

Industrial design in view of integrated design

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Abstract:

The current era of rapid progress and development in all areas of life, which led to change the objectives of the productive and service companies from just meeting the needs of their customers, to try to provide a very high level of luxury never dreamed of mankind until it came to the fact that these companies have created the needs, Offering its customers innovative and innovative products and services to meet these evolving needs.

In order to ensure that companies operating in the same field remain on top of their counterparts in global markets, they must follow modern methods of innovation and development based on the complementarity between the available science and knowledge, so that the best use of the basic science and applied advanced integrated with each other; Innovative and high-value services that deliver what customers are looking for to meet their needs, and what companies seek to outshine their peers.

As industrial design is one of the most important disciplines to provide products that meet the needs of humanity in all fields and to keep up with that tremendous progress and follow-up must be formulated methods of practice and application of industrial design in a modern way, making use of different sciences in an integrated manner with each other. It also enables the integration of the different experiences of all concerned with the theme of design.

The research has led to a new methodology for industrial design activities based on the integration of knowledge and expertise into the various disciplines related to design, taking into account not only the needs of the target group of the design process, but also all the surrounding conditions and factors that may be variable. Affecting the process and conditions of use of products under design and development. This methodology is considered as a guide to product design and the environment for its use and to adding new user knowledge related to the domain of the product in question. The product contributes to the user's awareness and culture.

The researcher came to this methodology using the explanatory method, through the study and analysis of the concept of integrated design and how to apply it in different disciplines, and to clarify the methods of integration between it and the rules of the practice of industrial design process.

Problem of the study:

Progress and continuous and rapid development has become a feature of the present era. Those who fail to keep pace with this development will fall out of the competition train and emerge without a return from the path of their specialization. Which requires researchers in all disciplines the need for research and development in the fields of their studies and work, and try to take advantage of all new in all the relevant sciences and influential in their fields of specialization.

Industrial design is one of the most important disciplines to provide products that meet the changing and growing needs of humanity in all areas of life. The industrial designer is responsible for updating the methods and methods of designing the process so as to make the best use of the science and knowledge that is developed and available. Innovative and high-value products that deliver what customers expect to meet their changing daily needs and what companies are looking for.

Significance of the study:

The importance of the research is to develop a clear vision for the development of the study and training of industrial design students and their counterparts in Egypt at the bachelor level for early practice in their field of specialization. This will give them knowledge and practical skills that will weigh their experience and efficiency during the actual practice of their specialization.

The research provides a methodology that will help the industrial designer to take advantage of modern renewable science and knowledge daily and integrate it with his various fields of work. This enables him to provide innovative designs for high value products that serve humanity and meet its ever-changing needs and help raise the awareness and culture of the user in the product.

Objectives of the study:

- 1- Develop considerations to develop the design study of the students of the Department of Industrial Design, and its counterparts in Egypt, in the bachelor's degree, so as to integrate the study and practice and acquire the knowledge and practical skills required to produce graduates with creative capabilities distinct and effective to keep pace with the actual practice of design in the local and global labor markets.
- 2- Conclusion a new methodology for the industrial design process based on the concept and basis of integrated design, in order to integrate the knowledge and experience of all disciplines concerned with the design process and optimize them, and then access to integrated product designs, environment and usage process.

Methodology of the study:

The research follows the explanatory method.

Results of the study :

- 1- Considerations for the development of the study of the design process for students of the Department of Industrial Design, and its counterparts in Egypt, in the bachelor's degree:
 - A- During the course of his / her design studies, the industrial design student must pass the work experience in a team that combines with his / her colleagues in the same specialization in the various applied arts colleges that are spread throughout the Republic through a cooperation protocol between the faculties. This cooperation is implemented under the supervision of the teachers of the design decision, where coordination is done in advance among them from the selection of the project to the definition of implementation procedures and the distribution of tasks, and to the stage of presentation and evaluation of results.

B- During the design period, an industrial design student must pass an experience of presenting and discussing his or her ideas with peers of the same specialization in international universities by communicating directly with each other through social media, documenting these discussions and presenting them to colleagues to enrich their ideas and experiences.

C- An industrial design student must be aware of the design problems on the ground during his or her period of study to gain the practice experience of his or her specialization prior to graduation. This is done through a collaboration protocol between the college represented by the scientific department and one or more industrial companies offering products designed by a design team, Where the design team of the company presents students with a set of problems for solution and development, so that students adopt the process of problem solving and development of products offered, and then show their ideas to the design team of the company, which in turn takes these ideas into account and try to benefit from and develop, and will discuss them later with the students to clarify the shortcomings and also the advantages. This is done under the supervision of the teachers of the design decision and their continuous guidance.

