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Design for Learning

a guide to the principles of
good curriculum design

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The
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Design for Learning

a guide to the principles of good curriculum design

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*Photo of Ryoan-ji Temple Garden, Kyoto, Japan
by Stephane D'Alu, 2004*

Design for Learning
a guide to the principles of good curriculum design

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Mahatma Gandhi once stated that "we must become the change we want to be".
If, as "architects" for education, we want to become the change we want to be,
we need to return to the basics of good design.

Pamela Loeffelman (2001)

Introduction

Teachers in higher education are continually required to design and re-design modules and courses. This paper argues that without a grounding and understanding of the principles of good design, it is predictable that curricula will be created that do not function as effectively as they might. Also, it is likely that those that creating them will tend – with the best intentions - to replicate that which is familiar: whether it works or not.

In the industrial and commercial world, design has become an increasingly important strategic factor in enabling companies to achieve and maintain a sustainable advantage. This is not design in its superficial, 'make-over' sense, but the principles of good design being applied to all aspects of an organisation's products and processes. The highly regarded German company Braun has articulated these principles which are deeply-rooted in the firm's core values and corporate communication. The following ten principles of good design are adapted from Braun's approach, according to which good design is Good design

- **is innovative**
- **enhances the usefulness of the product**
- **is aesthetic**
- **displays the logical structure of a product : its form follows its function**
- **is unobtrusive**
- **is honest**
- **is enduring**
- **is consistent right down to the details**
- **is ecologically conscious**
- **is minimal design**

Though clearly developed for the type of products Braun develops and produces, the principles are, or should be, applicable to any product, including the curriculum. This Guide attempts to interpret and translate the Braun design principles into the context of curriculum design.

Good Design is innovative

Innovation involves a fashioning of existing materials, methods and processes into new or adapted forms to meet the needs of a changing environment. This does not mean change for the sake of change. Innovation often becomes confused with originality. The latter is genuinely new, radical, revolutionary. As such, it often has a 'shock of the new' effect and, at first, is frequently rejected, ignored and maligned. Innovation is more evolutionary.

innovation

Innovators create, adopt, adapt to meet the needs of a changing environment

Authentic innovation or madcap scheme?

Context is all….. including institutional structures and pressures, as well as disciplinary and professional cultures

Environment

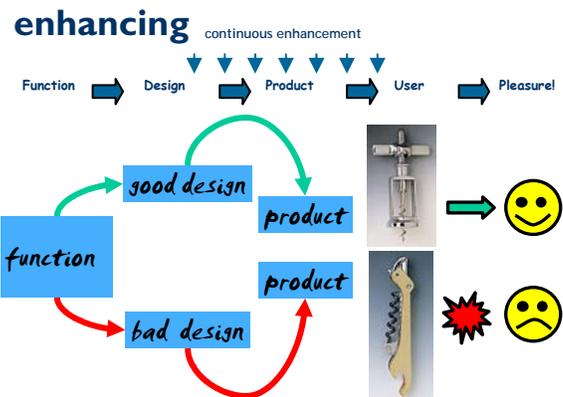CHANGE

People   Systems
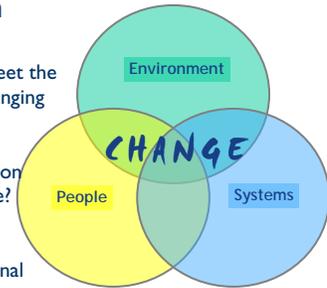
More?………Different?………
or Better?

Innovators create, adopt, adapt… The adoption of something new developed elsewhere inevitably involves adapting to the needs of students and teachers, resources and environments. Whatever the origins of an initiative, 'in their circumstances' means people interacting, in contexts that include institutional structures and pressures, as well as disciplinary and professional cultures.

Hannan and Silver (2000)

A curriculum is 'innovative' only in that it is generally accepted as such by the domain in which it is situated. An authentic innovation in one sphere of activity can be a certifiably madcap scheme in another. True innovation in curriculum design should be used in order to express educational and functional innovation in the appropriate form.

Good Design enhances the usefulness of the product

Think of a product, such as a corkscrew, that you have either loved or hated. There are products that are supposedly designed to function but require a lot of, sometimes painful, effort. There are products that are designed to function well with a bit of effort. And there are products that are designed to function excellently, with minimum effort that, as a result, engender a sense of real pleasure and/or satisfaction in the user (see 'aesthetic' below).

enhancing   continuous enhancement

Function   Design   Product   User   Pleasure!

good design

function

product

product

bad design

"That which in itself has the highest use possesses the greatest beauty" (Shaker principle)

The notion of enhancement is now common currency within higher education. Enhancement entails continually seeking to improve the quality of the product and the quality of the "user experience". Real enhancement often can be achieved through designing and implementing small, evolutionary adaptations. The important consideration is that any enhancement must be related to the whole concept and experience (or process).

