THE MAKING OF COMPETENT GRAPHIC DESIGNERS IN HONG KONG: THE TRANSITIONAL PERIOD FROM ACADEMIA TO PROFESSIONAL PRACTICE

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CERTIFICATE OF ORIGINALITY

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_____(Signed)

CHEUNG, Pun Sin Benson_____(Name of student)

Dedicated to GOD, my wife and daughter who have inspired me to discover another side of me

ABSTRACT

Recent reports published in Hong Kong highlight the lack of experienced and competent designers in the city (Heskett, 2003; The DesignSmart Research Project, 2008). Two possible reasons behind this problem are insufficient training provided to fresh university graduates upon their transition into the workplace and the fact that academics and employers do not realize they have a role to play in the transition. University-workplace transitions have been studied extensively around the world (Schein, 1972; Argyris & Schön, 1989; Eraut , 1994, 2007; Boshuizen, 2003; Tuomi-Grohn, Engestrom & Young, 2003; Smeby, 2007; Asian Development Bank, 2012), with researchers pointing out that there is often a 'learning gap' between the two settings. Little, if any, research in this area, however, has focused on how university students become "professional designers" through the transition, and few, if any, studies have focused on the context of Hong Kong. Meanwhile, research shows that this period is critical to graduates' learning through professional practice and their acquisition of different types of knowledge and skills (Boshuizen, 2003; Guile & Young, 2003; Eraut, 2007).

Given the significance of this transition and the dearth of studies focusing on design graduates, my PhD study examined the questions of what general issues graphic design graduates typically face during the transition and how these issues affect their professional development. Three kinds of respondents or stakeholders were involved in the study: graduate graphic designers, design firm employers and design academics. The study relied on a mixed method approach, with the qualitative interview method as the core qualitative component and a survey as the supplementary quantitative component. Pattern-matching and category construction were used for analyzing the qualitative data, while descriptive statistics were used to validate and support the conclusions arrived at through the analysis of the qualitative data.

The findings of the study confirm that Hong Kong graphic design graduates entering the profession lack the practical competence expected of them and needed for successful socialization into the professional community. This was highlighted by all the three groups of respondents who felt that university education does not prepare design graduates for professional practice. Several explanations for this problem were identified. It was suggested that this problem is mainly due to the fact that the criteria by which competence is judged are different between academia and professional practice. It was also found that neither academics nor firm employers consider themselves as having the primary responsibility for providing training to graduates during the transition. All the three groups of stakeholders concurred to a significant extent that an arduous workplace environment, a lack of structure and accountability of the stakeholders, and the absence of a professional 'goal' in graphic design, all contribute to the difficulty in graduates' professional development.

The results of the study suggest that all the stakeholders must take greater responsibility for raising the professional standards of graduates. This seems to demand that in the first place, some agreement must be reached between the stakeholders about the core competences of graphic design and the types of training needed in the transition. Once that has been done, it may be possible for the academic curriculum and the requirements of professional design bodies to be better harmonized. It seems obvious from the evidence presented here that closer collaboration between academia and professional bodies is vital. In the longer term, given the absence of sufficient research into what constitutes "graphic design", what is needed is further research into the "core competences" and comprehensive "professional criteria " of graphic design in Hong Kong, defined in terms of skills, practices, and knowledge.

PUBLICATIONS AND CONFERENCES

During the course of this study, the following papers and conference poster have been published:

Conference Poster

Cheung, B. P. S. (2011). The Challenge of the Role of Graphic Design Education and Design Practice for the Values Creation of Hong Kong's Knowledge Based Economy. *Poster presented at International Design Research Lab, Research Conference: Where is Design Practice at Today?* Agideas 2011 International Design Forum, Iridescent Icograda, Melbourne, Australia.

Conference Proceedings

Cheung, B. P. S. (2011). Developing Hong Kong Professional Competence framework for Graphic Design Practice in Future Doctoral Education Research. *Proceedings of Doctoral Education in Design Conference 2011: Practice, Knowledge, Vision*. School of Design, Hong Kong Polytechnic University, Hong Kong.

Cheung, B. P. S. (2011). Double 'Blind Spots' of the Academia and Design Industry. *Proceedings of DesignEd Asia Conference 2011*, *Business of Design Week*. School of Design, Hong Kong Polytechnic University, Hong Kong

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This study brings honour to GOD for I am His vessel to fulfill His godly purpose

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1. Introduction

1.1 Motivation for this Study

The motivation for my study comes from 22 years of experience in the graphic design field in Hong Kong, working first as a designer, and then as a design firm owner and a part-time lecturer in various academic institutions in the last ten years. These years of observation, and particularly my own experience of the junior designers my company employed, convinced me that there is a rather serious 'mismatch' of knowledge and skills in the initial stage of employment between what is required by academic institutions and by the workplace. The inadequacies of previous official studies of the transition from academic institutions to the actual practice of graphic design in Hong Kong motivated me to study the reasons behind this phenomenon by examining themes such as the academic education graduates received; the difficulties they face in the initial stage of professional practice; the role of various stakeholders in this transition and their perception regarding their actual or potential involvement in helping these graduates.

1.2 Background

The PhD study presented in this thesis is an investigation into the challenges faced by novice graphic designers entering the professional field. It has grown out of and aims to contribute to two major areas of inquiry: university-workplace transitions and design education.

The purpose of this introduction is to provide a concise overview of the whole thesis, outlining the themes, the issues, the gaps in existing research and the opportunities for insight and discoveries this gap presents, as well as the research objectives of the study. An outline of the seven chapters of the thesis is also included.

1.2.1 The economic climate in which the design industry operates

Hong Kong has been undergoing an economic transition since the late 70's when Mainland China started to open itself to the outside world under the 'open door policy'. Between then and the late 80's, Hong Kong's economic structure has undergone a major change, as most of the industries have eventually moved to bases in the Pearl River Delta. It has entered an era of a knowledge-based and service-oriented economy. Hong Kong's 'international competitiveness' has always been critical to the prosperity of its economy. Because Hong Kong is an externally-oriented economy, it had little to defend it against the Asian financial crisis in 1997, which hit its economy and society severely. Critical reflection on the part of the government and the community at large is called for to prevent the same thing from happening again (Enright, 2002).

Hong Kong faces intense competition from the Chinese Mainland and from other Asian countries, many of which have enjoyed the results of economic success attributable in part to the values of 'design'. Countries such as Japan, Korea and Taiwan have been proactively investing vast resources in the design industry and design education. 'Creativity and Innovation' in products and services have become the essence of future economic success (Heskett, 2003).

In this economic climate, the Hong Kong Design Centre (HKDC) was established in 2001 by the Government of the Hong Kong Special Administrative Region to promote general awareness of design innovation in the education, business and government sectors. According to its official website, "What is Design?" (2008), while there are many interpretations of 'design' around the world, the HKDC focuses mainly on how design benefits Hong Kong society as a whole. It defines design as "[T]he Link between creativity and innovation… [A]n integral part of all business… [M]ulti-disciplinary… [A] value creation tool" (2nd –5th paragraphs). Significantly, the so-called 'Chief Executive Policy' from 2007 to 2010 repeatedly addressed the importance of accelerating progress in the creative industries to maintain Hong Kong's competitiveness. It states that Hong Kong demands a lot of creative and professional designers who could serve as creative capital for the

society to stimulate Hong Kong's economic development (Hong Kong Design Institute, 2010). The Hong Kong Design Institute (HKDI) (2010) emphasizes the importance of the contribution that graphic design makes to the economy. It states that graphic design occupies a cutting edge position in Asia and Hong Kong and is the most visible and adaptable design profession that could benefit a broad range of business and servicing industries.

1.2.2 Controversies within the design community

Though design and graphic design in particular have been repeatedly emphasized at the level of government policies and actions, the local design community is dealing with major critical issues and critique. For instance, the *Design Task Force* of the Hong Kong Polytechnic University, edited by John Heskett (2003), one of the major design education reports, states that the work of Hong Kong designers is "often limited to skills of execution used to establish superficial differentiation that 'added value'" (p.29). It is generally perceived that the standard of professionalism of local designers is rather low and needs to be improved (Heskett, 2003; The DesignSmart Research Project, 2008).

A few possible reasons behind the reported lack of professionalism in the design community are inadequate tertiary education and lack of understanding on what design is. Tertiary design education in Hong Kong has experienced some critical changes in the last few decades. Technical skills are no longer considered the most important part of design, but instead design thinking, theories and a multi-disciplinary approach are encouraged as ways to keep pace with changes in the social and economic environment (Siu, 2008; Lam, 2008). However, many employers and designers assert that design institutes have not been pragmatic enough to meet current market demands (The DesignSmart Research Project, 2008).

Another, related possible reason is a lack of consensus on what constitutes design as a practice. A major report, *The DesignSmart Research Project* of 2008, for example, claims that there is a rather serious 'mismatch' between designers and

employers, where '*mismatch*' refers to "manpower shortage in a market industry and deficiency of the necessary skills, knowledge, capabilities and attitudes" (p.7).

1.2.3 The research gap

The reports mentioned above have drawn attention to the importance of understanding what competences, skills, and values constitute the professional practice of design. In particular, these reports have identified higher level competences such as the ability of designers to work on projects independently in all design disciplines. Little attention, however, has been given to university-workplace transitions, i.e. the 'initial stage' in which young designers often need to follow instructions and get acculturated into the professional practice.

Transition is a passage from the familiar to the unfamiliar (Green, 1997). Leading academics researching transitions have contended that the first two to three years after receiving an academic qualification are likely to be the most critical period for graduate entrants into any industry, as it represents the learning bridge between the academic discipline and professional practice. They point to a learning gap (Schein, 1972; Argyris & Schön, 1989; Eraut, 1994, 2007; Boshuizen, 2003; Tuomi-Grohn, Engestrom & Young, 2003; Asian Development Bank, 2012), in that the two settings involve "different types of discourse and epistemologies"(Eraut,2007, p.116), and the problem for new entrants is making the adjustment *from learning to doing*. Most graduates in other professions, such as architecture and accountancy, receive specific training during the transition, which is required for them to receive accreditation from their respective professional bodies. By contrast, graphic design is a young discipline with no such official training offered by employers, academics or professional bodies in Hong Kong, and their role in the training of entrant graduate graphic designers has always been ambiguous, and continues to be so.

1.3 Research aim and objectives

This study attempts to address the gap in our understanding of the transition experienced by graduate graphic designers as they move from academia to workplace. It aims to examine whether there is indeed a learning gap and whether

the gap is bridged by the stakeholders. This study also attempts to reveal the learning and working experience that the graphic design graduates go through in the transition.

Specifically, several objectives underlie this study:

1) to verify the existence of the 'learning gap' between academic and workplace settings;
2) to understand the nature and degree of involvement of academics, employers, and design graduates themselves in bridging the learning gap in the transition;
3) to reveal the general learning and working conditions of the graduates in the transition;
4) to the extent that my findings permit it, to make recommendations for the improvement of professional working and learning conditions for graduate graphic designers in the future.

1.4 Research questions

These objectives generate four research questions:

1. What do Hong Kong graduate designers, design academics, and design firm employers understand by 'competence' and 'professional training' of graduate graphic designers undergoing the transition from tertiary education to professional practice?
2. What do academics and design firm employers perceive as their role and responsibility in the professional training of graphic design graduates?
3. What are the learning and working experiences of graduate designers in the transition?
4. What potential changes in design academia and professional practice may encourage the improvement of the learning and working conditions in the transition of the graphic design graduates?

To answer these questions, the study begins with an exploration of the current state of affairs, moves on to an attempt to explain it, and finally makes various suggestions for improvement, on the basis of the findings. My principal aim has

been to gain an insight into the views of apprentice graphic designers on their working and learning experience, and the nature and degree of involvement of all the stakeholders in that experience. One of my claims will be that the outcomes can be explained by reference to the various and often divergent perspectives and beliefs of these stakeholders. This in turn justifies the various suggestions and recommendations about how the stakeholders might make a more focused and co-ordinated contribution to graphic design education and professionalism.

1.5 Overview of the dissertation

This thesis contains seven chapters. Following this introductory chapter, Chapter 2 presents a review of the literature on the topic of my work. The review is organized into three main areas: 1) graphic design- background and issues, 2) graphic design in Hong Kong, 3) graphic design professionalism.

Chapter 3 presents the conceptual framework of this study and highlights the research gap –the transition into graphic design practice from academia. It sets the scope of the study and explains the context of the stakeholders that were involved in the study. In addition, this chapter clarifies the relationship between the literature review, the conceptual framework and the development of research questions.

Chapter 4 explains the research methods that were chosen for this study on the basis of the conceptual framework and the formulation of the research questions, then proceeds to a discussion of the rationale for the choice of the research approach I have adopted, which is the so-called mixed method design – an essentially qualitatively-driven approach modified by quantitative techniques. In line with this approach, qualitative semi-structured interviews and quantitative questionnaires were used as the main tools of data collection. In the discussion of the data analysis techniques, I explain category forming by means of the pattern-matching technique for interviews and statistical analysis for questionnaire survey. The chapter ends with a consideration of the possibility of 'triangulation' of data as

a way of checking the validity of what is essentially qualitative research, which in the nature of things cannot provide any universal generalizations.

Chapter 5 reports on and examines the findings. It consists of three sub-chapters: qualitative, quantitative and mixed findings. The first sub-chapter discusses the process of three levels of analysis in order to develop the final set of categories. The second reports the statistical results of the questionnaire, which in turn was based on a list of categories derived from the qualitative findings, and was used to support the validity of these findings. Eventually, a discussion of both types of findings is presented: classifying the responses in terms of whether the respondents generally concurred in accepting or rejecting the propositions put to them, or finding that there was no consensus.

Chapter 6 summarizes the major findings, and then evaluates them in terms of their significance for answering the research questions. Moreover, I compare those of the findings I regard as essential with what previous studies and theories, discussed in the literature review have found.

Chapter 7 draws out the conclusions from the whole study. It restates the study's purposes and justification, the main issues in current design education and professional practice, the research gap that this study is designed to fill, the study's potential significance and contribution to its field of research. While acknowledging the limitations of the study, the chapter suggests future lines of research which could both draw on this study.

2. Literature Review

2.1 Literature overview

This chapter presents a review of literature that is relevant to my study. More specifically, it serves the following objectives:

- to provide the background knowledge to the study;
- to review previous studies on the topic;
- to identify the gap that needs to be filled; and
- most importantly, to establish the theoretical framework for this research study.

My long-time engagement as a practitioner in the graphic design industry has developed my keen interest in graphic design professional practice in Hong Kong, and more specifically, the *problems* that exist in the graphic design discipline and profession which *hinder* graduate designers' development of professionalism in the workplace. In other words, I am looking at the issues that arise when graphic design graduates transition from education to practice.

Based on this motivation, I would like to investigate some of the factors driving the development of graphic design education and professional practice in Hong Kong, including some of the possible influences such as graphic design trends in Hong Kong, Mainland China, and the Western world. Thus, the literature review starts with a review of graphic design history in order to historically contextualize contemporary graphic design education and practice, analyze and explain certain practices, as well as certain 'issues' that have arisen from such development. This historical review provides the 'foundation' to the study's theoretical framework for exploring further the issues that have arisen from it. This contextual and historical knowledge of graphic design are important because they provide the information that shaped *what* graphic design education and practice are now, as well as *why* and *how* they present themselves in certain ways.

Within the scope of my study, a few key words or phrases were identified: 'issues with graphic design'; 'graduate graphic designers in Hong Kong'; 'transition from academia to workplace'; 'competence and expertise'; 'professionalism'. Under these key phrases, the search of literature was organized under three sub-chapters: 1) Graphic design - background and issues, 2) Graphic design in Hong Kong, and 3) Graphic design professionalism. In the following, I will discuss the relationship between the sub-chapters and the purpose of this study. Figure 2.1 below shows the correlation between the sub-chapters which have direct connection with the research gap addressed by this study: the transition from academia to workplace. For example, in Chapter 2.1 – Graphic design background and issues of the West, China has been influencing both the *education* and *professional practice* of graphic design in Hong Kong (Chapters 2.3 & 2.4). Indeed, the research gap appears between the two settings.

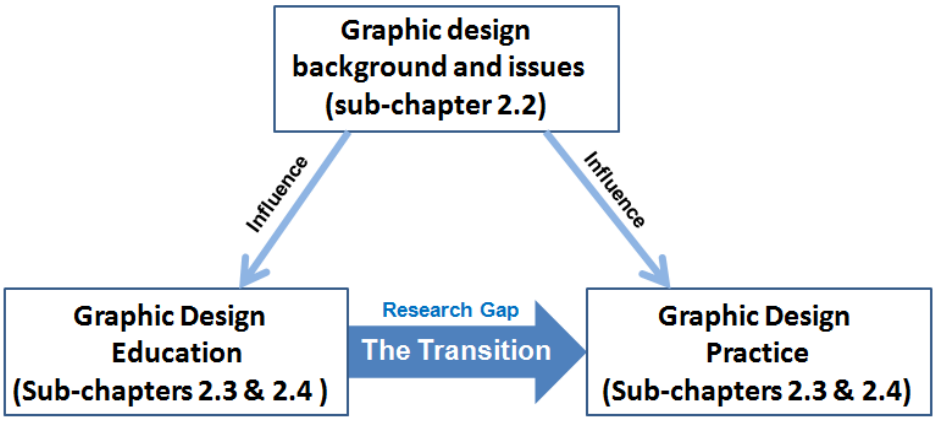


Figure 2.1: The correlation between the sub-chapters

Graphic design – background and issues

As this research deals with the issue of professionalism in the graphic design discipline in Hong Kong, it is essential to establish the contextual knowledge to understand the relatively short historical development of 'graphic design' from the past (the Western World and China) to the present time. The review starts with a brief discussion on the historical context of graphic design in terms of its origins in the West, moving into a review of its more recent development in China and then Hong Kong, revealing the general graphic design 'issues' that have arisen (such as

art styling vs. design functionality; graphic art history vs. graphic design history; graphic design education direction in future…etc), these issues have influenced both the *education* and *professional practice* of graphic design in Hong Kong. As I am studying the learning gap of the transition, some of the above issues have influenced the norms and values of graduate graphic designers moving from design education to professional practice.

