IMPORTANCE OF DESIGN EDUCATION IN INDUSTRY

Instr. Gül Gürer
Yeditepe University,
Faculty of Architecture, Turkey.
gulgurer@hotmail.com

The concept of design in terms of engineering and industrial design means generating a concept and making it perceivable with the five senses. The original concept has to be tested against multidimensional factors it profitable. From this viewpoint a designer has to take into consideration the benefit of the potential users while on the other hand he has to observe the interest of the companies that will commercially use the developed concept in their production. Especially the original ideas of design by the engineering fields have to have functions tested in terms of benefits; have to take safety measures, have to be optimized according to environment, mankind and society and revived many times.

The designing phenomenon that occur in mental system and is generated as an idea should have achieved concrete results in terms of training too, before becoming a finished product. Therefore transferring of ideas from the field experience of professional engineers is aimed to develop the design process in training.

The terms of their mental origination, design process is not a phenomenon different from the creative process. The differing quality may perhaps be seen on the result that different individuals aim to achieve depending on their discriminating experience and trials.

Industrial design is a creative activity whose aim is to determine the formal qualities of objects produced by industry. These formal qualities are not only the external features but principally structural and functional relationships which convert a system to a coherent unity from the point of view of user. Industrial design extends to embrace all the aspects of human environment which are conditioned by industrial production and industrial designer occupies a fairly wide band on the spectrum of human experience. Design is a very complex and involved process and it also all aspects of human needs and activities. Properly done it is a real force for growth.

The arranging of a creative collaboration between different professional groups has never been easy and constitutes a classic problem of reconciliation. Design is perhaps a special case as engineers and industrial designer have been on divergent educational and professionals paths.

Design education is a fundamental part of the educational spectrum. There is a need for design to be treated as a subject in which every one is involved at school. When it comes to the education and training of designers it is necessary to attract the qualified student into the profession. Good design is essential to every country’s economic well-being and it can make a great contribution to the quality of life. The designer is the most creative intellectual off all carrying the qualities which would link the demand and expectations of the interested fields.

As a definition the designer is creator of the intellectual property from which the designed object, system or service may be produced. The designer is therefore; the link between demand and prospect of its satisfaction. Design is flanked by two other major functions either or both of which under certain circumstances may be assumed by the designer. These are the functions of determining the nature and extent of the simulative demand, which is usually called “marketing” and the function of satisfying the demand which is called “production”.

The education of a designer will be under the risk of must encompass an understanding of ,and engender a respect for, other arts, crafts and disciplines upon which he or she may well be dependent for the exercise of his or her talent. In the absence of this breadth, the designer will be under the risk of being constricted to a narrow professional role and

subsidiary function. This is unfortunately the situation in many sectors of industry today and it is one of the major factors affecting our lack of economic success. If the importance of design is to be fully recognized, the quality of these who aspire to top positions in design management, must watch the demands which they will inevitably be responsible of not only as specialists but also as generalists.

Except for the aspirant to pure research and others devoted to the must worthy cause of all the extensions of basic human knowledge and understanding of our universe, the student whose work is intended to be in the exciting world of designing, developing, producing and marketing to meet people's needs, should be taught from the consideration of design. It gives practical meaning to mechanics, mathematics, to chemistry and atomic theory. Not only will become designers but those who have a bent for design will be prepared for more specialist education, while those who will constitute the majority of design related technicians,technologists and engineers of all kinds,will have been equally well prepared to play their role in rebuilding Turkey's wealth creating industry,

Effective teaching process, development of skills, abilities, knowledge improvement and research activities in studying,creativity and independent thinking are hardly possible in modern educational establishment.

Serious project work is the ideal way to link schools, universities and industry.Specialist knowledge,method as well as social and personal competence are strengthened. Characteristic subjects can be used to specifically motivate students for special sectors and new technologies. This means the project work ensures that trained scientists and engineers are being prepared for the future. At the beginning students receive their first exposure to their chosen field in the Engineering Design Grafics Course. In this time is designed to introduce students to fundamental skills in the area of Visual Comunication and to the concepts and skills of visualisation, freehand sketching, 3 D conceptualization, 3D solid modeling and the engineering design. These skills are fundamental to modern engineering design and concurrent engineering. It is important that the creativity and designing abilities of engineers should be equally developed along with the field knowledge during their education for the training of creative engineers that will be required by the engineering sectors in the future.

World experience analysis of the university education shows that teaching the specialists in them creates favorable conditions for personal and professional development of the students development of their capabilities.This is mainly provided by multi-level schedule of studies, implementation of various educational programs granting possibilities of creation of individual educational routes in the system of continuos professional education. Integration of educational organizations of different levels provides optimization of exiting material, technical and human resources is another undeniable advantage of the university. All above mentioned in the end, contributes to increasing quality of social order for education the specialists.

A modern man must learn to see the world in its integrity. A the future engineer as a driver of technological progress is obliged in first turn to realize the necessity of his careful attitude towards the nature, our planet, the earth's bowels, atmosphere, rivers, lakes, seas and oceans. It is necessary to inculcate in the future technical specialist from the very first steps of his/her engineering formation the skills of the right estimation of the impact of his/her technological solutions on the environmental medium.

Within today's economic and social context,higher engineering education must be fit in with new condition. The current trend in education corresponding to the economic globalization is related to an international partnership. Academic exchanges,attraction of international students are the most common development strategy components for most of technical universities in the last decade.

A good design is one in which there is a true and rational harmony of all aspects ,where the functional performance required of the object the is met by a logical and economic structure creating an agreeable

and acceptable form. Again, good design encompasses good value analysis and should lead to better utilization of resources with higher productivity and greater profit and pleasure all round.

Good design is for people and by understanding people's needs and ambitions it is often possible to provide something which they were not aware they need. Good design therefore can be a really powerful influence for the common good.

Conclusion

‹ndustrial designer's range of knowledge must wide. Both physical sciences ahd the ARTs must be encompassed by his mind .His/her mind .He/she must be essentially logical and at the same time emotional. The qualities he/she must combine are on opposite sides of educational spectrum.

Most products of today with the aim of a high added value and the complex interworking of many disciplines and technologies,call for an encyclopaedic knowledge,training of ART and great experience on the part of the designer. Espacially the education of ART and DES‹GN for production should be a principal focal point of all technical and engineering courses.This should apply whether the finished product has a high visual colour and form appeal or like the remote handling devices for radioactive material is an almost unseen and essentially functional article ofcourse if one has an artistic talent for design one will tend to exercise it in the design of artifacts in which the artistic content is high and, provided there are adequate 'design-related' craftsmen to interpret the work in production materials, the need for technological knowledge is very limited.