Enhancing the utility of any curriculum has to be considered in relation to all those who interact with it – students, teaching staff, and administrators. For example, a curriculum that provides a potentially wonderful learning experience for the student yet is highly problematical to administer or assess is only partially useful. Good curriculum design should aim to achieve the highest possible degree of usability and to optimise both the features of the curriculum and the process of using them. This approach ought to result in curricula that are appropriate to their purpose and meet the needs of the user.

Good Design is aesthetic

The theoretical physicist Anthony Zee in his book Fearful Symmetry: The Search for Beauty in Modern Physics (1999) states that he wants students to understand the aesthetic imperatives that guide physicists. He also quotes another eminent physicist, Herman Bondi, who had worked with Albert Einstein:

> What I remember most clearly was that when I put down a suggestion that seemed to me cogent and reasonable, Einstein did not in the least contest this, but he only said, "Oh, how ugly." As soon as an equation seemed to him to be ugly, he really rather lost interest in it and could not understand why somebody else was willing to spend much time on it. He was quite convinced that beauty was a guiding principle in the search for important results in theoretical physics.

> Bondi quoted in Zee (1999)

'Aesthetic' is not a word that appears regularly in discussions or documents on curriculum design. The aesthetic experience refers normally to the feelings of pleasure or displeasure that result from a regard of or interaction with a visual or aural artefact. Aesthetics involve the psychological and physiological effects of line, shape, colour, texture, tone, composition, context etc. Aesthetic appeal is also a cultural construct, a product of the zeitgeist.

Can any of this be applied to a curriculum? Can a curriculum have aesthetic appeal?

A curriculum is an artefact, constructed within a frame. It has form and structure. It has dimensions of space and time. It is 'experienced'. It may not have colour, as in a 'red' curriculum, but it is certainly tonal in the type, frequency and range of its content and delivery over a period of time. One can imagine a 'monotonal' (monotonous?) curriculum.

An important aspect of aesthetics is the notion of integrity: does it 'hang together' and work as whole? The concept of 'framing' is important here. The critical aspect of any design is the choices the designer makes, when faced with a mass of possible content, of what to place inside the frame and what to exclude. Once that difficult choice has been made, the critical decision then concerns how the contents within the frame are compose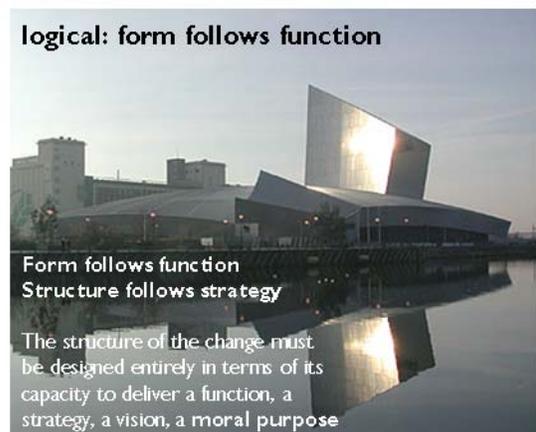d in relation to each other in order to create an integral and harmonious entity (constructive alignment?). Interestingly, and importantly, the integrity and harmony of the whole may be achieved, as it is in Zen art, by the disharmony of the individual elements.

aesthetic

Integrity: does it 'hang together' and work as a whole?
Framing, harmony, composition
Constructive alignment?

Ryoan-ji temple garden, Kyoto. Photo: Stephane D'Alu

The idea of designing a curriculum as an aesthetic 'object of desire' may seem curious and antithetical to the serious purposes of higher education. But to be able to design a curriculum in such a way that the experience of encountering and interacting with it evokes and provokes feelings of pleasure, fascination and excitement, is surely something to strive for.

Good Design displays the logical structure of a product : its form follows its function

This principle, first espoused at the Bauhaus and an essential element of design practice and education ever since, is certainly problematical for innovative curriculum designers faced with prescriptive institutional and regulatory frameworks. Higher education systems and time frames provide challenges that the curriculum designer and the curriculum itself have to meet. The task of creating a genuinely effective curriculum inside a two semester, modularised, 24 teaching week, 4 assessment week, 120 credits a year system, is liable to tax the skills and patience of even the most dedicated designer.

