

# Rethinking Design Education- A Study for the Importance of General Education in Design

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## **Abstract**

*Aesthetic education played an important role in ancient Greek education and was viewed as a unique type of moral education. As countries today face intense global competition, more enterprises rely on designs and brands. Designers are required to carry an exceptional disposition and good designers rely on systematic design education to hone their talents. New educational concepts, new education systems, and international outlooks have become essential qualities in design education. This study focuses on the development of today's diversified society. Design has lines of thought and models of confirmation that possess multiple dimensions and perspectives. By delving into the teaching concepts and directions traditional design education should modify, future designers can possess the combined ability to judge knowledge, care for humanity, and solve problems, thus becoming important designers of the 21<sup>st</sup> century. Therefore, general education in design has become increasingly essential in design education.*

**Keywords:** design education, general design education, diversified society, design integration

## 1. Introduction

Design education in universities adopts a diversified teaching method that inspires exploration and carefree thinking. Helping students explore problems and training them to solve problems is the main goal of teaching design concepts (Bao et al., 2013). In this technologically-advanced age of information, designers should have personalities and professional design abilities that surpass this era and leadership age. However, due to the recent evolution of the design industry's diverse social environment, many individual disciplines have developed within design, such as economic aesthetics, human behavior, social ethics, design philosophy, green design, and design aesthetics.

In this new society, existing conditions have never been able to satisfy the needs of humanity. However, only an innovative and creative person can lead global trends and dominate the world. Therefore, the concepts in design are specifically important; they are not tools or methods to complete a design, but an important belief in leading design thinking. Design concepts must undergo basic training in professional design and social knowledge to cultivate outstanding diversified design concepts and master learning. The purpose is developing excellent creative designers with problem-solving skills. This illustrates the great benefits that teaching and training design concepts provide for students' learning.

After all, design education is unlike social management or marketing; commercial behavior or economic benefits are not the only things that should be considered because designers facing modern society should have a comprehensive mode of thinking to handle such complicated societies and personalities. Reasonable design, moderate design, and humane design are all considered in design education. Solving social problems is a noble aspect of design (Coleman, 2010).

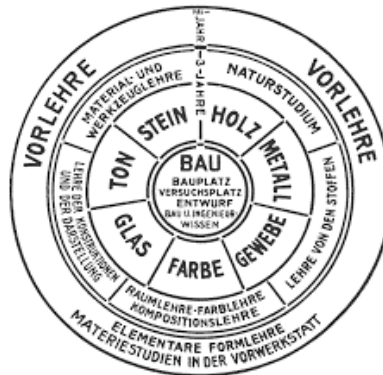
We know that when designing, even experienced designers must first consider, understand, and find an answer for design problems; as such they consider design factors and conditions, such as the human factors and ergonomics, style, meanings of symbols, communication, human considerations, function, and interface of the design. Design concept thought can increase the content, aesthetics, and culture of the product. Product design is more than just the manufacturing of a model. Should design give meaning, content, and appeal to create a valuable aesthetic? We can understand why the concepts of *dao*(knowledge) and *qi*(object) were held important long ago in China. The creation of an outstanding designer is not determined by the technical methods *qi*, but the establishment of the concept of thinking *dao*. *Qi* is impossible without *dao*. This is a philosophical concept and a constant principle that the ancient Chinese people had discovered long ago.

## 2. The origin and objectives of design education

The earliest form of systematic design education was founded in Bauhaus Design Institute, a school established by German architect Walter Gropius in 1919 at Weimar, Germany. Students were taught to correctly apply suitable materials for metalwork, sculpture, ceramic, textile, and architecture designs.

Bauhaus Design Institute stressed both theory and practice, emphasizing the use of both the hands and the brain and intentional inspiration and disapproving personal or non-innovative imitations. The school aimed to combine emotion and substance to create aesthetic and reasonable products. Their concept allowed creators to incorporate their feelings and thoughts into their works and express their ideas freely.

(Figure 1).



