

Chapter 9

Changes in the Technological Aspects and Facilities of Design Education: A Case Study of Hong Kong

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ABSTRACT

Technological literacy is required of all in the 21st century. Given its close relationship with technology, design education is fundamental to teaching children and young adults how to understand technology. This paper provides a historical review of the development of design education in Hong Kong. This development is found to be closely connected with a number of historical events, the development of the economy, industry, society, and the educational policies of the Hong Kong government. Furthermore, the history of design education shows that the value of current technological practices and facilities corresponds to the societal needs of the time, reflecting the value of past and present practices in design education. It is hoped that this historical review and discussion of past and present practices will provide insights for optimising the role of design education in the contemporary world.

INTRODUCTION

Technology has played an integral and essential role in human development throughout history. Nonetheless, the word ‘technology’ did not enter into English usage until the Industrial Revolution

(Komoski, 1971). In ancient history, civilisation developed alongside the development of technology use. Technology remains of great importance in the 21st century, with increasing numbers of new and advanced technologies being invented for the advancement of human life. Hence, technological literacy is essential for all. In the developed world,

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technology has been infused into our daily lives (Keirl, 2006), and almost everyone has to have a certain level of technological understanding. Almost every child in Hong Kong now knows how to operate such devices such as televisions, cameras, mobile phones and computers. Today, very few people in Hong Kong would be astonished by the function of a television remote control or the power of a microwave.

Unsurprisingly, education is the fundamental arena in which children and young adults are equipped with technological literacy. Children first start to learn about technology in kindergarten (Siu & Lam, 2003). However, at the school level, students' technological learning should not be limited to operational knowledge and skills acquisition. Rather, it should span a broad range of knowledge, including the history of technological development, the impact of technology on society, human civilisation and the environment, and ethical issues relating to technology. The scope of the technological knowledge covered in school education should be much broader than that demanded by society. Schools should not only disseminate the practical knowledge that will enable students to use various technologies, they should also teach the humanistic aspects of technology and prepare students to be able to criticise and resolve the moral problems facing the technologically driven modern world.

Design education is inevitably responsible for teaching young adults to be technologically literate in the broader sense (Akmal, Oaks, & Barker, 2002). Design education enables students to use different machines and tools and to apply mechanical, structural, and electronic knowledge to create artefacts through the design process (Curriculum Development Council, 2000a). Students learn about materials, tools, machines, design processes, and the processes of manufacturing and fabricating products. Design education also integrates the knowledge of other subjects, such as mathematics and science (Erekson & Shumway, 2006; Gattie & Wicklein, 2007). Through the learning process

in design education, students acquire the ability to assess the appropriateness of technological processes and use technology with consideration (Raizen et al., 1995). It is evident that technology is one of the key elements in design education. This is affirmed by the name of the school subject associated with design education, Design and Technology, which is self-explanatory in asserting the relationship between design education and technology.

With the many educational reforms in design education that have been instituted around the world, its technological element too has often been the subject of change. Technology has changed rapidly over the past few decades, and the role it plays in design education has also evolved in nature and level of complexity. Most importantly, technology has transformed from a skills-based to a knowledge-based subject (Lin, 2007). The level of technology has also progressed from craft-based tools to computer-aided manufacturing and machinery. In a broader sense, these changes in design education also reflect the economic and industrial development of society.

Design education was first introduced in Hong Kong in the 1930s. Today, Hong Kong continues to follow world trends in transforming the technological element of design education (Siu, 2008). This paper explores the development of the technological component of design education and the facilities for teaching technology in design in Hong Kong. Comments are given on the practices adopted. Furthermore, by scrutinising the educational development of design education in terms of recent social and technological changes, inspirations and new insights are provided to help to optimise design education and improve the world in which we live.

Historical Review

In the decades up to the late 1970s, the Hong Kong Government paid inadequate attention to design-related subjects. A number of technical

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