Graphic design in Hong Kong

Section 2.3 presents a brief overview of the history of graphic design in Hong Kong and how its practice and education have been influenced by the Western and Chinese graphic design. The chapter further proceeds to discuss 'issues' of graphic design in Hong Kong that were revealed in the previous sub-chapters.

Hong Kong is a fast moving metropolitan city which competes with other major Asian cities. 'Design' has played an instrumental role in developing the economic values of all these Asian cities including Hong Kong. The literature indicates that the Hong Kong government has implemented policies to reform design education as well as raise the standard of design practice in Hong Kong. However, an official research report (The DesignSmart Research Project, 2008) has revealed a rather 'serious mismatch' between the skills of graduates and the expectations of employers in all design disciplines. Most employers and designers claimed that 'Hong Kong lacks competent designers'. This research has inspired the current study in helping to identify the research gap for this study: the need to investigate the 'initial stage' of *professional learning* (see Appendix 4: Glossary) and working experiences and 'mismatch of competence' in graphic design - *the transition*, which represents the first two to three years of working after the graduate receives the academic qualification and enters the design industry.

Graphic Design Professionalism

'Competence' is one of the most important components of any profession (see Section 2.4.6 for elaboration), and the quality which employers/clients benchmark against their expected and acceptable standard for measuring the performance of

the employees at the workplace. Since the focus of this study is on *graphic design professionalism* (see Appendix 4: Glossary), it is essential to understand the meaning of 'competence' as well as other important qualities of professionalism of a graphic designer. Grunig (2000) states that professional practice is based on the 'core values' of a profession and rules on how to apply these values, and a 'body of knowledge' that provides the 'expertise' to society and clients. Based on this rationale, literature on 'competence', 'values systems', 'designer's way of thinking and knowing' and 'expertise development' in the design profession are reviewed.

As mentioned in the previous sub-chapter, several issues arise in the transition, which is regarded as the 'initial stage' of professional learning for graduates in many professions such as architecture, nursing, engineering. Thus, literature on theories and practice of learning in the transition are essential for review and discussion. In *professional practice* (see Appendix 4: Glossary), conventions of professional training in other disciplines are compared to the practices in graphic design. In addition, the recent establishment of the *core competences* (see Appendix 4: Glossary) for designers by professional design bodies in America and the UK is also reviewed. This literature provides guidelines for the future advancement of the graphic design professionalism in Hong Kong.

2.2 Graphic design – background and issues

Graphic design is generally regarded as a relatively young discipline and profession, its beginnings being contemporaneous with the Industrial Revolution in England (Meggs, 1998; Weill, 2004; Heller, 2001; Hollis, 2001; Drucker & McVarish, 2009). The technological shift and social changes of the Industrial Revolution eventually produced the rise of advertising as a selling/marketing tool, which many graphic artists made into a full-time profession. However, graphic design has an identity problem both internally and with regard to how the public perceives it, in part because of the variety of specialisms it embraces – graphic artist, advertising designer, graphic designer, visual artist, paste-up artist, visualizer, and visual communication designer. One much-debated question is whether 'graphic design' is an art or a functional tool (Drucker & McVarish, 2009; Frascara, 2006; McCoy, 2001; Aynsley, 2000). Additionally, the history of graphic design is less established as a discipline compared with other design disciplines such as product or fashion design (McCoys, 1997; Triggs, 2011). This is attributed to a lack of substantial historical writings in terms of engaging with the social, cultural and political context (Triggs, 2011; Eskilson, 2012). Contributions to the literature by design scholars have not gone beyond the concept that graphic design is about visual artifacts, styling and famous designers (McCoys, 1997; Twemlow, 2006; Frascara, 2006). After World War II, the rapid technological advancement and transformation of the information economy brought about the emergence of graphic design and design education as a discipline of professional education (Davis, 2005). However, the rapid cultural, social, economic and technological changes in the last few decades have posed some real challenges to graphic design, in terms of its role and domains, defining how design can communicate effectively with target audiences. Graphic designers and design educators all over the world have been trying breathlessly to catch up with the changes (Poggenpohl, 2003).

Hong Kong, an international and multi-cultural city, has a historical heritage of a rich art and craft tradition from China, but there is also strong evidence of influence from Western design. As Hong Kong has transformed into a knowledge based

economy during the past few decades, official research has reviewed the change in what 'design' means for Hong Kong's design education and design industry, identifying the issues arising from the profession and design education (i.e. Hong Kong's lack of competent designers, designers doing aesthetic differentiation instead of using design as value creation and as a functional tool). This chapter outlines the issues by means of a review of the literature on graphic design in historical, professional and educational contexts.

2.2.1 Graphic design history in the West

Triggs (2011) comments generally on the weakness of graphic design history: "graphic design, it seems, is still searching for its past. Other design disciplines, such as fashion and industrial design, have an established tradition of archiving, documenting, critically writing and publishing history, as well as engaging with social, cultural and political context" (p.3). Eskilson (2012) states that graphic design history has frequently been documented through a display of styles and individual accomplishments, overlooking the significance of social context and the intricacy of its development. Graphic design history has not really started. For decades, graphic design history has been focusing on famous designers, Modernism and the significances of ordinary graphic artifacts (Twemlow, 2006).

When researchers look into graphic design history, they notice that graphic design seems to belong to the advanced Western nations rather than the developing countries in places such as Africa, or some parts of Europe, Asia or South America (Fry, 1989; Turner, 1989; Woodham, 2005; Chou, 2006). The reason seems to be, as Turner comments (1989) that although these countries may have a distinct 'fine art history', there might not be real evidence of 'graphic design history' in those places. Graphic design history is a problematic discipline, "not only as a new field whose boundaries are yet to be delineated but also a social practice whose purposes remain unclarified" (Margolin, 1983, p.26).

According to McCoy (2001), formal documentation of the history of graphic design came rather late. There was no graphic design history book in the U.S. until the

publication in 1983 of Philip Meggs's '*A History of Graphic Design*'. In this book, Meggs argued that the graphic design profession was still in an emergent state because "[A] field without a formalized body of history and a community of academic historians could hardly be called a profession" (p.8). Interestingly, however, graphic design was described as having a very prolonged history in a subsequent graphic design history by Meggs (1998), which illustrated evidence of visual communication signs in the prehistoric world, i.e. the paintings on rocks left in the caves in Africa and Europe in the period of 35,000 B.C. to 4000 B.C. "These early pictures were made for survival and were created for utilitarian and ritualistic purposes… or perhaps they were teaching aids to instruct the young on the process of hunting as a cooperative group effort"(p.5).

The creation of writing contributed to the beginning of graphic design in both Western and Eastern civilizations (Drucker & MCvarish, 2009). In Europe, there is the invention of visual symbols which, when combined, would form words with meaning. In the East, Chinese characters also came from symbols. The invention of symbols is generally regarded as having been inspired by the shapes of objects and animals; the Chinese written characters were derived from these symbols from as early as 1800 BC (Müller-Brockmann, 1971). In the medieval period, religious influences stimulated the development of graphic communication. The benefit of the invention of woodblock printing and paper in China had accelerated graphic communication with the masses in the West, and had inspired further development of image (engraving and illustration style) and text (different kinds of movable typefaces) since the Renaissance period (Cramsie, 2010).

The influence of the Industrial Revolution on graphic design

The first significant technological shift in graphic design began in the Industrial Revolution in England during the period of the eighteenth and nineteenth centuries (Meggs, 1998). Many other aspects also accelerated the revolution of graphic design during the Industrial Revolution, such as steam power machinery, scientific advances and marketing concepts invented by entrepreneurs. Expansion of trade from the powerful European nations to their colonies also helped speed up the

development of graphic design (Weill, 2004). The rise of advertising using the graphic arts to communicate to the masses in order to sell products under mass production during the later Industrial Revolution gave a brand-new perspective of the role and practice of graphic communication to artists of that time (Drucker & McVarish, 2009).

Since the beginning of the Industrial Revolution, as Hollis (2001) indicates, many graphic artists have turned to become designers, and graphic design has become a full-time design profession. This transition of practice of graphic artists explains the mixed views on whether graphic design should be labeled a profession of 'design' or 'visual art' (Aynsley, 2000; McCoy, 2001; Frascara, 2006; Drucker & McVarish, 2009). However, the terminology of 'graphic design' did not exist in the early twentieth century. It was not until 1922 that the new term 'graphic designer' was introduced by William Addison Dwiggins (Heller, 2001). However, the concept of graphic design giving birth to advertising is now generally rejected. McCoy argues (2001) that graphic design should not be assumed to have been merely part of advertising which was created as a means of communication for capitalistic economies in the Industrial Revolution. She states that communication needs of all societies are much broader and not limited to commercial needs.

The dominance of graphic style movements in graphic design history

There has been historical evidence of graphic movements related to the 'styles' of aesthetic appearances or 'isms' responding to cultural, social, economic and political changes since the 19th century in the West inspired by writers, artists, painters, architects and poets. As 'type' and 'image' are generally considered the most important elements of graphic design, the discussion shall commence with the avant-garde movement of Modernism in the early 20th century, which has had a great influence on modern graphic design 'visual literacy' (Meggs,1998; Hollis, 2001; Heller & Chwast, 2000).

In 1918, the Russian Revolution and political unrest stimulated a creative art movement in Russia. This avant-garde art movement represented a revolutionary

way of arranging or integrating colours, type and words, adding photographic images as new elements. There are many other movements that are also considered to have had a direct impact on graphic design, such as Cubism, Futurism, Dada, De Stijl and Constructivism. These movements were deemed as more or less responses of artists, painters, architects, and poets to various political (war and revolution), social, cultural, technological and economic changes in Europe, expressing themselves through graphic art by breaking rules, forming images to create critical and subjective expression to the public (Heller & Chwast, 2000).

While avant-garde art epitomizes artists' subjective expression, another movement which was first developed in Germany in 1919 by the Bauhaus: a famous arts and crafts school, focuses on functionality that transmits information through visual design as it responded to social and industrial changes through mass production. Its development in design had turned "…expressionism towards functionalism and from handcraft towards design for machine production … which examined the elements of graphic design and the role each of them played in transmitting information" (Hollis, 2001, p.53). Thus, graphic design played a more significant social role for transmitting information to the general public. After WWII, graphic design was altered by the rise of the Swiss style. It is also known as the 'International Style' which is a style of graphic design originated in Switzerland in the 1950s. The style was embraced by the Western world and international companies over the following two decades, because it projected clarity and legibility of communication to the reader (Eskilson, 2012).

But the Modernist era came to an end in the beginning of the 70s, and this is attributed to various social, cultural and political factors. Postmodern graphic designers were breaking the international or modern style norms which were widespread and typified by the Bauhaus (Meggs, 1998). The saying "No More Rules" (Poynor, 2003, p.6) might sum up the whole concept of the postmodern era of graphic design. Keedy (1998) observes: "The new aesthetic was impure, chaotic, irregular and crude. A point that was so successfully made, in terms of style that

pretty much everything was allowed in the professionalized field of graphic design"(p.4).

It appears that from the beginning of the 20th century to the present time, 'style' has been the main concept used by most design historians to describe the movements characterizing graphic design history. Surprisingly, there has been limited discourse about reasons and functions behind the designs and what objectives they try to achieve. Frascara (2006) has criticized the development of graphic design as lacking historical reflection, and overemphasizing the importance of aesthetic appearance, styling and visual structure, neglecting the importance of objectives and roles of graphic design. In the same way, Harland (2010) also suggests that many graphic design scholars, historians and their literature contributions "do not venture beyond the products of graphic design as visual data" (p.26). On the basis of the argument, graphic design historians seem to refer to graphic designers throughout history merely as aesthetic style executors, without documenting their ability to understand the viewer, social, cultural and economical contexts within which they create.

Additional issues of graphic design

Apart from the issue that graphic design has been documented mainly as 'visual data' represented through various 'styles', McCoy (1997) also points to a problem regarding the role of and terminology used in graphic design, as there is still scant agreement on its proper name and definition. She questions: "Are we graphic designers, graphic artists or simply layout men, and paste-up artists?"(p.3). Even the U.S. Immigration Service and Department of Labour has problems with identifying graphic design as a profession (McCoy, 1997). Moreover, tremendous and rapid changes have occurred in graphic design in the last few decades. Davis (2005) comments that the domain of graphic design has been shaken several times since the early 1980s. The non-conformist stance of the postmodern era of graphic design had an enormous impact on the prevalent 'traditional knowledge' of graphic design practice. The introduction of the Macintosh computer, fast growing technology in desktop publishing, economic fluctuations, and the growing

accessibility of the tools of graphic production to the public almost 'rewrote' the value system of graphic design (Poggenpohl, 2003). Instead of foreseeing future developments, graphic designers seem to be out of breath from trying to catch up with the current changes.

Overall, historians have mostly documented graphic design from the perspective of 'outward appearance' of the graphic design movements, neglecting the focus of graphic design on communication, meeting human needs, and values. Triggs (2011) also argues that academics, and graphic design practitioners should recognize that there is a need for design history to move away from art history because design should have stronger links with other disciplines such as sociology, economics, politics and anthropology. Designers should focus on the design process and how design solutions and ideas address contextual problems.

2.2.2 Graphic design education history

Industrialization drew a line between fine art and graphic design, defining fine art as handmade and created by an original artist, whereas graphic design was created by skilled draftsmen and illustrators employed by clients to produce works in large quantities (Cardoso, 2005). England is accredited as the country with the most significant growth of art and design educational institutions during that period. Thanks to the Committee of Council on Education, the key feature of design education in the country was that drawing was treated as a set of skills that can be developed through education rather than a pre-defined talent (Cardoso, 2005). Countries in Europe attempted to copy the success of England in arts and craft achievement during the Industrial Revolution, when key revitalization was the investment in design education and training (Drucker & McVarish, 2009).

In early graphic design education, when there was hardly any model to follow despite the small art schools of the early twentieth century, graphic artists mainly used their common sense to drive jargon communication in graphic design professional practice. Professional practice was almost the only model for early graphic design education (McCoy, 1997).

Graphic design education - Bauhaus school influence

The Bauhaus school, founded by Walter Gropius, Laszlo Moholy-Nagy and Herbert Bayer in Weimar Germany in 1919, became the most innovative arts and crafts school in Germany. Graphic artwork, typesetting and printing were taught and done by students under the same roof. The Bauhaus has been deemed the earliest design studio and graphic design practice concept, which has contributed substantially to current design education (Drucker & McVarish, 2009). The Bauhaus applied a formal master/apprentice workshop model, and was the first model of design education to introduce fundamental design principles to all design disciplines. Abstract problems were introduced to students in order for them to tackle the design problem by identifying specific needs and a procedure, encouraging experimentation and rejecting regular formulas (McCoy, 1997). The Bauhaus model of training became popular in European and American design institutions. However, as Frascara (2001) argues, it still placed too much stress on aesthetic training. He argues that the Bauhaus "was a culturally blind school" (p. 15) as it lacked cultural sensitivity and ignored the importance of context to design.

Post-WWII changes in graphic design education

In the 50s, a new descendant of the Bauhaus, the 'Swiss school of graphic design', came to influence American and European graphic design practice and education. American design schools started to adopt Swiss School typographic treatments and ways of design which were based on objectivity and rationality (McCoy, 1997). Although the educational teaching model was developed to teach design students systematically, graphic design seemed to lack subject content of its own. This was due to the fact that graphic design existed and was interpreted typically with respect to the very specific projects it was used to complete (Swanson, 2005).

Graphic design is still generally regarded as a young profession and discipline in universities, as graphic design is considered to have originated with the advent of commercial printing production. It was only recently that social and technological changes transformed graphic design into a profession and a vocational education (Davis, 2005). However, the traditional domains of graphic design have been

challenged: "the traditional domains of typography, illustration, photography, and print, while contributing significantly to graphic design, are inadequate terms for describing what graphic design is, and what graphic designers do… graphic design has been depicted as a unified thinking and doing activity that involves ideas generation, image creation, word interpretation and media realization, for industry, commerce, culture, and society" (Harland, 2010, p.22) (see Figure 2.2.1). Harland (2010) contends that graphic design today (since the 1980s) may be more recognized progressively as "trans-disciplinary" (p.24).