**(Figure 1) Bauhaus design curriculum**

Style training, aesthetic thinking, and creative thinking became three important basic subjects at Bauhaus that had been constantly used in design education and continuously improved upon throughout the years. The educational concepts and design curriculums established at Bauhaus pioneered design teaching. Bauhaus had thus trained a large number of excellent designers, architects, and artists and spread their concepts around the world, planting the seeds for design education concepts in various countries. This greatly affected design education for future generations. The aesthetic education and basic training offered at Bauhaus has been passed down generations to this day and has become the standard in design curriculums for schools around the world. In summary, the three main objectives of design education are as follows (Fan, 1992):

- (1) Cultivate aesthetic perception: Aesthetic perception is the ability to use the senses to experience and appreciate beautiful objects and make judgments (Dineen & Collins, 2005). This involves two aspects: one is the ability to perceive external factors (such as voice, colors, and form), and the second is the ability to perceive emotional expressions and symbolic meanings (such as feelings and experiences). Developing aesthetic perception builds aesthetic quality and the ability to perceive and experience different levels and spirit of beauty.
- (2) Understand the concept of caring for society: In today's diverse society, the patterns of society must be explored from different aspects. Social aesthetics is not based on the structure or existence of objects, but is found in every corner of society in all forms, not just objects. This could be a problem

caused by design, social morals and ethics, natural preservation, or social care and rescue. This is another level of aesthetics beyond design.

- (3) Cultivate problem-solving abilities: Design education can cultivate students' creativity and find the crux of social (design) problems and solve current social problems using creative design concepts or methods.

Bauhaus' education system greatly emphasizes the cultivation of design education concepts and attitudes. They know that only education can achieve ideals. Walter Gropius, Ludwig Mies van der Rohe, and Le Corbusier all realized the importance of design education. They understood that only by educating others can they cultivate talent and develop society. In order to teach Bauhaus students more comprehensive abilities useful and applicable in society, the school implemented a mentoring system and contacted businesses to help develop students' team spirit and social responsibility towards design. This also deepened design thinking and practical theory; by using modern materials for creation and the goal of mass production, Bauhaus established the foundation for modern industrial product design.

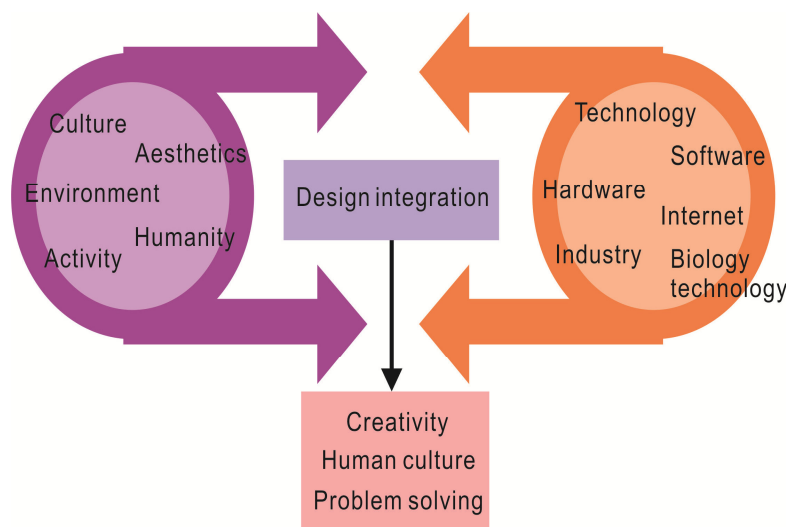
### **3. The importance of general design education**

Design is the foundation of all human activities; it is the planning of the development of any predictable and foreseeable outcome. Any behavior that attempts to isolate design so that it becomes an individual entity goes against the value of design as the primary basis in life. Therefore, integrating the design behavior of society has become a plan and model that crosses different disciplines and persists among each discipline, causing design behavior today to become a unique field of integration because design covers many aspects and aims to solve many social problems and expects to achieve overall and comprehensive design. Design integration hopes to continue to surmise and discover products able to build future social order by observing the social phenomena affected by human behavior (Papanek, 1985). Product design is directly and closely related to people's social lives and the ultimate goal is to satisfy their materialistic needs. Product design also concerns the feedback and influence of society, market feedback, social culture, and moral and ethics, which are factors we must further contemplate.

Illinois Institute of Technology views design as a structured creative process, including analyzing and conceiving, that implements new product services and experiences. Students must understand design-related problems, such as evaluation, technological, and social development trends and demographic structure, to create effective solutions to improve existing problems. This is the concept of general design education, cognitive theory is used mainly to innovate, contemplate, and solve problems (Kalin and Barney, 2014). The main curriculum includes user observation, design planning, design analysis skills, ergonomics, comprehensive design and service system research, and structured planning methods and applications and introduces theoretical and behavioral observation and descriptive and analytical methods. Design analysis involves quantitative statistical analysis, and structured methods and applications refers to learning how to

conduct surveys, develop and establish concepts, and communicate with others with team spirit. General design education no longer solely cultivates artistic talent, but teaches every perspective of design and art and the process of caring for society. The curriculum stresses that in studying design basics, students' perceptions of diverse society be reflected through self expression of their feeling of different cultures and diverse societies after self reflection and sentiments. By doing so, general design education can consciously develop students' study of social views (Gui, 2009).