In order to meet this principle, as indeed most of the others, there needs to be agreement and clarity on the function of a particular curriculum. This is not at all straightforward. Ask six colleagues (or students) for a definition of their curriculum and one is likely to receive seven different responses. Curriculum can be characterised variously as content, and/or experience, and/or intention, and/or

logical: form follows function

Form follows function
Structure follows strategy

The structure of the change must be designed entirely in terms of its capacity to deliver a function, a strategy, a vision, a moral purpose

IWM North. Photo: Simon Glynn/www.galinsky.com

cultural reproduction. Published definitions of curriculum range from the complex to the minimalist, from the mechanistic to the organic, from the atomistic to the holistic. There is no single 'hold-all' definition of the curriculum, and therefore clarity about the function of a particular curriculum has to be achieved at a local level. Once clarity has been achieved, the curriculum designer's task is to develop the form that best allows that function to be fulfilled, and the best designers are able to provide creative solutions whilst sometimes working within very restrictive frameworks. If the form of a curriculum really followed its function then we might, for example, see the oft-stated commitment to 'student-centred learning' genuinely reflected in curricula that are centred on the student.

Good Design is unobtrusive.

A few years ago I had the pleasure of participating in a formal Japanese dinner. Each of the eight diners was allocated a personal 'dining assistant', each dressed in traditional Japanese clothes. They were so skilful that, although constantly present – bringing and preparing food and drink, re-arranging eating utensils, clearing away, changing napkins – they were the epitome of efficient unobtrusiveness. They were essential to the event, but their function was to enable the participants to enjoy the experience to the full.

An unobtrusive curriculum ought to function in a similar way, allowing the participants to focus fully on and gain maximum benefit from the learning experience, without noticing how it has been constructed, or having to worry about it. In my own field of performance design, for example, it has become a truism to say 'if the audience notices the lighting/sound/set of a play then the designer has failed'. The whole point of the design is to support the actors' presentation of the text and to enhance the audience's enjoyment/appreciation of the event. A good design should never unduly impinge upon or detract from the performance.

Good Design is honest

This is rather like the Ronseal "it does exactly what it says on the tin" advert that has now entered common parlance in the UK. Honest design is open, comprehensible and self-confident. It does not use and should not require tricks and stratagems to make the product appear to deliver more than it does, or seem more innovative or valuable than it really is. Honest design can be compromised by less-than-scrupulous marketing, or through application in an inappropriate context.

honest

"it does exactly what it says on the tin"

agree on and communicate your values

honesty is a transactional process

Any well-designed curriculum should be perceived, understood and experienced as fulfilling its prime function – whatever that function is commonly agreed to be. It should communicate clarity, integrity and quality. Honesty is a transactional process between two parties involving intention (to be honest), action (being honest), and perception (of being dealt with honestly). There are also important elements of trust, confidence and reputation built into this transaction that require time to be established. Honesty requires constant vigilance and regular verification through critical self-reflection and feedback, particularly in a changing environment. In the absence of these, honesty can of course be tested externally. Quality assurance can be seen as a retrospective test, by a third party, of honesty in the absence of trust.

In an educational environment in which the customer (the student) is increasingly value conscious, and in which institutions are judged on their ability not only to attract but, importantly, to hold on to their customers (student retention), honesty and building a reputation for being so may well be the best policy.

Good Design is enduring

Enduring is not the same as immutable. Some artefacts are built to last and not change. Such artefacts occasionally become known as 'timeless classics'. More often they become simply old fashioned. Other artefacts are designed with adaptability in mind. In fact 'designing-in' flexibility, and the ability to re-configure with relative ease, is a key characteristic of modern design especially where human interaction with the artefact is paramount.

Some of the best and most enduring designs manage to retain critical, instantly recognisable elements of the original whilst constantly adapting to meet changing conditions and expectations. Car manufacturers e.g. Mercedes, are particularly adroit at this

An enduring curriculum design is one in which the core configuration, the basic structure, is designed in such a way that not only does it meet the demands of the present, but will be able to adapt to the demands of the future without requiring a complete overhaul.

enduring

- enduring is not the same as immutable.
- 'designing-in' flexibility
- retaining core characteristics + constant adaptation

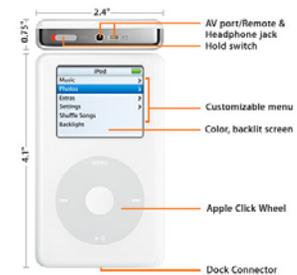# Good Design is consistent right down to the details

The writer Solzhenitsyn once described the process and effort of writing a novel as akin to walking a thousand kilometres. The difference, however, between a great novel and a mediocre one lay entirely in the last metre.