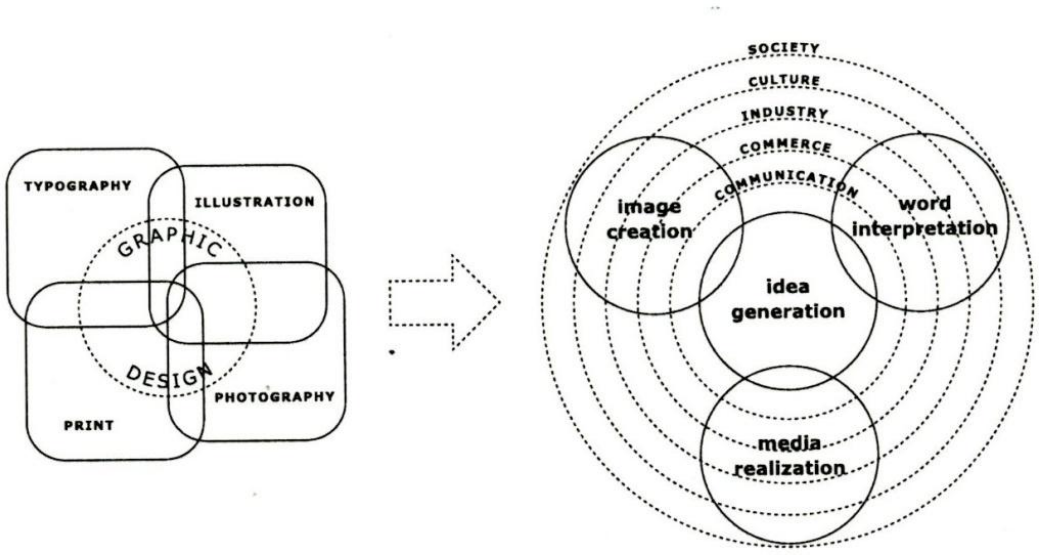


Fig. 2.2.1: Harland (2010) diagrammatic representation of the traditional domains from which graphic design emerged (left), an integrated model that links four key dimensions in a wider context.

In the past few decades, as many researchers point out (e.g., Baseman, 2005), graphic design has been changing rapidly and will continue to do so in the anticipated future. Davis (2005a) asserts that fast changing technological, economic and social aspects require a response from design education. The survival of the profession might depend on the strategic reaction of education to these changes. But this strategic response may intensify the pressure and uncertainties about the structure of design education curricula, assessment criteria, teaching practice delivery, research and theory development (van der Waarde & Vroombout, 2012)

Many design scholars agree that liberal studies should be expanded and strengthened in future design programmes at design colleges and universities (Buchanan, 2001; Baseman, 2005; Davis, 2005a; Swanson, 2005). This should help prepare students not only for the challenges of today's fast-changing world but also for future academic research at postgraduate level (Buchanan, 2001). Through liberal studies, students should be able to experience various fields of knowledge creation, with their core concepts and key methodologies, and this should broaden their understanding of socially significant moral issues and thus help them realize their "individual potentialities" (Buchanan, 2001, p.20).

Furthermore, a rapid change of graphic design education due to globalization, and new interactive media, especially via websites, may be regarded as inevitable. Communication between different nations, cultures and languages has intensified. Thus graphic designers have to be trained with the awareness of varying communicational practices within this global context (Margolin, 2011).

Too many education programmes, not many competent designers

With the establishment of various vocational schools, universities and fine art colleges offering undergraduate, postgraduates and even doctoral degrees, design education programmes are now available in vast varieties, each focusing on different aspects of graphic design (Poggenphol, 2003). Unfortunately, such programmes are inclined increasingly towards either professional or vocational training, rather than being more liberal in orientation (Swanson, 2005). The design education phenomenon has certainly produced many graphic design graduates, but perhaps too few competent ones (McCoy, 1997; Heller, 2005). Furthermore, McCoy (1997) asserts that current graphic design history taught in many art and design schools, overemphasizing the graphic style development in history, does not offer enough in-depth discussion of the political, cultural and social background. Many students might be stimulated to engage in mere "stylistic imitation" (p.8). Heller (2005) also notices a certain phenomenon occurring in most undergraduate and post-graduate students in the United States. It seems producing a terminal portfolio

full of professional works is the end objective, with students spending many studio hours of technical training with computer software, form and style development.

As the above discussion shows, most writing on graphic design education has been focused on the Euro-American world, and little research has ever been done outside these regions (Fry 1989; Turner, 1989; Woodham, 2005; Chou, 2006). It seems indisputable that Western graphic design practice and education did have a significant influence on the rest of the world including China and Hong Kong, but these Eastern cultural contexts presented a new range of factors that introduced new issues and historical developments to graphic design.

2.2.3 History of graphic design in China

There are only a handful of scholars who have studied the history of Chinese graphic design where a Western influence is traceable (Turner, 1989; Chou, 2006). Scant attention was paid to Chinese design history and development until the commencement of the Chinese 'Open Door' policy at the end of the 70's (Wong, 2001, 2005).

There is no direct equivalent for the term 'design' in most Asian and Chinese languages (Ghose, 1990). The terminology of design was actually imported into Asia from the West and modified by Japan. Japan was a more closely-related cultural context for China to cite, due to its success at modernization under Western influence in the early twentieth century (Yuan, 2003). Nowadays, the modern Chinese word "Sekji", believed to be derived from Japanese, is used in mainland China and Hong Kong to refer to the general meaning of design (Wong, 2006, p.1). Nevertheless, the Chinese with thousands of years of civilization had a concept of design: the roughly equivalent Chinese term meaning 'traditional art and hand craft' has been used since the Qin dynasty 2000 years ago. 'Design' in this sense was learnt through private apprenticeship in a master-and-student, father-and-son relationship (Yuan, 2003). Wong (2006) asserts that 'Gongyi' is the word in the Chinese language that represents works of traditional arts and crafts. She also notes that in the Qing Dynasty of the early 20th century, modern graphic design was

brought into China and influenced by the Western countries with advanced technological skills and machineries. A new term 'gongyi meishu', which means 'applied art', was introduced and related to semi-machine made art and craft products (Yuan, 2003, Wong, 2006). In the 1950's graphic design had two different names and meanings in China. One, 'zhuang huang', means decoration, whereas the other, 'shu ji zhuan huang', means publication design (Wang, 1995).

Shanghai graphic design style as the first 'hybridized style' in China

China had experienced graphic design development similar to that of some European countries during and after the Industrial Revolution, when advertising was considered the first form of graphic design. Import of Western industrial goods to China began in the late nineteenth century. In addition, the growth of manufacturing of local products by private factories owned by Chinese entrepreneurs also stimulated the growth of Chinese advertising design (Guo & Su, 2008).

As Minick & Jiao (1990) relate, advertising agencies began to be established in China's major cities, where demand for trained Western style Chinese artists in advertising was increasing. A new Chinese graphic design style first appeared in the 1920's and originated from Shanghai, the most modernized city with many foreign concession districts. Shanghai artists adopted the Japanese and European models and the graphic trends of Art Deco and Cubism. Wong (2006) comments that this new Chinese graphic design style was rather 'unique', and the style was a mixture of elements of the local artistic production mixed with Western geometric arrangement (See Figures 2.2.2 and 2.2.3). However, Minick & Jiao (1990) argue that the Western influence on this Chinese graphic design should not be overstated, as Chinese has thousands years of art and craft tradition. Wong (2006) also echoes that many Chinese art scholars such as Yuan (2003) and Wang (1995) agree with the idea that China has a long history of graphic design, the most obvious examples of which would be the "yin-yang" and "I Ching" symbols (Wong, 2006, p.4).

Above: Fig. 2.2.2: Modern Student, June 1931. Editor: Liu Da-jie.
Designer: Chen Zhi-fo. Publisher: Shanghai Dadong Book Company
(Minick & Jiao, 1990)
Right: Fig. 2.2.3: A Great Love, 1930. Designer: Dian Jun-tao.
Publisher: Shanghai Kaiming Book Store, Minick & Jiao, 1990)

Changes in graphic design in China

The modern Shanghai graphic design style declined in China during the Communist regime, but this style continued to evolve in Hong Kong under the British colonial system from the 50s (Wong, 2004). Soon after World War II in the late 40s, the Communist Party won the civil war and took over the mainland Chinese territories. Western influence on graphic art and design was replaced by propaganda based on Soviet 'socialist realism' (Minick & Jiao, 1990). Mao Ze-dong stated in 1942 that " [T]here is in fact no such thing as art for art's sake… [P]roletarian literature and art are a part of the whole proletarian revolutionary cause, they are, as Lenin said, cogs and wheels in the whole revolutionary machine" (Minick & Jiao, 1990, p.101). Therefore, graphic art became a tool for communist propaganda. The subsequent 'Cultural Revolution' (1966-1969), was, as Chen (1975) argues, a disastrous period for the Chinese people, the country's economy, social welfare and general education. China's economy was virtually bankrupt in the early 70s, when

yearly income was not more than US$200 per person. Commercial design was pointless due to poor economy and an immature consumer market (Wang, 1990).

When the Chinese market adopted the 'open door policy' in 1979, the country had already gone through a complete isolation from the international stage for almost three decades. Although the *Four Modernizations* (i.e. agriculture, industry, science and design) of the 'open door policy' announced by Prime Minister Deng Xiou-ping had little to do with design development, design was seen as the most visible front position of the China's economic reform and restructuring (Wang, 1995). Under this circumstance, Hong Kong graphic design influenced the development of Chinese modern graphic design, because there were more cultural and commercial exchanges between business and design institutes and Hong Kong graphic designers (Wong, 2001).

2.2.4 Development of graphic design education under Eastern and Western influences

The general education system in China at the end of the nineteenth century retained the old Neo-Confucian orthodoxy that had prevailed since the Song Dynasty (tenth to thirteenth century). A major transformation in educational thought in China started at the beginning of the twentieth century (Peterson & Hayhoe, 2001). Chen (1975) indeed thinks that the first dramatic change in the modern Chinese education system started at the end of the 19th century. The so-called 'modern schools' were established by foreign missionaries who sought to change China. Some Chinese also believed that the spread of Western education and knowledge was the only way to save the backward Chinese Confucian education system (Chen, 1975).

Major military defeats by the Western powers and Japan in the nineteenth century had caused China to turn away from the traditional education system and become open to educational reform. The fact that China lost the Opium Wars in the mid-nineteenth century (1839-42 and 1856-60) had an immense impact on Chinese political, social, economical and cultural life (Guo & Su, 2008). Yuan (2003) further

suggests that the defeat of China in the Opium Wars with Britain was the main trigger for the development of art and design education. In addition, given the millennia-old Chinese tradition of arts and crafts, changes were even encouraged by the Chinese government. The apprenticeship method was not 'scientific' in the 'modern' Western sense, but merely practical or 'pragmatic'. Students learned from the master's experience and skills without fully understanding the rationale behind it. Thus, the establishment of art and craft schools was encouraged (Guo et al., 2008) and Chinese artists became exposed to Western academic methods in studio art (Minick & Jiao, 1990).

Parallel to these developments, there were two phases in the development of Chinese graphic design education. The first phase was in the early 20th century, which could be considered as the new era of interaction between Chinese tradition and Western 'modernity'. The second phase was after World War II, and, more specifically, after the Chinese Communist Party's victory in the civil war (Wong, 2005).

In 1919, the first National Government funded the establishment of the National Beijing Art School under the leadership of Lin Fengmian, a French-educated Chinese artist (Wong, 2005). Liu Hai-su is considered to be the first person to formalize an art and design curriculum in China based on Western methodology (Minick & Jiao, 1990). Liu's founding of the Shanghai Institute of Fine Arts was viewed as an example for the progression of combined art training in both Chinese and Western traditions. But it is argued that the Chinese arts and crafts education system was influenced more by the Japanese than the Western model, as the former's economic, cultural and modernization reforms had more similarity with those of the Chinese. However, the development was rather short-lived, due to the political unrest and poor economic conditions in China (Yuan, 2003).

Soon after World War II in the late 40's, the Communist Party gained victory in the civil war. The change marked the commencement of the second phase of development of Chinese design education, during which the art and design school

system and pedagogy were developed by imitating the Soviet model (Wong, 2005). At that time, almost every booklet cover design had to relate to the political message of Communist thinking of Chairman Mao and Lenin (Xia, 2009) (Fig.2.2.4).

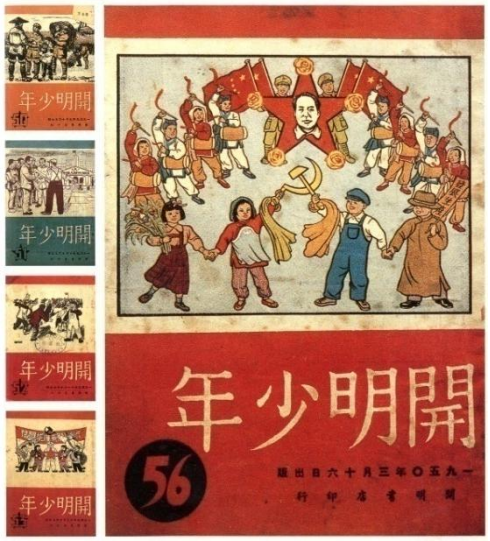


Fig. 2.2.4: The Enlightened Teens. February, 1950.
Designer: Wu Yun. Publisher: Shanghai Kaiming Bood Store
(Minick & Jiao, 1990)

Graphic design as 'decoration' at art academies

During the Cultural Revolution, graphic design was seen as serving mainly an aesthetic purpose, and it was labeled as 'Decoration Design' in art academies. Most instructors in the departments were artists or painters and lacked experience in design and marketing, and the curriculum of design was fine art and drawing oriented (Wang, 1990). When the Chinese Communist regime first adopted its 'open door policy' in 1979, the government recognized that development in design and design education could be one of the most effective ways for promoting economic growth (Wang, 1990, 1995, Justice 2012). Modern Chinese design education started in the early 1980s including environmental and interior design, fashion and apparel, graphic design and packaging (Wang, 2009a). Advertising design and interior design were two of the most fast growing disciplines in the Chinese market after 1979. Some of the departments of art schools gradually changed into design departments, with a 'modernized' curriculum based on the foreign models of Japan, West Germany and Hong Kong. Some began to interact

with overseas design schools. The overall growth since the mid-1990s has been phenomenal (Wang, 1990).

Fielding and Siu (1998) comment that art and design education in China is used as a tool for "party-preferred moral and spiritual values" (p.315). They cite the document *The Overall National Plan for Art Education in the Schools* (1989) which asserts that "art education is not only the main subject matter and methodology to implement aesthetic education in schools, but also a powerful means to strengthen the socialist construction of spiritual civilization, and to extend an imperceptible influence on enhancing the moral standard of the students"(p.2). Several weaknesses have been identified in the current design education in China. For instance, it is claimed that design students are excessively manipulated by the style of the teacher's works and that students are more interested in the finished work than the design process. They see copying designers' ideas as a regular practice in design (Fung & Lo, 2001). As Fung & Lo (2001) comment, "there is a very definite impression that design in China means 'decoration'" (p.173). The meaning of 'decoration', according to the researchers, pointed to the term of 'formalism' in design: it refers to an emphasis merely on the arrangement of visual elements using the designer's personal creative intuition rather than studying the social and cultural interpretation of images that bring communication to viewers.

Chinese design education as an issue now and in the future

Since the emergence of the 'market economy' in China in the 1980's, the number of design schools increased rapidly from a few schools to approximately 450 between mid-1990 and 2003 (Buchanan, 2004). Based on the data provided by the Ministry of Education of China, Justice (2012) argues that these days China is "the largest market world for design education" (p.117). According to her sources, 2.2 percent of Chinese students of 1,900 institutions are studying design at the present time. Though the increase in the number of design students has been significant, design educators in China seem to have relied extensively on adopting approaches prevalent in Western universities. This limitation needs to be overcome, and Buchanan (2004), for example, argues that developing a unique 'design thinking' of

its own instead of imitating the West would be the key to China's design education making its mark on the international competitive market place.

Some researchers, however, assert that China does have its own design thinking and creativity which is rather different to the West's (Lau, Hui & Ng, 2004; Leung, 2004; Justice, 2012). It is built around imitation. In Taoist and Buddhist theory, creativity is viewed as inspired imitation of the power of Nature. Invention in China was understood as an imitation of Nature throughout its traditions (Rudowicz, 2004). Remarkably, the thinking of the new Chinese generation born after the 80's is influenced by Confucian, Taoist and Buddhist beliefs, alongside the shaping forces of "Communism, Capitalism, and Patriotism and Cosmopolitanism" (Justice, 2012). The future questions of China design education and design identity need to be based on the "modern self-image of China to its people, the consciousness of preserving cultural heritage and cultural understanding of the Western world about contemporary China" (Wong, 2005, p.571). China has to find its own design identity. "Imitation is not necessarily a 'stage' on the road to originality" (Turner, 1993, p.20).

Design education and design practice are changing rapidly in China, in the era of the knowledge-based global economy (Qian, 2007). Chinese design educators are becoming more aware of the importance of creative thinking and design knowledge and the role of designers is shifting from "form to system creators" (p.87). Jiang (2003) by contrast is critical of Western art and design education, as having had a negative impact upon Chinese traditional art and craft education, especially the rapid development of computer technology and visualization due to which Chinese students are losing their traditional hand skills and values, and art and craft product appreciation.

