

THE AESTHETIC TREATISE CROSSING TWO (DIFFERENT) CULTURES AND DISCIPLINES IN EDUCATION

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ABSTRACT

The teaching of aesthetics in design and engineering has generally been argued to be important in enhancing the designers' sensitivities in developing products. Aesthetics is taught at the University of Botswana (Botswana) as a core course in undergraduate Industrial Design, and at the Technical University of Catalonia (Spain), Product Appreciation and Aesthetics is taught as a free elective course to undergraduate Industrial Engineering students. The two courses are compared in their content, approaches and effect. The aim is to learn from the different experiences, to interchange good working ideas between the two, learning how aesthetics transcends disciplines and cultures, and possible collaborative as well as student/staff exchange work will be proposed for future exploration.

Keywords: aesthetics, product aesthetics, cultural based design, Spain, Botswana.

1 INTRODUCTION

The recognition of the importance of aesthetics in design and engineering required a revision of the course material offered and teaching approaches adopted in these disciplines. The different design and engineering courses across the world have been integrating aesthetic notions in their curricula to address the evolving needs of industry and other consumers of designer's skills and knowledge. The Product Appreciation and Aesthetics course [1] was developed and introduced in the Industrial Engineering undergraduate degree at the Technical University of Catalonia (Spain) in 2003, and the recently introduced undergraduate Industrial Design course at the University of Botswana has Aesthetics as one of the core courses offered in its degree programme. The aim in either case was to introduce aesthetic sensibilities amongst the young students, with emphasis on practical design skills development, through project work. Wherever possible, the local context in terms of inspiration, knowledge and skills, as well as other available resources, were used to train the students in best use of resources at their disposal, as well as for development of contextually appropriate products. The effectiveness of these courses depends on their content, methods of delivery, consolidation of knowledge gained and more importantly, the application of skills and knowledge gained to successful product development.

2 COURSE STRUCTURES

2.1 Product Appreciation and Aesthetics at the Technical University of Catalonia.

The Product Appreciation and Aesthetics course was about introducing design concepts which have more to do with the more “humane” aspects of the products, i.e. addressing typical issues of how and in what context the user is likely to interact with the object. This course was developed specifically for engineering students, to complement their knowledge to be commensurate with the actual state and context of the consumers of possible products they would develop. The idea was to increase the designer’s sensibilities to everyday demands on the product, and these include the functional requirements, as well as the psycho-physiological aspects.

The material developed for the course [2] were structured as follows:

Theory

1. Characteristics of design objects.
2. User perceptions: product semantics, semiotics.
3. Aesthetics.
4. Art in design.
5. Future design trends.

Practical

1. User response experimentation
2. Product modelling

The general material covered under these topics were: The state and attitude of contemporary design; the history and development to the present-day interpretation; understanding and application; Product design and characteristics of design objects; related to the user perception based on human life: necessities; aspirations; meaning; context: appreciation and aesthetics; and artistic influences in design.

The learning objectives were:

To explore principles of design to improve product appreciation;

To encourage a culture of dual thinking in engineers: to create products that function well and delight.

Evaluation methods were by continuous attendance, group seminars, and practical assignments.

The focus of the course was also to enhance the young designer’s skills through using inspirational awareness techniques (using all aspects of their environment, natural and man-made, as sources of information and inspiration for developing improved future products). A series of lectures were conducted, basically generating interactive discussions around existing designs or design concepts, in which specific design elements of some products were studied, in the way that they give the given products its character, and consequential appreciation of the same, by an observer, the kind of interaction that ensues between the object and observer, and ways in which the latter’s appreciation of the former may be enhanced.

One of the strengths of the course developed was a product development exercise, set to run during the duration of the course, culminating with a project presentation and critique at the end of the course. The project was designed to incorporate the designer’s skill into real design situation, by choosing a design idea to produce a new product, process, or production idea, therefore being innovative, incorporating the product appreciation concepts amassed throughout the course. Several issues were important: to have multidisciplinary design team for diverse idea generation and several different paradigm inputs into the design development process. A product appreciation preview was required as part of the development process, to gauge possible success in the

market. One of the most effective ways found for this was the three-dimensional modelling, and assessment of that for possible feature enhancements. The exercise proved useful, in that the information generated in the interim stages helped substantially in shaping the final product outcome. Information reviewed included the shape and size, colours, textures, and material usage, amongst others.

The young designers chose everyday use products to develop and improve, and the results were innovative ideas on improved product appreciation. They balanced the technological with the psychological aspects of the products well.