2- The research has led to a new methodology for the industrial design process based on the concept and basis of integrated design, aiming at the integrated design of the product, style, conditions and environment of its use that may be variable, taking into account the reduction of environmental damage that may result from the design, production and use of the product.

To become our methodology for the integrated industrial design process. Figure (1).

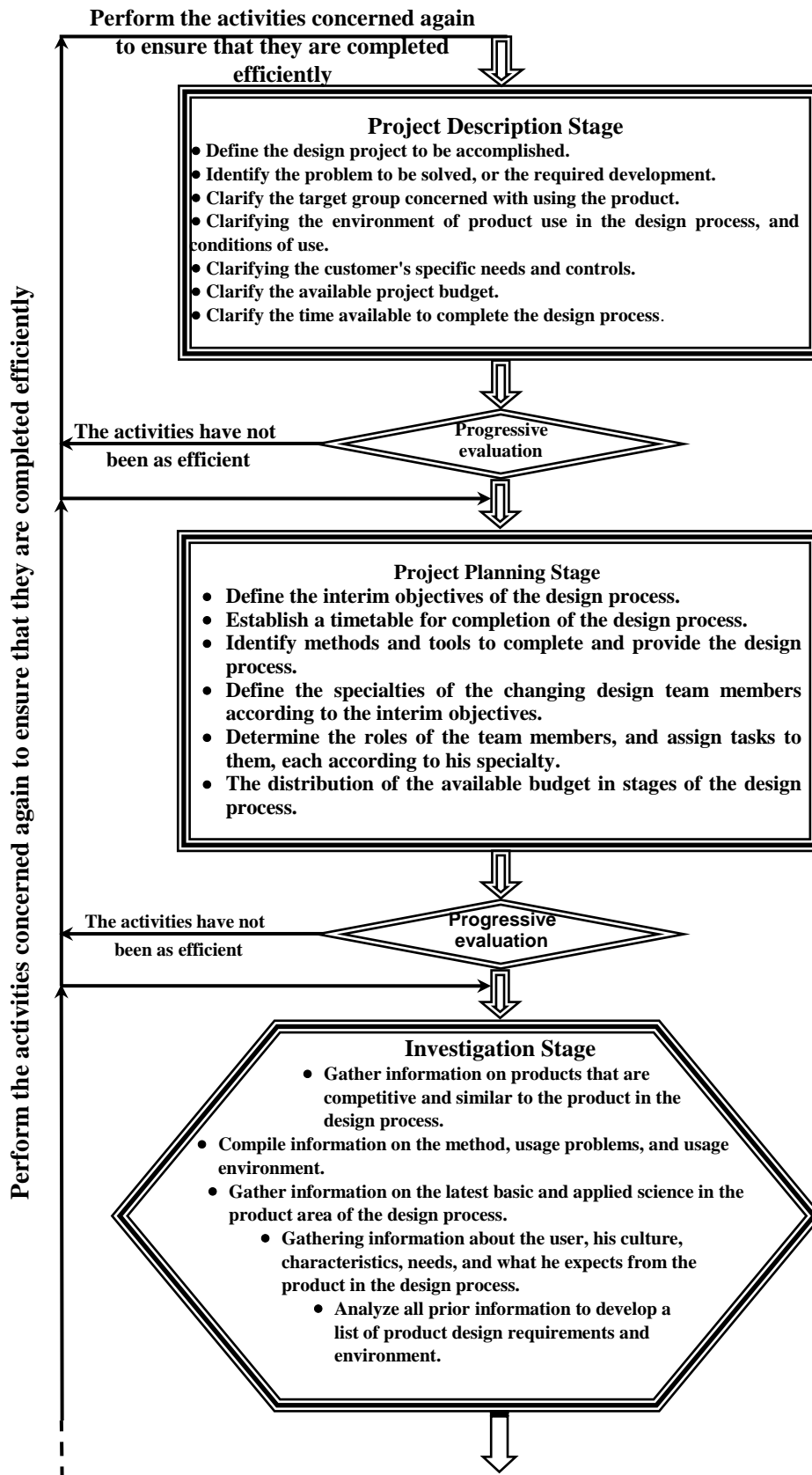


Figure (1) Integrated industrial design process ¹

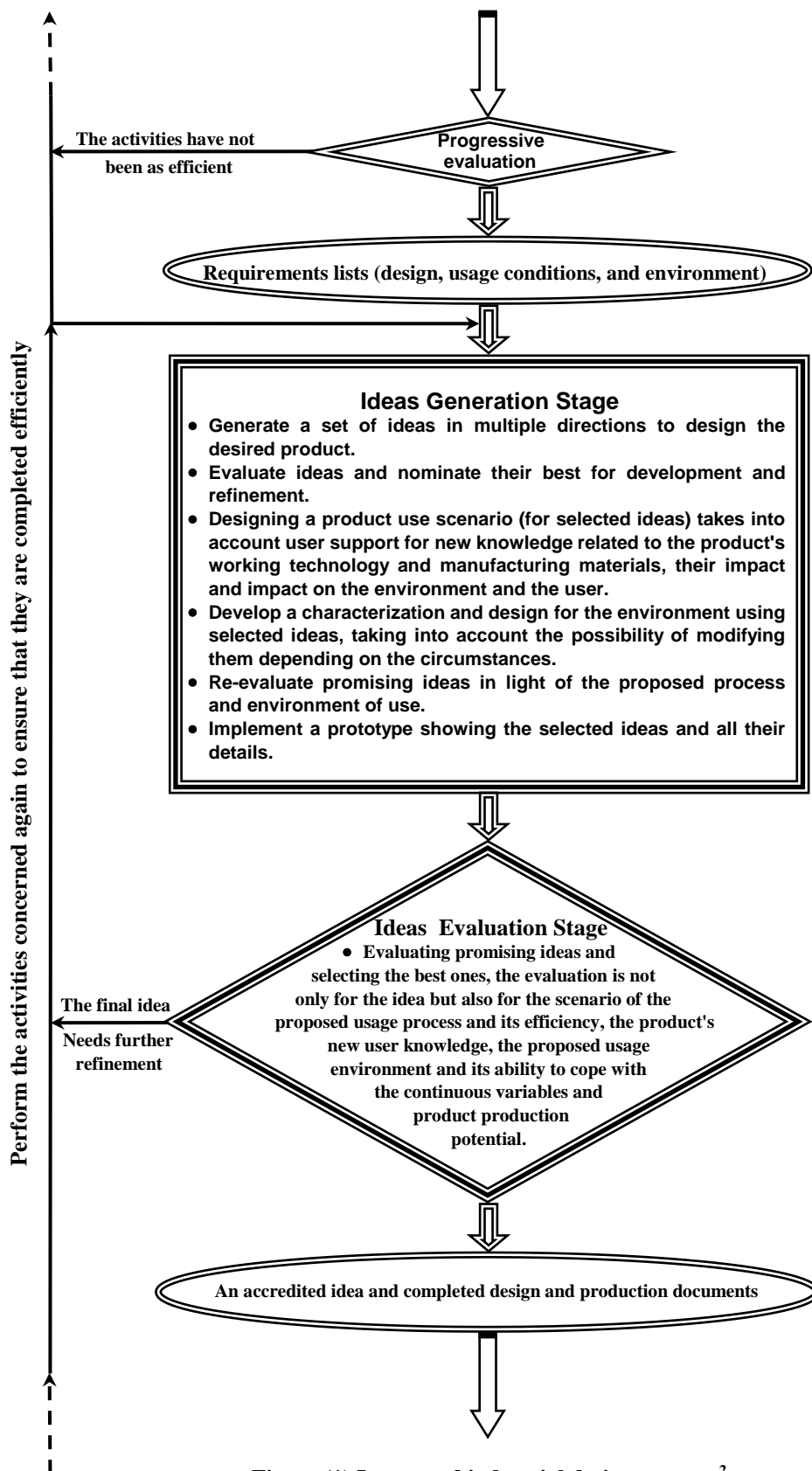