The long cultural heritage of Chinese arts and crafts and distinctively Chinese creative thinking cannot be shaken off so easily. Chinese thinking collided with Communism, Capitalism, and Patriotism and Cosmopolitanism in the Chinese generation which was born after the 'Open Door Policy'. The current Chinese government is making an enormous investment in design and innovation. In the

area of design, China competes at national and international economic levels (Justice, 2012). These elements have made the development of Chinese design education very interesting and complex.

2.2.5 Summary

The literature reviewed in this sub chapter demonstrates that graphic design has a relatively short history and is a less well-established discipline than other disciplines related to design. Some scholars have voiced the criticism that graphic design histories have over-emphasized art history, and that the applied function of graphic design as a communication tool for economic, social, cultural and political development has been overshadowed. Nevertheless, overemphasis on styles still influences present graphic design practice and graphic design education in the West as well as the East.

China belatedly experienced graphic design developments similar to those of Europe after the Industrial Revolution, when advertising was the first form of graphic design. Similarly, Chinese design history, according to most scholars, has tended to be focused on various art styles and graphic design history has been over shadowed by art history, as in the West. China did not have proper development of graphic design and graphic education during the Maoist regime or before the 'open door' policy of the 80's. Graphic art was used mainly as a political propaganda tool. The term 'graphic design' is still understood as 'decoration design' in most art and design institutions in China at the present time. However, rapid developments in recent decades have meant that China is now the largest world market for design education. Whether the issue on 'styles' in graphic design of China and the West also applies to Hong Kong design education and practice awaits further discussion. The discussion in the next sub chapter turns to Hong Kong graphic design and design education.

2.3 Graphic design in Hong Kong

In the first issue of the Hong Kong Design Association (HKDA) magazine, Michael Yu (2011) states that, officially speaking, graphic design has only existed in Hong Kong for around 40 years. Not much research has been done on the history of the local graphic design, with some notable exceptions, such as Turner (1989, 1993), Steiner & Haas (1995), Wong (2001, 2006), and Clark (2009). Most of the more than thirty publications on graphic design by local designers (such as Wucius Wong, Kan Tei Keung and Freeman Lau) tend to document graphic design practice, basic principles and personal professional works. It is only recently, since the Government started funding university research on design history, that this area has been attracting some research attention.

This section starts with an overview of the history of graphic design in Hong Kong. It then discusses some of the key issues involved in developing appropriate policies and measures to ensure that Hong Kong's designers contribute to the social and economic success of the city. The state of Hong Kong's design education is discussed then, followed by a detailed analysis of the mismatch in designers' competences identified in the views of design educators, designers and design firm owners. The section concludes with an argument that more research needs to be done on how graphic design graduates transition into the workplace in order to understand how educational and professional bodies can better contribute to the development of competent designers.

2.3.1 The history of graphic design in Hong Kong

In any discussion of Hong Kong's graphic design development, it is essential to review the historical and geographical development of the Pearl River Delta where Hong Kong is situated. According to Turner's (1989) study of China and Hong Kong design, foreign trade started spreading around the coastal cities of China, especially the Pearl River Delta which was one of the major foreign trade centres, during the Han dynasty (202 BC -220 AD). During the Sung dynasty (960-1279AD), the main export goods from China were ceramics mass produced in the region of Guangdong. They were designed in an enormous range of 'adaptive styles', from Asian and

Arabic, to Dutch and English. The Pearl River Delta was a mass production based, labour intensive, export oriented and 'adaptive design' place from the tenth to the nineteenth century. As Hong Kong has the geographical advantage of being situated at the entrance of the Pearl River Delta, it became an obvious beneficiary of this unique manufacturing and adaptive design influence.

China's defeat in the First Opium War in the mid-nineteenth century led to Hong Kong becoming a British Colony. Due to the city's unique geo-political situation, the early forms of Hong Kong graphic design synthesized a very broad variety of Chinese traditions as well as foreign touches (Turner, 1989). However, in the 1930's Hong Kong graphic design echoed strongly the influence of the modern 'Shanghai style' which is illustrated below in Figure 2.3.1.

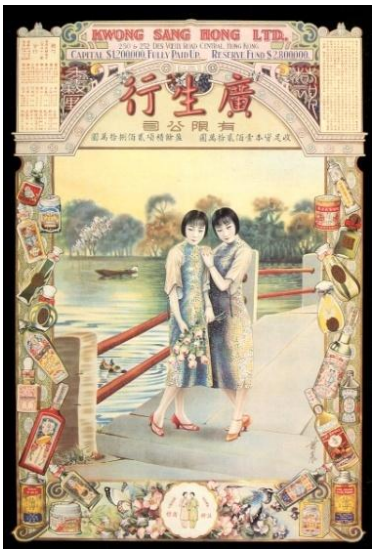
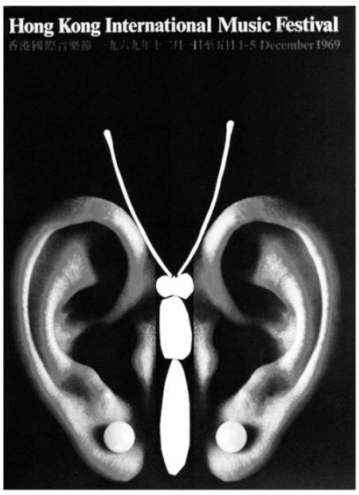
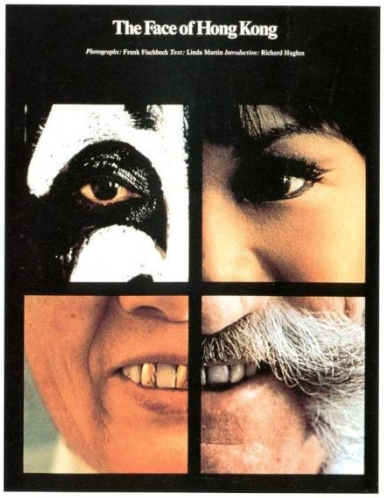


Fig.2.3.1: Kwan Wai Nung's posters for
Kwong Sang Hong Ltd. 1931. (Turner, 1989)

One of the reasons 'Shanghai style' was popular in Hong Kong was that both Hong Kong and Shanghai at that time were graphic printing production centres for posters and calendars (Clarks, 2009). However, this style had started to disappear in the late 1960's due to the expansion of American marketing and design styles in Hong Kong. The most important figure from this period was Henry Steiner, an American who introduced a new form of cross-cultural graphic design execution.

This form combines Chinese cultural symbols with Western letters and grids, where visual language is based on double meaning and contrast via text and image (Clark, 2009). According to Wong (2001) Steiner introduced 'concept' as the basic design principle to Hong Kong designers and, by doing so, he bridged the gap between international and local design styles. Some examples of Hong Kong posters from that period are shown in Figures 2.3.2 and 2.3.3.



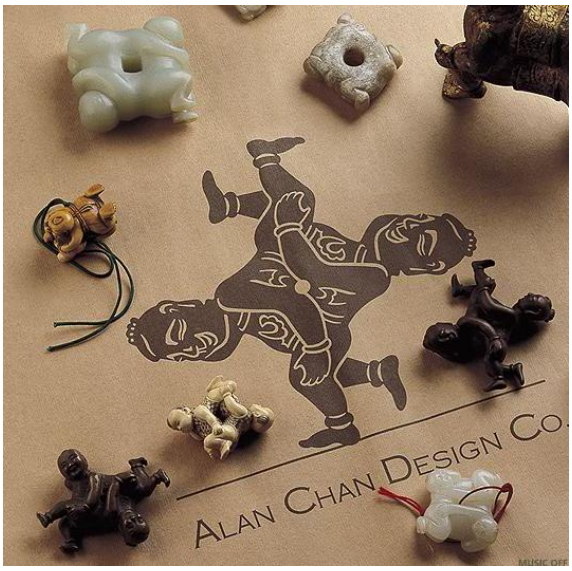


Above: Fig. 2.3.2: Poster for a Hong Kong Music Festival, 1969.
The ears take wing and the earrings stand for the 'Pearl of the Orient' (Steiner & Haas, 1995)
Right: Fig. 2.3.3: Quadruple split image allows a composite face
reflecting Hong Kong's population on a book jacket, 1970 (Steiner & Haas, 1995)

Two very representative local Chinese designers who have instilled traditional Chinese cultural elements into their thinking as inspired by the works of Henry Steiner are Kan Tai-keung and Alan Chan. Kan used traditional Chinese folk art and high art elements (See Fig.2.3.4). Chan's works, on the other hand, have benefited from his own interest in Chinese antiques and artifacts and he became famous for his "modernized nostalgic style" (See Fig.2.3.5) (Wong, 2001, p.60). However, there are generally still two diverse groups of Chinese Hong Kong graphic designers, one of which follows Kan and Chan's style, blending both Chinese and Western elements, and another group which by contrast continues to work in a predominantly Western style without drawing on any Chinese concepts or icons (Wong, 2001). Examples of these works are illustrated below in Fig.2.3.6. Yu & Li (2006) talk about local graphic designers as representing four distinct generations, each with its unique style: with

Wucius Wong and Kan Tai-keung as representatives of the first generation, Alan Chan and Michael Miller Yu representing the second generation, Freeman Lau as the third generation and Javin Mo as the fourth generation.

Fig.2.3.4: '1995 Taiwan Image' ink and brush, Designed by KAN Tai-Keung
Designed in Hong Kong, 2004. Edited by John Heskett,
Published by Hong Kong Design Centre.



Above: Fig 2.3.5: Alan Chan Design company website's front page.

Retrieved November, 2012 from http://www.alanchandesign.com/acd/main.html

Right**:** Mandarin Cake Shop packaging design

Retrieved November, 2012 from http://www.alanchandesign.com/acd/main.html

Fig.2.3.6: Puma sport goods packaging design,

designed by Michael Miller Yu (Yu & Li, 2006)

The most prolific graphic design firm in Hong Kong from the early 70s until now has been Wong and Kan. Wucius Wong looked at art and design from an artistic angle, mixing Eastern and Western elements (Cheung, 2008). In his words: "My style drifts between the traditional and the modern, faltering at the crossroads where Eastern and Western cultures meet, finding one junction after another on my journey" (Wong, 2006a, p.27). Kan Tai-Keung, one of the most respected Hong Kong graphic designers and educators, graduated from the Department of Extramural Studies at the Chinese University and was a top student of Wucius Wong in 1966 (Chen, 1985). As Chen (1985) documents, Kan frequently tried to leave the graphic design profession since he had a stronger desire to be a painter. Eventually "he started to paint in the capacity of a designer" (p. 3) and developed a unique painting style.

The topics covered by Wong, Kan and other renowned artists range from design principles (line, dot and sharp), commercial advertising design, poster design, colour principles, graphic design practice to visual design by computer. Their contribution to Hong Kong graphic design and education has been tremendous and unprecedented. However, their works have focused mainly on visual elements, surveys of finished graphic designs and art direction, whereas the target audience, the background, the objective and function of graphic design in social and commercial contexts are seldom discussed.

In sum, scholars have documented Hong Kong graphic design development in terms of styles appearing at different periods (e.g., the Shanghai style; the Cross-cultural design style; the Traditional Chinese folk art style; the Modernized nostalgic style and the Purely Western style), as well as explaining the rationale behind Hong Kong designers' choice of 'Chinese cultural elements' in graphic design nowadays, as a means to make their personal mark on the international design arena. The social, economic and user-centered functions of graphic design have remained largely unexamined.

2.3.2 Development of design policy in Hong Kong

Mainland China's open door policy, introduced in the late 70's has had a tremendous effect on Hong Kong's economy. Once an original equipment manufacturing (OEM) based economy, Hong Kong saw many of its industries move their manufacturing bases into the Pearl River Delta, PRC for lower production costs. The city's transformation is best described as "a shift from an enclave economy to a metropolitan economy and from a manual economy to a knowledge-based economy" (Enright, 2002, p.384). Today Hong Kong is one of the world's most externally-oriented economies. International competitiveness has been a critical factor in Hong Kong's economic prosperity, with service sectors claiming an increasing share of the economy.

As Hong Kong entered the era of service industry and the knowledge-based economy, facing intense competition from the Mainland and other Asian countries, 'Creativity and Innovation' in products and services has become the essence of future economic success (Heskett, 2003). In such an economic climate, the Hong Kong Design Centre (HKDC) was established in 2001 by the SAR Government to promote general awareness of design innovation in the education, business and government sectors. HKDC (2008a) argues that Hong Kong's economy has insufficient resistance against escalating global competition, especially with many Asian countries developing less expensive ways for production and services in order to create extra value for profit from the market, recommending that Hong Kong's servicing industry should consider creativity and innovation carefully in order to maintain its competitiveness. The Hong Kong Design Institute's (HKDI) (2010) Course Validation Document specifies that Hong Kong requires many creative and professional designers who could serve as creative capital to stimulate economic development. To achieve this, Hong Kong should learn from its neighbors, both in terms of policy making and practice.

Heskett (2009) provides the following timeline to visually represent design policy making across Asia:

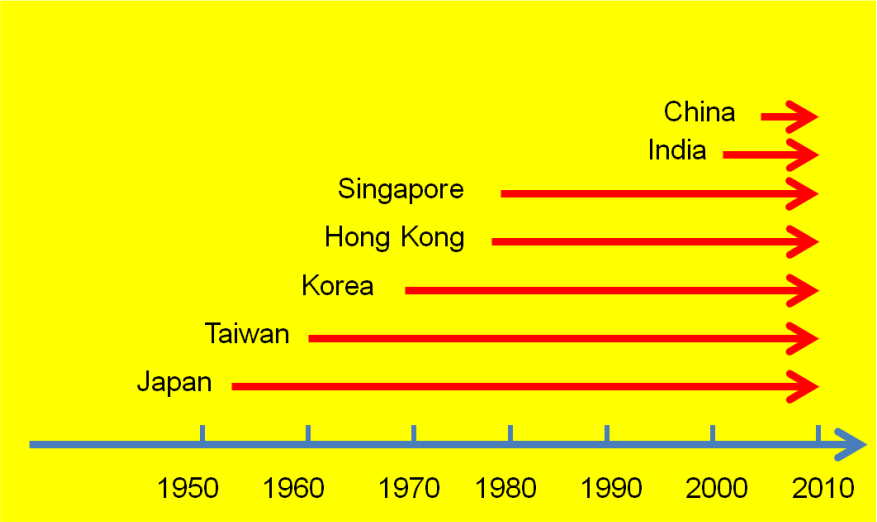


Fig. 2.3.7: Redrawn from the diagram in Heskett (2009), Asian design policy timeline. Creating values by design. MDes. unpublished lecture notes . Hong Kong: School of Design, Hong Kong Polytechnic University.
(Arrows represent the year of implementation of design policies in the various countries)

As this timeline shows, Japan was the pioneer in introducing design-related policies in Asia. This was done primarily by the Ministry of International Trade and Industry (MITI), which implemented a 'design' policy in the 50's across various industries. Japan's recognition of the importance of design, both at the policy and practice levels, has played a key role in the country's economic growth. Evidence over the years indicates that Japanese design generally is recognized in the international market as being innovative and of high quality.

Another, more recent, example of successful design policy making in Asia is South Korea, the third-largest economy in Asia which has achieved one of the fastest rates of economic growth in the region's history from the mid-20th century to the present. The phenomenon has been called the 'Miracle on the Hangang River' (HKDC, 2008a). Recent top exports of the country include entertainment and television dramas, films and popular music, which have stimulated the tremendous popularity of South Korean pop culture across Asia. Consumer electronics manufacturing, led by world renowned brands such as Samsung and LG, is the core traditional business that

continues to contribute remarkably to the country's economic growth (HKDC, 2008a). Design innovation has played a significant role in the cultural and industrial products that account for the Korean success. One of the driving forces behind this success comes from the national design policy implemented by the Korean Institute of Design Promotion (KIDP). According to its official website (2008), "the Korean Institute of Design Promotion lies at the centre of national design promotion policies. KIDP has been putting its best efforts into promoting Korea as a global leader in the design community… In the 21st century, the era of culture and emotion, design is in the spotlight now more than ever. Design is the core of the management strategy of the world's leading companies. Korea (South) has recognized design as the future growth engine" (1st & 2nd paragraphs).

Generally speaking, East Asian countries like China, Japan, Korea and Taiwan have all been proactively investing a significant amount of resources into the design industry and design education. However, inherited social and education issues seem to leave Hong Kong struggling to achieve the kind of 'design innovation' that will create value for society (Heskett, 2003). Firstly, many school teachers in secondary education believe that the potential art and design students in the secondary schools are generally weak in their academic subjects; hence, many teachers see art and design courses as "soft options, devoid of rigour" (Heskett, p.49). This kind of perception on the part of teachers, ignoring the intellect and capability of designers, narrows their views towards preparing potential design students for a design career. This makes it difficult for universities to establish a more positive mindset and standard. Secondly, due to Hong Kong's previous OEM (Original Equipment Manufacturing) oriented background, some clients think 'design' is an unnecessary cost and are not willing to pay high fees to design firms. They have not been made aware of the full potential and capability of design innovation for business and society. Thirdly, designers with sub-degree qualifications dominate the present design industry. They execute designs competently but may lack design management skills. In general Hong Kong designers receive low levels of payment, as compared to those in other developed countries. If the low payment reflects the

level of standard of design services, Hong Kong cannot be said to have a high standard of designers of professional practice (Heskett, 2003).