In the 21<sup>st</sup> century, the ability to compete refers to creativity, humanistic literacy, interpersonal communication, cooperative spirit, and problem-solving skills. Design education more than just professional education. Science and technology (industrial, biological, medical, electronic, or otherwise) are not the sole methods to solve today's complex social problems; logic thinking, philosophical thinking, and practical verification are also required. Learning design provides numerous resources for the science of design, including hardware and software technologies, materials, energy, interfaces, and internet technology. Industrial design needs to undergo a series of transformations to assume a human "implement" interface, transformed from "science." Industrial design not only provides a foundation for the scientific theory behind the human-machine relationship, but also considers how to appropriately integrate human factors—culture, aesthetics, environment, and behavior—into care for society. Therefore, an important objective of design education is to teach students "design integration" and "design application." This is also the ultimate goal of industrial design in terms of caring for society. Design is to facilitate meaningful social order, thus, meaningful and intuitive methods are adopted. How to solve problems is not only something each designer has to contemplate, but also an important task of design education. (Figure 2).



**Figure 2 Integrated design**

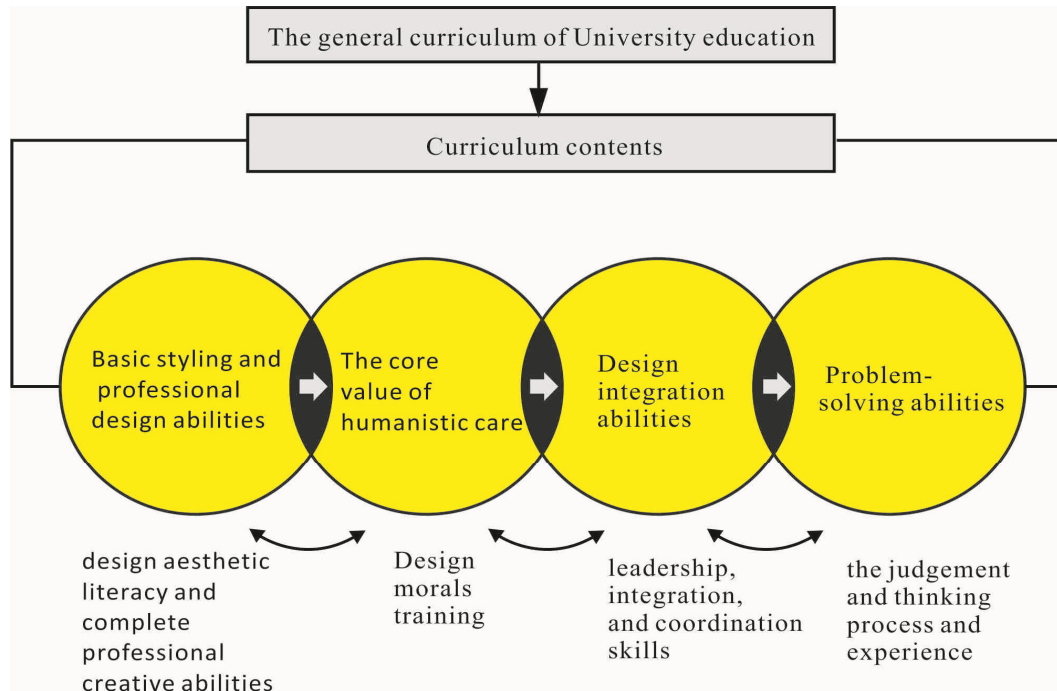
#### **4. Direction of general design education**

Students should show more concern for social issues and strengthen their ability to communicate with others. In addition to artistic and aesthetic appreciation, students should visit art museums, historical museums, and exhibitions more often (Coutts, 2004) and pay more attention to outdoor public art and buildings. This is aesthetic cultivation. Students should also make an effort to understand and contemplate social problems such as green, environmental protection, senior assistance, minority groups (physically and mentally disabled people, women, and children), and natural disasters and ponder how the power of design can be used to remedy any social phenomena that require attention to develop problem-solving skills (Buchanan, 1998).

Designers must handle social problems through design. Designers and architects today face many problems unrelated to design, such as complicated social and political issues, environmental damage, and diverse human nature. Papanek (1985) believed that design education requires extensive knowledge concept cultivation; that is, general education taught in universities. In today's diverse society, the thinking behind industrial design, urban planning, and architecture can no longer meet social demands with a single form or function. The issues facing design include the conflict between human behavior and social phenomena, the balance between science and culture, and humanity's materialistic values. Therefore, designers are obliged to solve diverse social problems (Eagleton, 1990).

