joined-up decision making designs for the Hertsmere shelters?). Through initiatives like this we are being offered an opportunity to drastically expand the frontiers of design, while embracing the concepts and issues surrounding the challenges of the 21st century. www.greenheartpartnership.com
Students of higher education within the creative arts and the educators of those students need to hone their ideas and creativity and focus on:

*Constructive engagement*, which uses design as a social catalyst and brings divergent cultures towards engagement.

*Cool transparency*, which employs openness and co-design techniques.

*Rapid proto-type ideas*, which can be created quickly and are easy failures (failures which are not costly and can be speedily corrected).

*Organise and co-create*, that is, engage with networks through smart use of technologies, nurture meaningful dialogues and finally, share assets across networks and knowledge that has use for all, even at a higher level.
The recent economic recession combined with a rise in media coverage relating to eco issues has intensified public awareness of the pitfalls of consumer culture. Increasing numbers of people are beginning to make informed decisions about the necessity of their purchases. Designers who decide to work within a set of strict moral and ethical boundaries are in a great position to attract a more mainstream audience than would previously have been feasible.

Increased interest by growing numbers of consumers, combined with a more prominent position of ethically-designed goods, could lead to a movement away from mass-marketed, disposable goods, and a return to an appreciation of high quality goods that are long-lasting, useful, beautiful and socially responsible. So the future is up for grabs, the trick will be to spend less time thinking about what we do now, and more time on what is changing out there in the world and responding to it with invention. As Charles Eames famously stated, ‘Design depends largely on constraints’ (Eames, 2000, p 175).

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Notes
1: Many design historians are use Henry Ford as an example for conveyor belt production, thence Fordism versus Taylorism, many forget he was a particularly insightful thinker and developed many highly principled ideas for early bio-thinking; in terms of fuel and production techniques.

2: The Bauhaus was a ‘power house’ of ideas and design educational know how, its early manifestation was a direct result of the crafts guild system plus a ‘healthy’ influence from William Morris, its later transfiguration informed much of the American art school system after the second world war.

3: David Hockney, the British artist much famed for his graphics, paintings, theatre designs and not forgetting his campaigning for the right to smoke! He has always valued new technologies and their usefulness to the creative act, from faxes, to Polaroid’s, to the i-phone. He has also contributed greatly to the understanding of how paintings were constructed through the 16th and 17th centuries.

4: In some respects the emphasis in design is shifting to behaviour as narrative experience stimulated by design of new functions and these link to the more complicated pleasures of literature and film, rather than the sculptural, a more traditional reference for design.

5: This is debatable but if you believe, as I do that art (the creative act) is fundamentally about freedom then, to make connections and gain better/new understanding of ourselves is and has been, will continue to be, a part of the ‘art exchange’ experience.