As Hong Kong has been transforming into a knowledge-based economy for decades, according to Heskett's model (2009)(Fig.2.3.8), it should by now have progressed from Original Equipment Manufacturing (OEM) to a hybrid of Original Design Manufacturing (ODM), Original Brand Management (OBM) and Original Strategy Management (OSM). In view of the mindset of clients and competences of existing designers, as reported in the Design Task Force Report edited by Heskett (2003), it seems designers have remained at the OEM and ODM based levels. At those levels, designers are merely 'differentiators or interpreters' in terms of Heskett's 'Different levels of design competencies', as shown in Figure 2.3.8 below.

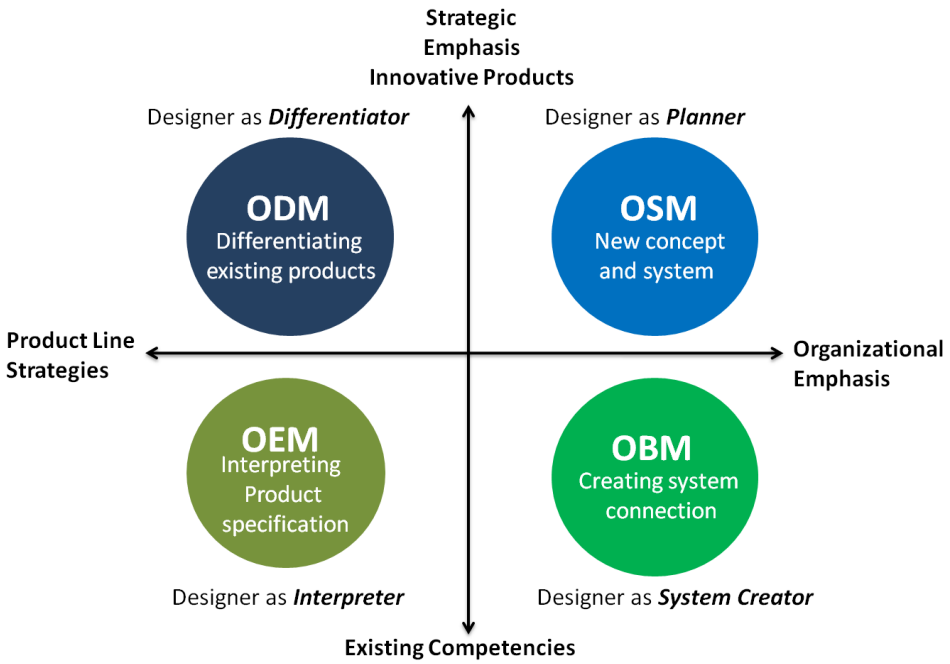


Fig. 2.3.8: Adapted from Heskett (2009) – Different levels of design competences

As mentioned in this section, Hong Kong was once an Original Equipment Manufacturer city. The manufacture of designed products such as toys, garments, and household products has long been contributing social wealth and economic value to Hong Kong. Product design has since been given much attention, which is reflected in the design policy implemented by the government and design institutes.

HKDC (2008) mentions the significance of 'design' as a value-added business tool, referring particularly to the product and textile design industries.
Scant attention has been paid and limited empirical research is available that would allow us to examine the capability of graphic design practice to contribute to the social and economic success of Hong Kong.

2.3.3 Design education in Hong Kong

'Art' and 'design' seem to have an unavoidable 'close relationship' in the development of Hong Kong's graphic design education. This is not surprising since, as Yu (2011) recalls, graphic design was known as 'commercial art' in the early 60s in Hong Kong. So-called 'design education' was not established until the foundation of the Hong Kong Technical College (Lam, 2008), where the notion of design was more related to industrial design. The course had two categories: 'basic design' which covered design fundamentals and principles such as colour theory, perspective and drawing, and 'classified design' which related to practical industrial work such as trademark, poster and packaging design. Gradually, 'design' started to move away from engineering and technology and became part of fine art training (Siu, 2003). The first evening commercial course introduced by the Hong Kong Technical College in 1959 on 'basic design' or 'classified design' nevertheless encouraged "visual beauty or attractive appearance" (Siu, 2003, p.86).

Another design education model that could be considered influential as it has had a prolonged effect on graphic design education In Hong Kong is associated with the Department of Extramural Studies at the Chinese University of Hong Kong. This department took the initiative to run a new fundamental design course in 1967; the key figure promoting the course was Wucius Wong. Siu (2003) asserts that the course was rather similar to traditional art training which allowed sufficient space for personal experimentation to explore visual elements without placing more stress on the importance of industrial processes and requirements, whereas the Hong Kong Technical College design course was more 'industry oriented' by comparison. This has become a popular design education model which is easy to adopt without the need to consider the complicated design factors that industry

and society demand. This model has led to design training which embraces a styling and aesthetic outlook but does not fulfill the real purpose and 'full meaning' of design (Siu, 2003).

In the early 70s, the Hong Kong Technical College was upgraded to a Polytechnic with the objective of improving local design programmes to meet the needs of the industry. The Polytechnic was subsequently upgraded to a Polytechnic University in the early 90s, with degree courses. Since the early 90's, there have been more government-funded institutions providing graphic design education.

Generally speaking, today's Hong Kong graphic design graduates mainly come from three types of institutes: 1) government subsidized universities/institutes; 2) community colleges; and 3) private design schools. The School of Design (SD) of the Hong Kong Polytechnic University (HKPU) and the Hong Kong Design Institute (HKDI) are both government sub-vented institutes. The School of Continuing and Professional Education (SCOPE) of the City University of Hong Kong and School of Professional and Continuing Education (SPACE) of the University of Hong Kong, as well as the School of Professional Education and Executive Development (SPEED) and Hong Kong Community College (HKCC) of The Hong Kong Polytechnic University (PolyU) are all self-funded community colleges. There are also private design schools, namely the Hong Kong Chingying Institute of Visual Arts (CY), the Design First Institute (DF) and the Co1 Design Institute, Hong Kong Arts Centre (HKAC).

Model of competent graphic design graduates

Apart from private schools, almost all design courses held at the community college and government subsidized institutes in Hong Kong are validated under the Qualification Framework (QF) set by the Hong Kong Education Bureau (EDB), while universities can implement self-validation. "The QF is a hierarchy that orders and supports qualifications of academic, vocational and continuing education. To strengthen the industries' leading role in the development of vocational training so as to enhance the effectiveness of the latter, Specification of Competency Standards (SCSs) are formulated by the respective industries" (EDB, Qualification

Framework, Introduction, 2008a, 4th paragraph). The Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ)(2014) provides advice on academic standards, assessment, and quality assessment of QF for programmes conducted in the higher education institutes and course providers in Hong Kong. According to the official website of HKCAAVQ, there are seven levels indicated by the outcome-based Generic Level Descriptors (GLD) as illustrated below:

"Level 1.	Certificate
Level2.	Certificate
Level 3.	Diploma
Level 4.	Associate / Higher Diploma
Level 5.	Bachelor
Level 6.	Master Degree / Postgraduate Diploma / Postgraduate Certificate
Level 7.	Doctoral Degree" (HKCAAVQ, Applicable to Learning Programme-based Operator, 2013, p.2)

Table 2.3.1: Seven levels of the outcome-based Generic Level Descriptors (GLDs)

Each programme is defined in terms of Five aspects, each of which embodies quality control criteria:-

1. "Programme Objectives and Learning Outcomes
2. Programme Content and Structure
3. Admission Requirements and Student Selection
4. Teaching and Learning
5. Student Assessment"(HKCAAVQ, Determining QF Levels, 2014, p.1)

According to the outcome-based Generic Level Descriptor (GLD) of the seven levels of education the Qualification Framework (QF) set by the Hong Kong Education Bureau (EDB)(2008) indicates the standards of graduates demonstrated under four categories of capability: "1) Knowledge and Intellectual Skills; 2) Processes; 3) Application, Autonomy and Accountability, and 4) Communication, IT and Numeracy" (pp.1-7).

For example, the Associate Degree or Higher Diploma belongs to Level 4, the Bachelor Degree is Level 5. Generally speaking, Higher Diploma and Bachelor Degree levels at the government subvented institutes (i.e. The School of Design of HKPU and HKDI) are known by the Hong Kong design industry to be producing the

most competent entry-level design graduates recognized by employers and academics in the graphic design discipline. HKDI, formerly the design college of the Institute of Vocational Education (IVE), produces the 'largest number' of design graduates in Hong Kong with Higher Diploma level qualifications. These two institutes have been the major providers of design graduates entering the professions and have close strategic collaboration with each other in Hong Kong's design education development (Heskett, 2003).

Apart from the Higher Diploma and the Degree programmes of these two institutes, there are several other community colleges providing Higher Diploma and Top-Up Degree courses in collaboration with overseas universities. However, there are no official figures showing how many graduates of these colleges join the workforce annually. Most significantly, the uncertainty has intensified with the rapid growth of sub-degree programmes, with graduates coming from a wider range of design disciplines from 2008 onwards. The rapid growth of design programmes in general also attracts a larger teaching workforce into the field, but this has led to increasing concerns about the quality of teaching and training of the teachers and graduate students (Hong Kong Design Centre, 2011).

Design institutions in Hong Kong are aware that an essential change in design education is needed in order to deal with the global economic environment. While in the past, the focal point of education was on creating designers skillful at execution, understanding and addressing business factors and users' needs in creative and innovative ways has become increasingly important. A multidisciplinary approach is required in all disciplines in future design education in Hong Kong because designers are expected to work with diverse teams of experts from different disciplines in order to provide the best design solutions (Lam, 2008).

2.3.4 Graphic design as the largest graduate discipline and workforce in the design industry

According to statistics provided in the Design Task Force Report edited by Heskett (2003), Visual Communication courses have the largest population of design

graduates in HKDI and HKPU among all design disciplines. Design graduates are employed mostly by small sized local design firms with fewer than 10 staff (94%) rather than international firms. Graphic designers and design firms make up the largest portion of the design industry of Hong Kong (see Figure 2.3.9 below). Graphic design firms account for around 47% of all incorporated design firms in Hong Kong.

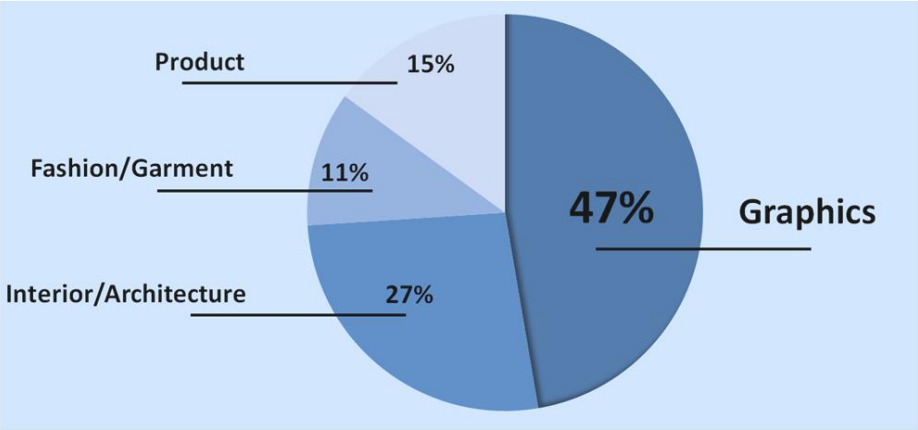


Fig. 2.3.9: Specializations in design firms in Hong Kong from the Design Task Force Report edited by Heskett (2003)

The essential contribution of graphic design to the economy is that it occupies a front line position, and is the most visible design profession that could benefit a broad range of business and servicing industries during their growth and development (The Hong Kong Design Institute, 2010).

2.3.5 Pressure for design education reform

As discussed in the previous subsections, tertiary design education has experienced some critical changes in the last three decades as Hong Kong becomes a knowledge-based economy. As Dunning (2002), referring to the global context, points out, "the main source of wealth in market economics has switched from natural assets (notably land and relatively unskilled labour), through tangibly created assets (notably buildings, machinery and equipment, and finance), to intangibly created assets (notably knowledge and information of all kinds) which may be embodied in human beings, organizations, or physical assets" (pp.7-8).

Artistic skills in design discipline alone are scarcely enough to deal with today's knowledge-based economy and global demands (Heskett, 2003). As Hong Kong has become a major international player in this economy, knowledge-based designers are urgently needed. These designers need to be abreast of technological advances and sensitive to users' needs, interactional patterns and preferences as well as to the wider social and historical contexts. It can be argued that design education in Hong Kong has already started to respond to these needs. For example, technical skills are no longer considered the most important part of design education at present, but instead, design thinking, theories and multi-disciplinary approach are encouraged as the social and economic environments have changed (Siu, 2008). There is pressure, however, from the government, the society and official research studies for further reforms in design education.

The representative research report: The Hong Kong Polytechnic University, Design Task Force (Heskett, 2003) states that Hong Kong designers' works are still "often limited to skills of execution used to establish superficial differentiation that 'added value'… the concept goes no further than the most superficial treatment of surface appearance, usually in imitation of what already exists in the market"(p.29). On the other hand, Hong Kong has gone through some structural changes since the 80s. The report signals that it is critical for Hong Kong design education to respond to these changes (Siu, 2008, Lam, 2008). Under these circumstances, as Lam (2008) points out, the Hong Kong Government has drawn up strategies to nurture potential talent and encourage economic development, for example launching an international design education conference and workshops, the 'DesignSmart Young Design Talent Award', for promoting design education in international contexts, and a 'Design Incubation Programme' for young design entrepreneurs.

It is obvious that to remain competitive and to offer appropriate training to future designers, Hong Kong's design educational programmes should continue to change, reflecting global patterns and needs. Studies are needed to evaluate these changes, identify challenges and opportunities, and offer recommendations on future directions.

2.3.6 Existing tensions between design education and practice

One such study, The DesignSmart Research Final Report of the Hong Kong Polytechnic University conducted in 2008, revealed a rather serious 'mismatch' between designers' competences and the expectations of their employers. 232 designers (covering all disciplines) and 101 employers participated in the questionnaire survey which showed that 94.8% of designers and 87.1% of the employers agreed that such a mismatch exists. A majority of employers commented that designers are not meeting the expected level of proficiency in knowledge, skills, attitude and capabilities. Furthermore, the causes that led to the respective viewpoints on the mismatch appeared to be very different. From the designers' point of view, this relates to the lack of appreciation of their creativity and the value of design, and lack of training and promotion in career development in the workplace. From the employers' point of view, the mismatch was due to the design education institutes not providing sufficient training for the graduates to meet the market needs, as well as the insufficient availability of internship programmes.

The surveyed designers and employers shared two significant viewpoints. First, they both agreed that the Hong Kong design industry lacks competent and experienced designers. Second, most employers and designers assert that design education institutes should be more pragmatic, in order to meet the current demands of the market (The DesignSmart Research Project Final Report, 2008). Overall, the issues mentioned indicate an unharmonious relationship. Both employers and employee designers comment that the consequence of this conflict will be "the reduction in competitiveness of the design industry in Hong Kong, decline in design originality and professionalism. There will be an increase in mutual dissatisfaction and conflicts among designers and their employers" (p.20).

The report focused mainly on the expectations and requirements of employers and stated that the causes that led to the stakeholders' viewpoints and values on the mismatch appeared to be very different. They seemed to be pointing to various aspects of the mismatch issue; although design education institutes were not

involved in the research, designers and employers both implied that the institutes were not training designers pragmatically for the manpower market. At a more fundamental level, the 'mismatch' of the stakeholders could also be caused by the differences of viewpoints that lead to conflicting actions. The viewpoints of the stakeholders seem to be based on inherent values and goals, which previous research has not fully explained. Hypothetically, all three parties (designers, employers and institutes) can be expected to hold some similar and some conflicting views about professional training and practice. In order to deepen the understanding of the inherent values of the various stakeholders that caused the 'mismatch' addressed in this research, a comprehensive study on the value theories that relate to design professionalism will be discussed in Section 2.4.4.

2.3.7 The research gap – the transition into graphic design practice from academia

The study reviewed above shows that more attention needs to be given to the transitions that fresh graduates experience while entering the design profession. As Eraut (2007) states, the main challenge of the transition from education to the actual workplace involves "different types of discourse and epistemologies" (p.116). The judgment of the competence of an employee is mainly organization-specific, depending on the expected job standard in a certain company (Eraut, 2007). These statements imply that different kinds of knowledge, objectives, values and goals exist between companies and academic institutes, as has indeed been shown to be true in the previous subsection about the 'mismatch'.

Significantly, the 'initial stage (transition)' is identified as one of the most critical learning stages of graduates in most professions. Eraut (1994) comments on the importance of transition: "indeed, the first two or three years after qualifying are probably the most influential in developing the particular personalized pattern of practice every professional acquires" (p.11). For such reasons, Eraut (1998) reckons that there is a training gap that must be bridged between academic graduation and competence on-the-job.