'It's all in the detail' is a cliché, but relevant none the less. It is often the small details that ruin a potentially good design. A malfunction or inappropriateness of a relatively small detail of the curriculum can adversely affect the user's experience of it and subsequent attitude towards it.

consistent down to the details

It is often the small details that ruin a potentially good design

Every element and procedure needs to be thought through and implemented in such a way that 'it works' – both in itself and relation to the whole. The manner in which a curriculum interacts with the institutional and regulatory structures is also important. Assessment procedures, feedback mechanisms, hand-in procedures etc. are all details that, if not carefully designed and implemented, can drastically reduce effectiveness and functionality. In the world of curriculum design the idea of consistency and connectivity might be interpreted in terms of the idea of constructive alignment (Biggs, 1999.

Good Design is sustainable

What might an 'ecologically conscious' curriculum be?

- It would be sustainable

- It would optimise use of resources (time, people, content)

- It would minimise waste (time, energy, materials)

- It would be sensitive to the local environment

- It would be able to adapt successfully to a changing environment

Good Design is minimal design

One of the most significant design principles is to omit the un-important in order to emphasise the important. Good design starts with identifying the essential element(s) of the problem, and building from there. It is not about being able to justify inclusion: anything can be justified. It is about really understanding the design problem, and focusing on the essentials.

Minimal design is not the same as Minimalism (the art movement of the 1960's) – though they are related. Though Minimalism's creed of rationality and objectivity, resulting in a reductive simplicity governed by order and clarity, may well be something curriculum designers may wish to emulate.

Minimal design involves a paring down to only the essential elements required to provide optimum function and aesthetic appeal. The IKEA creed of 'chuck out your chintz' (in favour of functional, 'cool' , minimal Scandinavian design) is a version of that philosophy. Though it would be perhaps unwise to describe a curriculum as 'chintzy', there can be no doubt that many curricula are burdened with an excess of material accrued over the years. I refer to this accretion process as the 'Barnacle Syndrome'.

minimal

- omit the un-important in order to emphasise the important

- simplicity, elegance, spare use of detail

- the use of quality materials, and a concern with essential functionalism

remember the barnacle !

As even the best designed ocean-going yacht, after weeks and months at sea, gathers barnacles around the hull that slow progress and make sailing heavy-going, so even the best designed curriculum gathers 'barnacles' over time: a new module here, new content there, assessment changes everywhere, etc.

In the case of the yacht, the answer is to put it into dry dock and undertake a complete overhaul and, if necessary, refit. This is impossible with a curriculum. We don't have the time between one cohort leaving and the next cohort starting. So what we do - through review - is tinker: with the result that often we end up moving the barnacles around instead of removing them.

Good design means as little design as possible. It is characterised by simplicity, elegance, spare use of detail, the use of quality materials, and a concern with essential functionalism – in both the physical and psychological sense. The achievement of a convincing, highly-functional simplicity and harmony is a difficult and skilled task. It is an approach that has little to do with economy or convenience. The alternative is, in fact, easier and, paradoxically, often cheaper. Good, minimal curriculum design ought to result in the creation of a relatively simple, elegant, functional, coherent set of learning environments and processes that, each and together, provide the optimum conditions for intellectual development and achievement.

As knowledge and content expand exponentially, the challenge for institutions and curriculum designers – in an increasingly competitive and expanding market-place - is to have or develop the skills to design curriculum that display all the qualities of the best product design. Academics may balk at the analogy, but developing and applying a high level of good design skills to learning and teaching, not only to the curriculum but also to the systems and environments in which it operates, cannot but enhance the quality of the learning experience for everyone engaged in it.

References
Biggs, J.B. (1999) *Teaching for Quality Learning a University*. Buckingham: Society for Research in Higher Education & Open University Press.
Hannan, A & Silver, H, (2000) *Innovating in Higher Education: teaching, learning and institutional cultures*. Society for Research into Higher Education and the Open University Press, Buckingham,
Loeffelman, P (2001) *Facility Planning: Designing for Change.* American School and University http://asumag.com/mag/university_facility_planning_designing/.
Zee, A. (1999) Fe*arful Symmetry: The Search for Beauty in Modern Physics,* Macmillan.