Figure (1) Integrated industrial design process ²

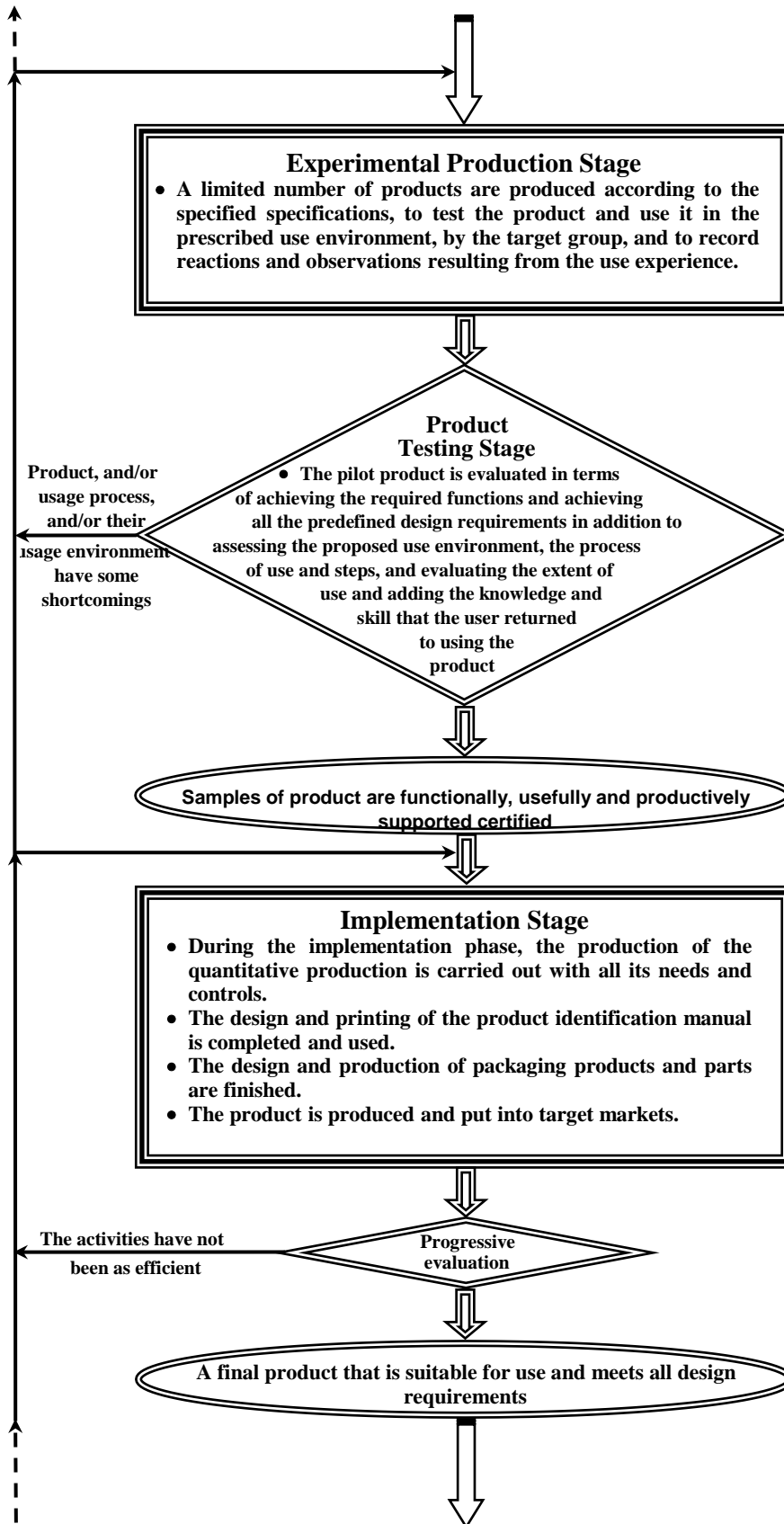


Figure (1) Integrated industrial design process³

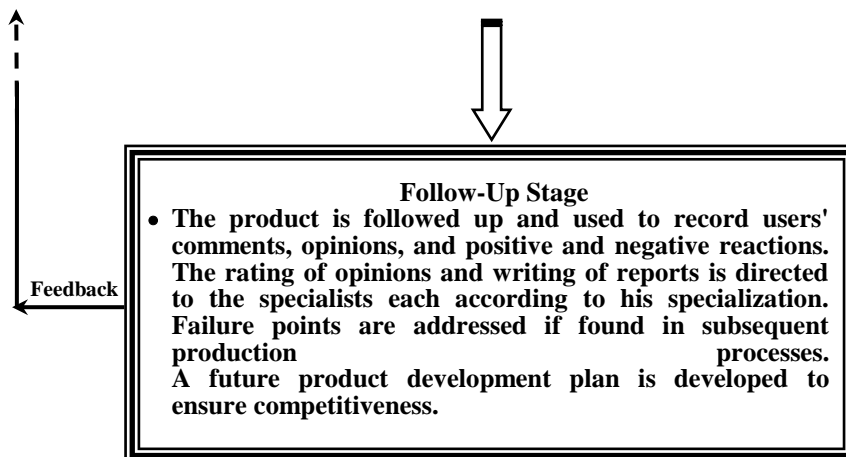


Figure (1) Integrated industrial design process ⁴

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