In practice, for example, architects and accountants in Hong Kong need to spend a further 2 to 3 years after graduation on professional training. In addition to relevant syllabuses and examinations provided by professional bodies, the graduate also needs to document practical knowledge learned in the workplace to be presented for examination. The employer, academia, and professional bodies have to fulfill different types of roles for the graduates' training development. However, professional graphic design education does not have regulations that cover this period in the West or in Hong Kong. Significantly, the most significant difference between these professions is that the professional body for graphic design does not offer any syllabus, structure or examination for graduate designers that would qualify them to become 'professional designers'. Moreover, there are no defined regulations pertaining to training that are shared among the employers, academia, the graduates and professional bodies. These issues with training have received scant attention from design education and the industry in Hong Kong. On the basis of this rationale, this study seeks to investigate the learning and working conditions of the graphic design graduates in the transition.

2.3.8 Summary

As is highlighted in this section, dramatic changes in Hong Kong have been brought about by the 'open door policy' adopted by Mainland China since the 80's, with most industries having eventually moved their bases out of Hong Kong into the Pearl River Delta region. Since then, Hong Kong has undergone a major change in its economic structure and has been transformed into a servicing, knowledge-based economy, while neighbouring East Asian countries are enjoying economic success to which 'design' has in part contributed. The Hong Kong government believes that 'Design and Innovation' can benefit Hong Kong's business environment. Hence, The HKDC was established to promote design innovation in education, industry and society. According to representative scholars' opinions, essential change is needed in design education to engage design's evolving role in society.

In order to implement a successful design policy, issues that have previously hindered such a policy need to be identified by research into current practices and norms in design education and industry. Previous official research has shown that Hong Kong lacks competent designers, while the ability of Hong Kong designers in general has been criticized as being merely up to the level of aesthetic execution. Moreover, The DesignSmart Research Report (2008) unveils a rather serious 'mismatch' between designers' competence and employers' expectation in the design community. Most respondents claim that the design education institutes are not providing pragmatic knowledge or skills to meet present market demands. This situation has indicated a fairly unharmonious relationship among the three stakeholder groups – designers, design firm owners and design academics - which may have led to some serious consequences – decline in design originality, professionalism, and competitiveness of the design industry as a whole.

Furthermore, most of the official research has set the focus and criticism on the 'mature stage' of designers' ability (the higher levels of competence), while the 'initial stage' (designers learning from seniors through instruction) of learning has received scant attention. No research has shed light on the initial stage of fresh graduates in the graphic design community in Hong Kong. This initial stage named

as the transition is identified as a research gap and is deemed as the main focus of this study. To understand the fresh graduates' working and learning experiences in the transition and the issues they face, however, it is first important to understand the essential elements involved in defining a professional practice. This will be discussed in the following section.

2.4. Graphic design professionalism

The previous section concluded with the argument that Hong Kong's design circles may lack professionalism. This section reviews relevant literature on how professionalism, and in particular, professionalism in graphic design, could be understood and analyzed.

"Professions are based on core values and a body of knowledge that provides expertise on how to implement those values" (Grunig, 2000, p.23). Based on this rationale, the study further examines the issue of professionalism in graphic design, including the values system of professionalism, designer's way of thinking and knowing, the concepts of competence and expertise, coherence between academic teaching and professional practice, and the professional learning in the initial stage of professional practice in Hong Kong. Subsequent to this review, this section establishes a discussion on existing graphic design professional competence measures in Hong Kong in comparison with such measures in the UK, the US and Canada that would contribute to the training in the transition. In addition, there is a subsection that visits the notion of the transition stage and suggests that graphic design should learn from other professional fields of practice such as architecture in order to provide appropriate support and scaffolding to its novice members in transition, i.e. graduate designers.

Before going into detail, it is essential to review the general definitions of 'design', 'graphic design' and 'professionalism'.

2.4.1 Definitions of 'graphic design'

There exists a multitude of definitions of design. According to Friedman (2003), many of these definitions have three attributes in common. First, the term is often used to refer to a process, suggesting that designing is primarily about doing and creating. Second, many definitions assume a goal-oriented process, and finally, this goal "is solving problems, meeting needs, improving situations, or creating something new or useful" (pp. 507-508). Buchanan (2001) defines design as "the human power of conceiving, planning and making products that serve human

beings in the accomplishment of their individual and collective purposes" (p.9). Both of these scholars refer to definitions that are broad enough to cover most forms of design.

Generally, 'graphic design' has been widely used as a term for any two-dimensional design work, but also for visual communication design. Frascara (2006) defines graphic design as "the activity that organizes visual communication in society" (p.28). It deals with communication problems from the perspectives of visibility, legibility and aesthetics (Frascara, 2006). According to the International Council of Communication Design (ICOGRADA) (2012), graphic design and communication design refer to the *same discipline*. The official definition on the ICOGRADA website of communication design is "an intellectual, technical and creative activity concerned not simply with the production of images, but with the analysis, organisation and methods of presentation of visual solutions to communication problems." A communication designer then is "One who has the sensibility, skill and experience and/or training professionally to create designs or images for reproduction by any means of visual communication, and who may be concerned with graphic design; illustration; typography; calligraphy; surface design for packaging; or the design of patterns, books, advertising and publicity material; broadcast, interactive or environmental design; or any form of visual communication."

According to the graphic design programmes which are offered by the representative design institutes of Hong Kong: The Hong Kong Polytechnic University (HKPU) and The Hong Kong Design Institute (HKDI), as well as the definition and delimitation of the role of communication designer by ICOGRADA (2012), the role and nature of graphic designer can be classified into three main streams:

1) Visual Communication Design - general graphic design: publication, packaging, brand design, information and environmental design
2) Advertising Design - two dimensional print design and digital media

3) Digital and Interactive Design - animation, moving graphics on television, video production, website design and interactive media

These definitions highlight the importance of considering designer abilities, development of expertise and the availability of professional training. They also suggest the need to take into account ways of thinking and value systems in order to understand the core aspects of the design profession and professional practice.

2.4.2 Professionalism

'Specialization' is the beginning of 'professionalism'. Freidson (2001) explains that specialization is the use of confined knowledge and skills in order to achieve specific useful ends by people. Specialization started in the UK in the middle of nineteenth century in the concept of "division of labour" (p.19) in trade business.

Before explaining further the meaning of professionalism, we need to understand the concepts of 'profession' and 'professional'. The concept of professions is distinct from the concept of workers. Professionals have unique positions in society which distinguish them from those in other occupations (Freidson, 2001). Professions are occupations with special power and status, because professions possess special competence with exclusive bodies of knowledge which correspond to values and needs in society (Larson, 1977). Professions are fundamentally knowledge-based types of occupations which generally require a period of tertiary education with professional training and experience (Evetts, 2003). Many of the distinct professions recognized today- such as architects, surveyors and accountants were among those defined in the nineteenth century (Abbott, 1988).

Schein (1972) states that a professional is a person with life-long occupation. He/She has to serve and make decisions for clients based on their objectives and needs. Professionals, moreover, are assumed to know better than the clients and to be equipped with a specialized body of knowledge and expertise acquired through a prolonged period of professional training. People practicing professions such as education, health, justice, management, city planning, public and social

safety are expected to serve the crucial needs of every society, and while doing so, they are expected to perform competently and democratically (Argyris & Schon, 1989). One major difficulty with studying professions is that the boundaries between professions and occupations are difficult to define (Eraut, 1994; Evetts, 2003). Another challenge is that certain types of professions are perceived to have higher status and associated power than others, with the latter being described as 'semi-professionals' (e.g., teachers and nurses) (Etzioni, 1969) which may lead to further confusion (Eraut, 1994). Etzioni, (1969) distinguishes that a 'professional' has gone through a longer professional training period (five years or more) than a 'semi-professional'. The organizations of professionals devote themselves mainly to the creation and application of knowledge, often concerning 'life and death' matters in society. On the contrary, a 'semi-professional' has gone through a shorter period of professional training, while his/her job nature is seldom concerning directly on 'life and death' matters. However, Evetts (2003) argues that there is no need to draw a hard line between professions and occupations, because they have "similar social forms which share many common characteristics" (Hughes, 1958; Crompton, 1990 cited in Evetts, 2003, p.397), as both of them have similar professional and educational structures, and deal with similar problems and uncertainties (Evetts, 2003).

Freidson (2001) comments that "professionalism may be said to exist when an organized occupation gains the power to determine who is qualified to perform a defined set of tasks, to prevent all others from performing that work, and to control the criteria by which to evaluate performance" (p.12). The concepts of professionalism can be interpreted in two ways: "as a normative value system or a controlling ideology" (Evetts, 2003, p.399). 'Professionalism' as a value system relates to the concept of constructive contributions to a normative social arrangement, fulfilling, negotiating and maintaining its function in society. 'Professionalism' as an ideology concentrates more on professionalism as a political control belief system and a mechanism of social rules for 'professional' members. Notwithstanding, "the values and the body of knowledge of a profession must be constantly evaluated, researched, and revised through research and scholarship"

(Grunig, 2000, p.27). According to Grunig's definitions, graphic design does NOT fit into the definition of 'Profession', as the body of knowledge and value system have not been clearly defined, researched and revised by graphic design professional bodies both in Hong Kong and the Western world.

2.4.3 Design thinking and knowing

Many definitions of design refer to problem-solving and this has given rise to the discussion of thinking in design as reflection, mind-mapping and lateral thinking.

Designer as a 'reflective practitioner'

Designers, like other professionals, constantly face disorienting and ill-defined problems in real life design situations. Experienced designers apply their previous experience to tackle new situations, and through trial-and-error they reveal new solutions through 'frame-experiments' (Waks, 2001, p.38). These 'frame-experiments', as explained by Schön (1963) "permit us to bring the 'familiar' to bear on the unfamiliar in such a way as to yield new concepts while at the same time retaining as much as possible of the old" (cited in Waks, 2001, p.ix). Executing such frame experiments involves the designer 'knowing-in-action' by applying his or her tacit knowledge and 'reflection-in action' (Waks, 2001).

Reflection-in-action is mediated by what Schön calls (1983) 'back-talk', i.e. the conversation between the designer and the design situation. He says "the designer may take account of the unintended changes he has made in the situation by forming new appreciations and understandings and by making new moves…the situation 'talks back' and he responds to the situation's back-talk…This conversation with the situation is reflective" (p.79). This kind of back-talk situation is when the designer actually forms strategies and puts them into action to deal with problems.

There are three ways to acquire tacit knowledge in design practice and education, as Waks explains (2001): (1) self-instruction; (2) apprenticeship; and (3) the practicum. Self-instruction refers to designers applying their previous experience (novice designers may not possess the same experience while tackling the situation)

to tackle new situations, and through trial-and-error until they uncover appropriate solutions**.** Waks explains that 'apprenticeship' is learning 'on-line', so to speak, i.e. in the real work situation However, learning in this way might mean that the learner could face severe feelings of failure or humiliation, whereas the practicum is perhaps a more effective method, 'off-line' learning but close to the real world. In the 'practicum', the novice experiences a series of real world problems overseen closely by a 'coach' who is a master practitioner. When the novice learns to cope with the challenge of messy issues in professional practice, both 'knowing-in-action' and 'reflection-in-action' take place. Furthermore, the reflective process in the practicum does not only occur when the novice designer works in the real workplace situation, the negotiation process of reflection also occurs in design studio learning, with the teacher (coach) and students (novices) working on the problem and finding a solution during a tutorial and critique process (Waks, 2001).

Mind-mapping and lateral thinking

A mind map is a free-flowing hierarchical association chart with a central theme. It represents a creative technique for generating ideas and capturing them on paper. It can be applied in almost every activity which involves planning, thinking and recalling, or as part of a creative process (Buzan, 1989). One advantage of mind-mapping is that it is a great tool for motivating both the 'left-brained' and 'right-brained' thinking as it encourages creative as well as logical thinking patterns (Buzan, 1989; Chen, 2008; Mento *et al.*,1999).

Another type of design thinking is lateral thinking, as introduced by Edward de Bono (1995). Lateral thinking is a practical brainstorming process for solving problems which involves problem analysis, information gathering and evaluation, development of alternative solutions and identification of the best alternative/s. De Bono calls lateral thinking "Serious Creativity" and states that "whereas creativity is too often only the description of a result, lateral thinking is the description of a process. It is concerned with the generation of new ideas… lateral thinking is also concerned with breaking out of the concept prisons of old ideas. This leads to changes in attitude and approach" (De Bono, 1990, p.7-8).

Generally speaking, there are three major types of design thinking: Reflective thinking, Mind-mapping thinking and Lateral thinking. Reflective thinking is valued as the 'most influential' to design education and design practice. A designer is a 'reflective practitioner' with the quality of reflecting while designing. Mind-mapping and Lateral thinking are used as tools to generate ideas and solve problems during the design process.

2.4.4 Values and value systems in graphic design

According to the *Oxford English Dictionary*, a value is a "principle or standard of behaviour; one's judgment of what is important in life… the importance, worth, or usefulness of something" (Oxford English Dictionary online, 2011).

Different cultures and communities, including professions, have different value sets. The graphic design community is no exception. When different communities interact, these value sets may enhance or conflict with each other. It is extremely important, therefore, to understand these values in order to understand how design communities function, develop and interact. Evetts (2003) states that professionalism is about the value system of the profession, and how professionals practice these values (Grunig, 2000).

Though "[p]rofessions are based on core values and a body of knowledge that provides expertise on how to implement those values" (Grunig, 2000, p.23), very little literature in graphic design discusses the profession's value system. To fill in this gap and to understand what values are prevalent in graphic design, curriculum documents of two design programmes of two most representative design institutions of Hong Kong (the Hong Kong Polytechnic University (HKPU) and the Hong Kong Design Institute (HKDI)) and official websites of three well-established professional bodies in Hong Kong (the Hong Kong Designers Association (HKDA)) , the US, and the UK (AIGA, the professional association for design and the UK Chartered Society of Designers (CSD)) were analysed using content analysis procedures.

The most frequently used terms related to graphic design values were then identified and are studied below in this section.

Aesthetic values

In the context of design, the term 'aesthetic' is generally used to describe the appearance and unique visual qualities of the designed object. Therefore, concepts such as 'style', 'taste', 'fashion', and 'originality' are often associated with 'aesthetics' (Pham, 1999). In graphic design, researchers have developed several lists of elements that are thought to contribute to aesthetics. Ngo, Samsudin & Abdullah (2000), for instance, suggest the following five elements as contributing to aesthetic measure: balance, equilibrium, symmetry, sequence and order and complexity (pp.98-99). Meanwhile, Pham (1999) identifies nine basic principles for producing the aesthetic artifact: balance, proportion, dominance, alternation, graduation, solidity, simplicity, dynamics and rhythm (p.368). Apart from aesthetics of artifacts, more broadly, the aesthetics of our age appear in people, places and things such as everyday products, coffee shops, shopping malls, film stars, visuals on TV, the Internet, etc. Aesthetics has an important value to society, culture, economy and design, because aesthetics affect the human senses, which gives the viewer sensory pleasure. People, companies and products rely on aesthetics to project their identity; aesthetics stimulate creativity and can contribute to differentiation and variety (Postrel, 2003).

Creative value

Creativity does not have a single unifying definition, but rather many definitions tend to be used in different areas of study (Isaksen & Murkock, 1993). Different cultures, for example, the Western and Chinese cultures may have different concepts and values in defining creativity. (Leung, Au, & Leung, 2004; Rudowicz, 2004). However, according to Mayer (1999) and Sternberg & Lubart (1999), there are two aspects of the definition of creativity for which there is general agreement; one is 'originality' which means new and novel, and the other is 'usefulness' which emphasizes on its value and significance.

Csikszentmihalyi (1996) explains some important values in studying creativity; the outcomes of creativity enhance culture and so they can improve the quality of our lives and societies. Solving problems in a creative way gives excitement and richness to the lives of human beings. "Creativity is a central source of meaning in our lives…human is the results of creativity" (p.1). As creativity has become a vital source for our future world, educators must teach students to think creatively, and equip them to solve increasingly complex problems as the world evolves (Wong & Siu, 2012).

Personal/human values

Basic human values are directly related to human needs. Schwartz (2005, 2009) discusses the following three universal needs: "needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups" (p.1). She relates these needs to ten broad basic distinct values and argues that these have been developed and built from earlier value theory, the reflection of people in their various cultural, religious and philosophical traditions. Each of the ten values, as shown below, can possibly be explained as being related to a particular kind of motivation:

1. Self-Direction – Self-governing thinking, creating, discovering in action.
2. Stimulation – Enthusiasm, originality, and experiment in life.
3. Hedonism – Pleasure and sensuous fulfillment for oneself.
4. Achievement – Representing competence of an individual according to social standards.
5. Power – Social position and reputation, control over social groups and resources.
6. Security – Protection, harmony in relationships and oneself.
7. Conformity – Self-control of actions that would likely damage others and violate social norms.
8. Tradition – Dedication to customs of long-established culture or religion provided for race, group or oneself.
9. Benevolence – Protecting and maintaining the interests of those with whom one has regular personal contact.