After the first running, an evaluation of the course conducted. The results were very positive, highlighting its importance in the skills that it offers the engineer. It was established that the engineer needs over the technological skills to make his product more successful in the market place, because, whether it is a mobile phone, a television or a toothbrush that he designs, the user “feels” towards the product, and thinks that it generally has to perform well the function it suggests to be about, given the context of the modern day’s advanced and quite efficient technological environment.

Improvements suggested included a more variegated repertoire in examples analysis, and more detailed design practice.

The Product Appreciation and Aesthetics course served a double function: firstly to teach the students knowledge already alluded to, and also to facilitate some research about product appreciation and aesthetics through staff and student participation.

This course attempts to bridge the gap between engineers and designers, as it offers to engineering students designer’s concepts, knowledge and skills. This knowledge given to engineering students will facilitate a much fruitful dialogue and more understanding of the course between engineers and designers.

2.2 Aesthetics at the University of Botswana

This course focuses on a single comprehensive industrial design project with an aesthetics theme [3]. The project makes extensive use of aesthetic principles and approaches including: Philosophical basis of aesthetics; Visual and tactical impact; Styling products; Balance and symmetry; Colour combinations and appeal; as well as Environmental synergy.

In addition the students learn how to: select the processes that are appropriate to the type of project; select what research to undertake; select the appropriate forms of modelling ideas; select the appropriate means of realisation and objective product evaluation; plus apply design concepts to identified problems, rationalisation and justification, of selected design intervention through various alternative approaches.

Learning Objectives:

The aesthetics course provides a consolidation of design process and practice knowledge. Student’s skills and knowledge in basic research, ideation, refinement, documentation, and model fabrication are further developed and refined.

Students have to demonstrate a maturing level in 2D and 3D communication skills, as well as aesthetic sensitivity, creative abilities, reduction of concept to practice, manufacturing techniques and feasibility, and a clear developmental growth of personal style, with confidence and flair.

The course is aimed at creating a sense and feel for aesthetics in designing. On learning, the student should be able to

- Define the basics of aesthetics and the aesthetic criteria
- State the dimensions of aesthetics
- Incorporate visual factors, symmetry and balance in design

- Employ colour harmony and contrast for aesthetic appeal
- Relate aesthetics to the value system in general
- Critically evaluate the aesthetic aspects of a given design

This Industrial Design based course is more focussed on developing and refining approaches on how a designer would make aesthetic experience of the product worthwhile. This is done by interrogating principles of aesthetics and integrating them into the product through project work [4].

A “live” project is usually chosen, where issues of aesthetics and product appreciation would be prominent. There are project milestone schedules at which a panel of teaching staff, practicing designers and the client would receive and critique the students’ presentations on progress made. The students in this way get a real feel of product development processes in industry, which is a highly recommended preparation for their professional practice.

3 DISCUSSION

The two different courses each have an important role to play in their respective programmes. Their main commonality is the basis of developing the aesthetic sensibilities of the students. It has been found that practical project work, in groups and as individuals, help concretise and refine the theoretical knowledge treated in the lectures and seminars. Whilst group work helps in interchange of ideas and bridge knowledge gaps, the individual tutored project work help craft and define personal designer styles.

In the engineering programme, the course is free elective and has the approach to mostly create an awareness of product appreciation as well as aesthetic principles, and it is viewed that the engineering graduate may have them in the sub-conscious when designing. One of the advantages of the course is that it has always been run by at least two lecturers at a time, enriching the students with different design perspectives and approaches.

The Industrial Design course on the other hand treats aesthetics as a core component of designing, to be well mastered and used by the design graduate, as he/she will be responsible for the form of the product, amongst other responsibilities. The strongest aspect of the aesthetics is the “life” projects with industries, making the essential link between concepts studied and professional practice.

4 CONCLUSIONS

The experience of giving the respective aesthetics based classes in engineering in Barcelona as well as in design in Gaborone show the similarity of the contents and teaching styles in the two courses. This implies there exists a base of common human values between cultures.

Although the two courses are offered in different cultural settings, this has no significant bearing on the course conduct and exit profile of the graduate, except that a local resource awareness is cultivated, and can be used for cultural context designs when required.

There was a good attempt in the both courses to have balanced teaching styles, and well so most of the different learning styles (behaviourist, cognitive, humanistic and situational orientation to learning) could be catered for [5].

The positive aspects of content and approaches such as using various professionals to deliver modules, monitored project development through seminars and presentations, as well as life projects, are some of the preliminary ideas that can be shared between the

programmes. A student and staff exchange programme would be beneficial for the interchange of knowledge and skills across the two disciplines and two cultures, making for interesting and possible enhanced approaches to product development. Such experiences would also inform future programme developments in either or both universities.

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