Norman believed that designers' jobs involve complicated social ethics, human behavior, and political issues, yet they lack education regarding these aspects. Designers often do not understand the complexity of issues and depth of relevant knowledge, and usually do not understand the root of the problem. Design schools today do not train students to understand these complicated issues, behavioral sciences, science and technology, and business, and do not teach students general problem-solving skills, scientific methods, and experiment design. Papanek maintained that design education should extensively deal with the design process and cross-disciplinary problems; therefore, the general curriculum in design education is extremely important (Papanek, 1985).

General design education in universities mainly trains students how to solve problems and teaches them about human behavior, planning and strategy, values, social ethics, service design, and aesthetics. University design curriculums in Taiwan are currently categorized as industrial design, visual communication design, fashion design, digital media design, interior design, and cultural industry. These curriculums aim to train students in design ability, modern information technology, humanistic literacy, social care, cultural learning, and creative concepts, to shape them into forward-thinking, problem-solving, and creative designers, strategists, and leaders who are able to communicate and negotiate. The curriculum direction is shown below: (Figure 3).



**Figure 3 The curriculum contents of general design education**

(1) Basic styling and professional design abilities: Courses on design basics are one of the most fundamental design concept curriculums in design education. They cultivate new designers and their creative thinking abilities and enhance their professional design abilities, combining product design, visual design, aesthetics, engineering, colors, ergonomics, human-machine interface, product semantics, materials science, and manufacturing science into product design applications so that students have design aesthetic literacy and complete professional creative abilities. Innovative industrial design is a mode of creative thinking in art and strategy.

(2) The core value of humanistic care: First, the awareness and purpose of users need to be emphasized. General design education courses are required to teach caring for society, humanity, and the natural ecosystem and learning design values, in particular the training of design morals, including problem-solving, human behavior, planning and strategy, values, social ethics, service design and aesthetics; for example, behavioral science, green design, ecology, design morals, perceptual design, creative design, sustainable management, and cultural industry.

(3) Design integration abilities: Mainly trains students' ability to integrate comprehensive knowledge and computer application skills and teaches them to locate various information and knowledge using information tools. Students are taught to have leadership, integration, and coordination skills including how to organize and understand management and design research, design innovation, fashion design trends, industry, culture, social, and art.

(4) Problem-solving abilities: Problem-solving is a thought process and also a judgment based on experience. Many methods and approaches can be used to solve design problems during this process. In terms of human thought and activities, the overall design content is a model to solve problems; and a model concept is needed when solving problems: observation-hypothesis-expectation-test-evaluation (Rozenburg and Eekels, 1995). In the face of diverse social problems, a certain degree of understanding and cognition of social values are needed. Design is a special problem-solving model and a method used during innovative product design.

## **5. Conclusion**

More design education experts and scholars believe that general design education is important (Barret, 2010). For example, in aesthetic training courses within architecture departments, basic design trains construction methods, design thought, and aesthetic inspiration (Cross, 2006). Architecture is a field in humanities and social sciences and not only cultivates the concept of aesthetics but also how to apply it into designs to solve human and social problems (Jackson, 2008). This is extremely important for students new to the field of design. Therefore, the things taught in design education not only develop students' design thought and creativity, but also their design value (Lawson, 2006). Designers are more than craftsmen, but also accomplished and substantial creators (Tsen, 2013). In terms of designers' moral literacy, vision, and quality, enhancing their thinking and individual problem-solving abilities is more important than technical training.

Does design education in universities today teach students to think and judge? Does it tell students that the essence of design is not the design object, but rather its humanistic, social, economic, and environmental problems? While in school, students are learning and gaining new knowledge. The author think that design education should consider using general education to extensively absorb, understand, and think about the overall problems in society so that design can include concepts from both social science and natural science. However, design education today is directed towards cultural, artistic, and affective aspects, gradually leaning away from behavioral science and design methodology.

In design education, there are currently many design and morally bankrupt problems in society. Part of the reason is that design education train students to have narrow and vertical views. However, real general education must involve a wide range of social knowledge. Design study has evolved over the past century, incorporating diverse integration and extensive assimilation of thoughts, concepts, techniques, and culture. All objects in the current university environment obstruct general comprehensive education. Most of the curriculum is filled with professional required courses, common required courses and required courses, leaving hardly any space for general design education. Design value verification explores the essential problem of social values, raising design to the level of solving social problems and turning design into a thought philosophy. General education courses are an important part of the curriculum that can train students



to have broad design thoughts. Although design is an emerging academic profession, it also has to develop its own unique values.

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