10. Universalism – Admiration and protection of wellbeing of all humans and Nature.

Social value

Before discussing social values, we should first look into society in a broader view. The social network is the first consideration. This is the network which refers to the connection of people, families, firms and community. Scholars and sociologists have stressed the importance of the relationship between economic growth and social life (Florida, 2003). Keyes (1998) asserts that there are "five dimensions of social well-being – social integration, social contribution, social coherence, social actualization, and social acceptance" (p.121). The social value of a person is related to the context of social contribution. It is to evaluate one's value in the society, in terms of contributing value to the society and the world. Contribution relates to the concept of self-efficacy (a particular individual's capacity to contribute to society) and social responsibility (the obligations of a person to contribute to society).

Cultural value

Smith, Bond and Kagitcibasi (2006) analyze the differences between the way anthropologists, psychologists, cultural psychologists and cross-cultural psychologists look at cultures, since they all have engaged in extensive debates over decades on the nature of culture. Anthropologists are first and foremost interested in cultures. Over 161 definitions of culture are provided by Kroeber & Kluckholn (1963). Herskovists (1948) presents a unique summary of the anthropological perspective: culture denotes the man-made parts of human environments, artifacts and the social structures and norms (Smith et al., 2006). The essence of culture is in individuals as well as groups of people within an environment in which they share similar behavior and interpretations. By such a view, 'culture' could be applied to groups of different sizes and levels, such as the culture of a family, a marriage, a team of workers, an organization and even a nation. Smith et al.(2006) assert that cross-cultural psychologists are more interested in focusing on the 'values' that are embedded in individuals of a culture, because they believe individuals' values guide

their decision making in their lives. Values are to do with the desire of individuals; behind an individual's 'value' is a 'belief' which concerns what is thought to be true.

User value

Boztepe (2007) identifies four main types of 'user value' in her study of design – "1) utility value, 2) social significance value, 3) emotional value, and 4) spiritual value" (pp. 61-62). At present, there is an increasing acknowledgement that design has offered different kinds of value to users, through which design has become influential for success in business. Many scholars comment that when designers design a product or communication, they should not simply focus on the form and aesthetic appearance. They also need information about the users' experience, from physical to cognitive aspects of the user, within the social and cultural context within which the design seeks to communicate (Heskett, 2002; Boztepe, 2007).

When designers create artifacts, they use various resources such as colour, forms, metaphors, materials, and drawings to convey messages appealing to the user (Boztepe, 2007), which gives design the attribute of persuasiveness (Buchanan, 1985, Boztepe, 2007). Heskett (2002) contends that the end result of design "should be considered in terms of an interplay between designers' intention and users' needs and perceptions" (p.54). Therefore, in a design process, designers have to understand and take into consideration the users' context and wishes, in order to communicate the values of the design (Boztepe, 2007).

Market value

As the American Marketing Association official website (2012) puts it, "[M]arketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large"(2nd paragraph). Although the term 'value' in this definition relates to customers and other stakeholders, the main concern of the market is the activity between the buyer (prospective customers) and seller (firms and organizations). There are two objectives of marketing: 1) to discover the needs and desires of the prospective customers and 2) to fulfill and satisfy them (Kerin, Hartley

& Rudelius, 2011). Many American firms believe that to be successful in the market is to gain loyalty from the target customer through the unique values of their goods and services. Thus many of these market players focus on 'customer values', defined as the mixture of benefits that target consumers gain, and these benefits include tangible and intangible factors such as quality, convenience and good before-and-after-sale service at a competitive price (Kerin et al. 2011).

Economic value

Herbert Simon, a Nobel Laureate in economics (1996) states that 'scarcity' is the core concern of human life in terms of items such as fuel, time, land and general resources. The main task of economics is to allocate all the scarce resources of the world rationally. The artificial components which are created by human beings that take part in the economic world include business firms, markets, entrepreneurs and individuals. There are outer as well as inner environments of artificial components: the outer environment is explained as economics, markets, firms, groups and individuals while the inner environment includes the individual market, firm, goals and capabilities of the individual firm. Economic value demonstrates how well both environments meet and act together (Simon, 1996).

Organization value

Profit maximization has been the major and most important goal of capitalism since its beginning (Simon, 1991). Apart from profit maximization, firms need to communicate their direction and values to the public, customers and employees. Organization values can be considered as one of the foundations of the organization's identity, enabling a firm to identify and position itself as different from others. Sometimes, a profit-making organization calls itself a 'corporate brand'. Organization values that represent the corporate brand could be referred to as "mission and vision" (Urde, 2003). The definition of vision, according to Foreman (1998), is "an image of what might be, an idea which is unique to the person or the organization and recognizes dissatisfaction with the present. It is a catalyst for action, and reflects core value". Mission, on the other hand, "defines

the purposes of an organizations: why it exists and what that means for customers – both internal and external"(p.22-23).

Academic values

The International Council of Societies of Industrial Design (ICSID) (2003) indicates that design students have to focus on three main aspects of their study: 1) Generic attributes: problem solving skills, adaptability to changes; 2) Specific industrial design knowledge and skills: design thinking and design process; and 3) Knowledge integration (cited in Bakarman, 2005). Freeman (2003) states that curriculum "reflects people's hopes and dreams. It represents expectations, mediates cultural knowledge, and is intended to communicate our best thinking to our fellow human beings. Therefore, it is a form of social action" (p.106). This action in educational settings includes designing, implementing educational plans, and evaluating the programme. The important values of arts and democratic curriculum are freedom in intellectual thinking, imagination and creativity and social responsibility (Freeman, 2003).

Business value

Cavanagh (2010) asserts that 'freedom' is the underpinning of the economy, which also means free markets, free entry into and departure from the market by players, and freedom to create new business. These are the values of free enterprise. Business entrepreneurs in this free market provide jobs and fulfill people's needs with products and services. Hence, firms' values can affect the working attitude and goal of their employees, their way of dealing with things, and setting a norm to measure success and failure within the firm and the society. Furthermore, firms also affect the activities and attitudes of their suppliers and customers. Although business values of the firms are usually understood as related to profit-making, business values should be expanded beyond monetary terms. Since the free market has its strengths and weaknesses, the values of ethics and morality have to be considered in addition to the business values, and to be concerned with the well-being of the business partners and employees.

Professional values

The concept of professionalism appeared in the 5th century B.C. when medical principles were first formalized. Towards the end of 19th century, the 'ideal type' of the profession was recognized in medicine and law. In the present day, however, the concept of a profession has been expanded to include engineers, journalists, social workers, teachers, accountants, librarians, architects and artists, according to the U.S. Census Bureau (Grunig, 2000).

Professions are careers with a special status and authority, which are granted by society "because professions have special competence in esoteric bodies of knowledge linked to central needs and values of the social system, because professions are devoted to the service of the public, above and beyond material incentives" (Larson, 1977, p. x). Professions have their own unique communities which are identified by special organizations with their unique patterns: professional schools, associations and their self-governed code of conduct and ethics (Larson, 1977). Professional practice is based on core values and rules on how to apply these values, and a body of knowledge to provide expertise to the society and clients (Grunig, 2000).

The core belief and the standards of graphic design professional practice of AIGA are the accountability and contribution to clients, the design profession, fellow designers, the general public, society and the wellbeing of the environment (Crawford, 2008).

Professional ethics

Ethics are described by Starratt (2004) as human core beliefs, principles and values that hold up a moral way of life. Ethics constitute rightful qualities of one's relationship with people and society. Schwartz (2001) defines a code of ethics as ''a written, distinct, and formal document which consists of moral standards used to guide employee or corporate behavior'' (p. 248). Such a set of codes of ethic is always the first thing for a person to understand the rules and regulations relevant to the profession and organization he/she is entering into (Benson, 1989).

Professional codes of ethics uphold a reliable directive standard for professionals to follow, with an impact on professionals' perceptions and ethical attitude (Adams; Tashchian, & Shore, 2001). According to the code of professional conduct of the Royal Institute of British Architects (RIBA)(2005), for example, there are three principles with respective professional values that support them:-

- "Integrity -Members shall act with honesty and integrity at all times.
- Competence - In the performance of their work Members shall act competently, conscientiously and responsibly. Members must be able to provide the knowledge, the ability and the financial and technical resources appropriate for their work.
- Relationships - Members shall respect the relevant rights and interests of others"(P.3)

Technological value

Technology has become a symbol of our culture and society. Technology was created originally as a means to liberate human beings from a servant to nature, and to increase our productivity and create more choices for human needs (Hofmann, 2006). Technology in this world does not only provide functional values to human being such as efficiency and dependability. In a technologically advanced liberal society, intangible values could also be created, such as "liberty, justice, enlightenment, privacy, security, friendship, comfort, trust, autonomy, sustenance" (Flanagan, Howe & Nissenbaum, 2008, p.322). Nevertheless, technology raises many criticisms in our cultures such as claims that: human beings cannot control technology but it controls us; that technology cannot slow down but only speed up (Hofmann, 2006). Hofmann (2006) therefore emphasizes our responsibility in the use of technology for the benefits of humans but to avoid allowing technological advancement to occur to the detriment of human well-being.

Different values: conflicts and collaboration

To summarize, we live in a human-made, artificial world which contains artificial components such as an economies, markets, societies, cultures, business organizations, arts and artifacts (Simon, 1996). All these artificial components co-

exist and are dependent on each other, allowing human beings to make everyday business, social, cultural and individual decisions. The characteristics and significance of each artificial component could be complimentary as well as in conflict to all the others at the same time, for example economic value vs. organisation value, organization value vs. human personal value etc. However, some values can be conflicting as well as collaborating. For example, artists may produce 'cultural artifacts' based on the motivation of 'artistic vision' for cultural ends, or the intention and motivation of artists may be to influence both cultural and economic values. In fact, artists could produce works which could be highly significant in cultural values while achieving a possibly high financial return at the same time (Throsby, 2008). What distinguishes one feature from another in a given value system is the 'motivation and goal' that underlies each feature, while change of 'external environment' will affect people's decision making and motivation in terms of what value means to most of them under a specific set of circumstances (Schwartz, 2005).

The previous section (see section 2.3.6) discussed some of the findings of the *DesignSmart Research Project* conducted in Hong Kong in 2008. One of the major findings was that there exists a mismatch between the expectations and goals of various stakeholders in the design ecosystem, i.e. designers and employers. On the basis of the theories of value, we can suggest that employers and designers might have embraced various 'similar and different' values at the same time (some having higher priority than the others) due to various motivations affected by each stakeholder's 'external environment and motivations'. For example, employers might embrace values of business, user, market and aesthetic, because the goals of the employers are for business survival and profit making. In contrast, designers might embrace mainly the aesthetic, business, personal, social and cultural values due to their ambition to produce artifacts which could be significant in aesthetic as well as in social and business aspects.

In addition to considering ways of thinking and value sets, however, a study of design professionalism needs to consider very specific designer abilities and practices with expertise.

2.4.5 Design ability and professional expertise

This sub-section discusses various theories of design ability and expertise and identifies the key factors which are essential and significant to graphic design practice. These factors include eight core features of designer's ability and seven levels of expertise.

Eight core features of design ability

This section so far has suggested that there are core abilities that each designer should possess. For example, designers should have ability to design human–made artifacts to serve the needs of the artificial human world. They have to have the ability to produce what is functional and appropriate in order to achieve the goal (Simon, 1996). A designer's ability is not only in being able to tackle well-formed problems with unique solutions, but also to deal with problematic situations of uncertainty, based on designer's experiences and reflection (Schön, 1983). Graphic designers are required to solve communication problems (whether they are well or ill-defined) and to communicate to the target audience by means of graphic artifacts.

Cross (1990) provides a comprehensive analysis of design ability as a form of human intelligence and cognitive skills. In his study of designers' ability, he identifies eight core features. These include being able to:

- "produce novel, unexpected solutions
- tolerate uncertainty, working with incomplete information
- apply imagination and constructive forethought to practical problems
- use drawings and other modeling media as a means of problem solving
- resolve ill-defined problems
- adopt solution-focusing strategies

- employ abductive/productive/appositional thinking
- use non-verbal, graphic/spatial modeling media" (*ibid.,* pp.130-132).

Design ability operates in non-verbal communication, with designers using drawings as the main thinking method. Hence, drawing has a significant function in concept generation. A whole range of criteria including clients' requirements, production criteria, legal matters, self-proposal, and aesthetic attributes are all included in the designer's thinking through his works / drawings. Although designers excel in design ability, everyone can be said to possess this ability to some extent (Cross, 1990). On the other hand, 'nurturing design ability' in tertiary professional education, according to Cross, faces similar difficulties to that of understanding this ability. He comments that the 'process' of design ability development in students is so far poorly understood. However, design education has been nurturing design abilities by encouraging students to use the non-verbal, right hemisphere of the brain which excels in intuition, emotions, aesthetic, and spatial thinking abilities in problem solving (Cross, 1990).

Seven levels of expertise for design education and design profession

Through continuous reflective thinking and accumulation of extensive working experience while designing, designers' knowledge and skills become their personal tacit knowledge and expertise. According to Lawson & Dorst (2009) "experts are not born, they are bred…expertise is strongly associated with nurture. In fact, expertise is a wonderful demonstration of the human ability to respond to an environment and adapt behavior accordingly. We mostly associate experts with many hours of study and practice"(p.82).

Dorst & Reymen (2004) as well as Cross (1990) believe that design teaching (the learning by doing model) lacks a solid theoretical model that could measure progress in acquisition of competence in the academic setting. A general theoretical model should be able to reflect the evidence of design ability development from novice to expert. For this purpose, Dorst & Reymen (2004) recommend Dreyfus and Dreyfus model (Table 2.4.1) of expertise to explain design

skills acquisition, and the seven levels of expertise illustrated are well suited to categorize the skills and capability of professional designers and design students. Dreyfus and Dreyfus model (1986) is also commended by Eraut (1994) as having considerable utility in general professional education and practice. Not only is it able to identify the level of the professional, but it can also be used in research to describe the nature and content of competencies at each level, and the progression through the levels.

Level of expertise	**Capabilities**
1. Novice	• Follow strict rules to deal with the problems • No discretionary decision or option • Little situation awareness
2. Advanced beginner	• Guideline for action based on the situations with recognizable prior experience • Sensitivity to exceptions to the 'hard' rules of the novice • Mottos used as guideline • Situation awareness still limited
3. Competent	• Select the elements in a situation that are relevant, and choose a plan to achieve the goals • See the actions incompletely in terms of the long term objective • Watchful and purposeful planning
4. Proficient	• See the most important issues immediately and design plan to fit • See the situations holistically • Still use motto for guidance but only for some situations
5. Expert	• React to certain situations intuitively, and perform the appropriate action immediately • Intuition based on tacit knowledge of prior experience • No longer follow rules or mottos
6. Master	• Exhibit a profound participation in the professional field. • Mastery requires a sharp sense of context • Able to execute more appropriate refined actions than the expert
7. Visionary	• Extend new domains in which to work, open new worlds • Keep in play awareness of other domains • Able to break rules and introduce new vision in to the domain

Table 2.4.1: Adapted summary from Dorst & Reymen (2004) & Eraut (1994) of seven levels of expertise model of Dreyfus, L. & Dreyfus, S. (1986).

Eraut (1994) suggests that the notion of a reflective practitioner (Schon, 1983, 1987) can and should be applied across all the seven levels of expertise. As mentioned in the previous sub-section, designers constantly face disorienting and ill-defined problems in real life situations that require creative approaches, conceptualizing and structuring in order to create a solution. As such, designers are drawing on their own tacit experience in the conceptualizing and structuring stage, and are able to work in an exceedingly intuitive manner (the 'expert level' mainly), reflecting on what they are dealing with while they are doing so, until a solution eventually arrives. All this tacit knowledge acquired from prior experience comes from day-to-day work by reflection. As Dorst & Reymen (2004) suggest, future scholars should explore reflection and problem-solving that take place at each level. The reflection on specific problem-solving processes and experience that is involved at different levels of expertise could help in gaining knowledge of the significance of the progression from level to level.

Dorst & Reymen (2004) also suggest that by applying the eight core features of design ability identified by Cross and integrating them with the seven levels of expertise from the Dreyfus model, a matrix diagram can be formed as shown in Table 2.4.2. Using this table, a large body of design knowledge and skills can be explained explicitly with illustration of different levels of design abilities and expertise.

Design Ability & Level of Expertise	1. Novice	2. Advanced beginner	3. Competent	4. Proficient	5. Expert	6. Master	7. Visionary
1) Produce novel, unexpected solutions							
2) Tolerate uncertainty, working with incomplete information							
3) Apply imagination and constructive forethought to practical problems							
4) Use drawings and other modeling media as means of problem solving							
5) Resolve ill-defined problems							
6) Adopt solution-focusing strategies							
7) Employ abductive/productive/ appositional thinking							
8) Use non-verbal, graphic/spatial modeling media							

Table 2.4.2: Integration of the eight core features of designer's design ability by Nigel Cross (1990) with the seven levels of expertise of the Dreyfus's model (1986)

Relating to graphic design professional design ability, Nigel Cross' (1990) eight core features of design ability are relevant in the context of the graphic design discipline. When a project is given to a graphic designer by a client, the eight core design abilities have to be applied by professional graphic designers. According to Frascara (2004) the steps of the design process in practice are as follows:

1) "Appointment of the project
2) Collection of information (from client, product, competitor, user and general public)
3) Defining the problem (analysis, explanation, organization of the collected material and information)
4) Defining the objective (what should the solution do? And what is the communication channel?)
5) Defining the production problem (the production specification, schedule, budget and deadline)
6) Developing design proposal (function and content of the solution (product), media and production technology)

7) Presentation to clients
8) Production supervision
9) Evaluation of performance of the design solution (based on the evaluation of the product function, further adjustment need to be implemented)" (pp. 95-96).

When a graphic design project starts, the designer has to work with incomplete information, and try to generate or work with ill-defined concepts in order to produce a novel solution. Designers may use hand drawings or computer software aided drawings. The solution and proposed media have to be functional from the point of view of the user, client, competition, and cultural and social acceptability. When the proposed solution is not appropriate, designers have to work back and forth to generate something better. Thus, Steps 2 to 7 as shown above demonstrate the design abilities of graphic designers.

Overall, the theory of 'eight core feature of design ability' in design process, the model of progression of 'seven level of expertise', expertise development through 'reflection' are all relevant to the acquisition of professional graphic designer's ability, and how professional competence and expertise of designers can be nurtured and demonstrated in their workplace. The next section will discuss the development of competence in the transitional period, and how the above concepts are relevant to graphic design graduates' learning.

2.4.6 Professional competence in the earliest stage - the transition

In this section, theories of competence and transition, as well as a three-year longitudinal research project for identifying the learning and contextual factors for the graduate professionals in the transition stage will be discussed.

It is difficult to present a definitive definition of competence (Norris, 1991; Winterton, Delamare-Le Deist, 2005; Kennedy, Hyland & Ryan, 2009). There is no coherent theory to describe or accommodate all different ways in which the word is applied (Winterton, Delamare-Le Deist & Stringfellow, 2005). However,

competence is most frequently researched as either a behaviorist construct, a generic construct or a cognitive construct (Norris, 1991; Mulder, Weigel & Collins, 2007). Behaviorists generally focus on the observation of behavior in a particular context; competence is often understood in this tradition as 'performance' or 'the situation'. Competence as a generic construct is used in empirical studies which differentiate between expert and average performers. Competence as a cognitive construct defines what a person understands and is capable of doing under the ideal condition and is thus different from 'performance', i.e. behavior under certain circumstances (Norris, 1991).

Several researchers have attempted to define professional competence. Eraut's (1998) extensive study presents it as knowledge, skills and ability. He states that the word 'competent' could mean "adequate but less than excellent" (p.129). He refers to Pearson (1984) for elaboration: "[I]f we can think of a continuum ranging from just knowing how to do something at one end to knowing how to do something very well at the other, knowing how to do something competently would fall somewhere along this continuum" (p.32). Acknowledgment of a person's competence involves judgments on the standard and quality of his/her performance, and the acceptable level of standard may vary in different contexts and with different people (Eraut, 1998). Overall, Pearson (1984) and Eraut (1998) present two separate concepts of competence. One is competence as a 'scale', people possess some kinds of competence ranging from the novice to the visionary level. The other one is a 'threshold', which is the boundary used to distinguish between competent and incompetent people in terms of their professional standards, such as those demanded in architect and accountant examinations.

Sandberg & Pinnington (2009) argue that competence is not mainly comprised of a set of attributes such as knowledge or skills. Instead, "[C]ompetence is constituted by our specific understanding of work" (p.6). This understanding is not possible without reflection, which is then the main source for developing personal competence. Although reflection cannot be observed in work performance, it

occurs when the performance is disrupted by unexpected difficulties (Sandberg & Pinnington, 2009).

Numerous other definitions of professional competence exist. Similar to Eraut (1998), Tuning (2000) defines it in terms of knowledge, skills, abilities and understanding but stresses the dynamic nature of this combination. The European Credit Transfer and Accumulation System (ECTS) (2009) also takes a broad view of competence as a combination of ability, attributes and attitude. Hartle (1995), on the other hand, uses the word 'competency' with respect to someone who has demonstrated superior performance at a specific job. Elkin (1990) associates "competences with micro-level job performance and competencies with higher management attributes" (Cited in Winterton, Delamare-Le Deist & Stringfellow, 2005, p.29).

Despite the many interpretations of 'competence', there is a common agreement that a competent individual is someone who has essential knowledge, skills and attitude in their particular occupation (Kennedy, Hyland & Ryan, 2009). On the other hand, competence is a helpful word for bridging the gap between academia and the workplace (Boon & Van der Klink, 2002) as it is often suggested that competence should be the primary object of educational programs (Tuning, 2000).

The link between competence and professionalism

Having discussed the concepts and definitions of 'competence' as well as 'professionalism' in Section 2.4.2, this paragraph explains the link between these two concepts. Grunig (2000) states that "professions are based on core values and a body of knowledge that provides expertise on how to implement those values" (p.23). The concepts of professionalism can be interpreted in two ways: "as a normative value system or a controlling ideology" (Evetts, 2003, p.399). Professionalism can also been interpreted as an "internal quality and [training] of a professional"(Englund, 1996, p.76), or "qualities of professional work"(Kanes, 2010, p,5). Based on concepts of various scholars, professionalism can be defined as 'internal qualities' of a professional system, and competence can be considered as

the 'external performance' of this system, as illustrated in the Fig.2.4.1. As a conclusion, professionalism provides a structured way to achieve qualities and competence in professional practice.

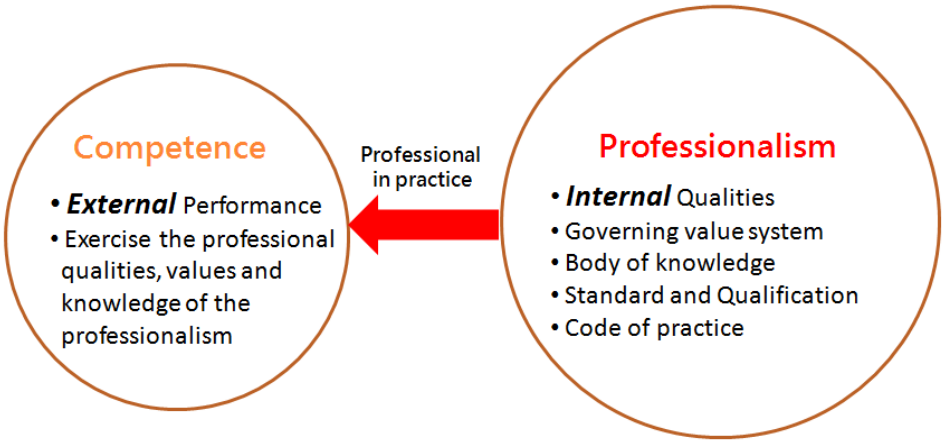


Fig. 2.4.1: The link between competence and professionalism

The multiple term 'professional competence', that was put together in the beginning of this Section 2.4.6, could also imply that the exclusive knowledge and skills that a professional possesses are attributes to his/her performance in the profession.

Professional competence as socially negotiated

Several parties may be involved in defining specific professional competence measures. Typically, it is employers who define these measures in their respective organizations. However, they are not in total control of the situation as they have to take into consideration employees' education background and what types of training they have taken. Some professionals, such as doctors and lawyers, may have more influence/power than others in terms of employers' policy and client demand. This kind of professional influence on competence negotiation involves three stakeholders: the professional body, the professional education provider and the employer. Some professional bodies engage in both academic and professional accreditation. They have the influence to establish such kinds of knowledge bases. The more specialized the professionals and professional bodies are, the more significant influence they will have on professional learning after academic qualification (Eraut, 1998). For example, the Hong Kong Institute of Architects (HKIA)

and the Hong Kong Institute of Certified Public Accountants (HKCPA) both provide the mandatory examination syllabus and qualification programme for the professional examination (Websites of HKIA & HKCPA).

Professional competence development in the transition stage: Challenges

Though, as mentioned in the previous sections, competence development is one of the major objectives of educational programmes, the transition from the academic learning environment to professional practice should be researched more extensively as it is within this transition that novices go "from 'learning' to 'doing'" (McGhee Thayer, 1961, p.173 cited in Analoui, 1993).

Transition is a passage from the familiar to the unfamiliar (Green, 1997). Eraut (2007) explains that the main challenge of the transition from education to the workplace is that it involves "different types of discourse and epistemologies" (p.116). What is considered as knowledge in professional education is mainly decided by recognized theoretical frameworks, publication and research-based materials that are largely coded knowledge. What is considered as knowledge in the workplace is mainly determined by what is appropriate, feasible to achieve the desired objective within budget constraints. It is embedded in everyday working practice and conversation; hence the knowledge is largely tacit (Guile & Young, 2003; Eraut, 2007). There is a 'learning gap', and to bridge the gap between education and the workplace and to help fresh graduates transition into the workplace, Tuomi-Grohn, Engestrom & Young (2003) suggest that education institutions should give more attention to the 'situated knowledge' of the workplace as compared to the 'codified knowledge' that students obtain from academic curricula.

Various discussions have developed around the question of who should be responsible for preparing novices for smoother transitions into the workplace. According to several studies (e.g. Boshuizen, 2003), there is indeed a learning gap in the transition for graduates to face, but the real problem only occurs when graduates are unable to learn because the workplace does not offer a safe

environment for learning. Another situation is when the employers believe that graduates should already be well equipped professionals and not trainees. Others suggest that development of professional competence is a continuous journey and it is therefore not surprising that graduates may lack vital knowledge and skills. Smeby (2007), for example, argues that each stage or context may offer its own learning affordances. He further argues that it is more important to consider what is best learned in educational programmes, what is best learned in the workplace and what is best learned in courses which integrate professional practice.

Theories of professional learning in the transition

Research into competence development in the workplace is still in its early years (Van Der Sanden & Teurlings, 2003). One multidisciplinary research perspective that has contributed significantly to this area is concerned with the notion of 'boundary-crossing'. The perspective draws on Constructivism (the ways that a person makes sense of, or creates meaning in the world), Social-cultural theory (learning through social interaction) and Activity theory (collective learning, culturally human activity). The core of the notion of 'boundary-crossing' is summarized by Tuomi-Grohn *et al*. (2003, p.4): "Boundary-crossing is a tool for promoting learning and transfer… Crossing boundaries involves encountering difference, entering into territory in which we are unfamiliar and, to some significant extent therefore, unqualified. In the face of such obstacles, boundary-crossing seems to require significant cognitive retooling."

Researchers within this perspective have focused extensively on how boundary-crossing is accomplished and what tools are used. Wenger (1998), for example, introduced the concepts of 'a broker' and 'boundary encounters'. A broker is able to create associations across communities of practice. A school internship is a good example of this because internships offer students a chance to bring experiences from school to workplace and vice versa. 'Boundary encounters' is a concept that refers to events, meetings and dialogues that offer connections. Konkola (2001) introduced the concept of a 'boundary zone' in which elements of both sides are present. Each side's activity and systems reflect its own norms, beliefs and roles

within the zone. Bowker & Star (1999) developed the concept of 'a boundary object', an object that brings different people with different approaches to organize their activity about the object.

One of the scholars to have conducted extensive studies on transitional learning is Michael Eraut, and this study draws extensively on his work. Eraut completed a longitudinal research project in 2007 to identify the social factors in the workplace that are favorable to professional graduates' learning. The investigation took place in apprenticeship training (the first 3 years) of professionals (graduate engineers, nurses and accountants) from 2005 to 2007. The project concluded that three factors establish favorable conditions for learning at work: 1) Challenge, 2) Support, and 3) Confidence. These three factors can be conceived in a triangular relationship as illustrated in Figure. 2.4.2.

Fig. 2.4.2: Learning Factors (Eraut et al., 2007)

The factors illustrated in Figure 2.4.3 are related to the learning culture of the workplace. For novice professionals to progress well, the quality of work needs to be sufficiently new to challenge them without being too hard and intimidating to affect their confidence. The amount of work needs to be reasonable, to allow them to have time to reflect on the new and challenging situation, provided that there are colleagues working alongside with them to form working relationships and who will provide feedback and support. Inadequate feedback might cause concern to the young professionals on whether their performance would meet the employers' and their own expectation, which might eventually weaken their personal confidence, commitment to the company.

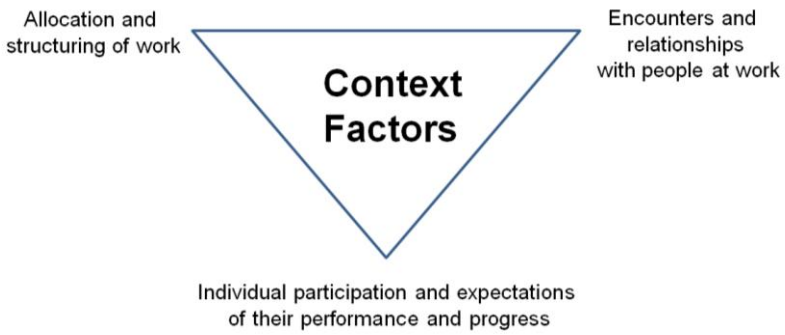


Fig.2.4.3: Contextual change Factors (Eraut et al., 2007)

In this section I have represented the transition as a fundamental and important period for developing a personalized pattern of professional practice. A learning gap inevitably exists between academia and professional practice, since the two different settings involve different types of knowledge and skills. However, there are positive external and internal factors affecting professional learning. External factors include the *challenge*, *support*, and *confidence* derived from the workplace, as well as the amount of *workload* and *feedback* the person receives. As regards internal factors, the person continues to grow in competence throughout the career by self-reflection and additional training.

2.4.7 Graduates' transition to graphic design practice in Hong Kong compared with other disciplines

In an earlier section, I have emphasized that the transition is the critical learning stage for any novice professional. The graphic design profession is no exception because graphic design graduates are also likely to face different kinds of knowledge, skills and criteria when moving from academic to workplace settings. In order to understand how graphic design as a profession can help its novices to bridge the learning gap, other professions in Hong Kong which have mandatory training for graduates during the transition were analysed. There were several criteria for selection: First, some older types of professional bodies were selected which deal with public safety and social and economic stability. Second, the professions represented by the bodies had to bear some resemblance to the

graphic design discipline as, for example, architecture does (in terms of creativity, design thinking and aesthetics). Third, the university training for these professions had to be conducted in close connection and collaboration with the professional bodies. There were two professional bodies that met these criteria: The Hong Kong Institute of Architects (HKIA) and the Hong Kong Institute of Certified Public Accountants (HKICPA).

Professional competence assessment and training by HKIA and HKICPA

According to the information on the HKIA's official website (n.d.), the main purpose of the Institute is to raise the standard of architecture and the professional service offered by the institute. HKIA engages closely with the architecture education providers in Hong Kong, namely the Hong Kong University and the Chinese University of Hong Kong. There is a 5-year architecture programme comprising two degree courses, the initial 3-year Bachelor degree course in Architecture Studies, followed by a 2-year Master degree course in Architecture.

If an architecture graduate wishes to be a qualified architect, they need have at least two years of professional practice under the supervision and with the recommendation of employers who must also be members of HKIA. Having fulfilled this basic requirement, they could sit for the HKIA examination to become a Registered Architect (RA), in order to progress further to more comprehensive architecture practice. The Architects Registration Board (ARB) of The Government of the Hong Kong Special Administrative Region (HKSAR) and the Hong Kong Institute of Architects (HKIA) have formed the ordinance and code of professional conduct to provide disciplinary control of registered architects. Moreover, the registered architect's professional examination is also under the joint supervision of the ARB and the HKIA. The examination consists of eight papers and eventually a final interview. The papers cover the profession's practical knowledge such as building design, contracts, professional conduct, building structures, material, technology, legal control, and finally a case study. In addition, the examination bodies provide syllabuses and reading lists from the professional examination handbook for graduate architects. There are also Continuing Professional

Development (CPD) programmes which are provided by HKIA. A Registered Architect (RA) needs to present a CPD report yearly to the Institute on the continuous development in his/her professional learning. The CPD programme is mandatory, but members can either take courses or attend learning activities which take place in HKIA, or select other related studies on up-to-date industry knowledge in other relevant education institutes. HKIA has the right to reject the renewal of registration of any member who fails to fulfill the CPD requirement.

According to the official website of the Hong Kong Institute of Certified Public Accountants (HKICPA) (n.d.), the Institute has more than 33,000 members and 16,000 registered students studying to become Certified Public Accountants (CPA). HKICPA is the only Institute legally authorized to issue certificates to qualify an accountant in Hong Kong. It is under the Professional Accountants Ordinance which is overseen by the Government of the Hong Kong SAR. The HKICPA Code of Ethics for Professional Accountants (2012) stipulates the emphasis on five major areas, "1) General application of the code, 2) Professional accountants in public practice, 3) Professional accountants in business, 4) Additional ethical requirement, and 5) Specialized areas of practice" (pp.3-4).

HKICPA has set up a mandatory 'Qualification Programme' (QP) to assist Registered Students to qualify as CPAs, providing 3-year practical training in the workplace. In order to become a Registered Student of HKICPA, the individual needs to have graduated from an accredited university accountant degree programme and possess intellectual, commercial, intrapersonal, and interpersonal qualities. Almost all the universities in Hong Kong provide accountancy degree courses accredited by the HKICPA. The Registered Students have to pass four modules under the QP programmes: 1) Financial Reporting, 2) Corporate Financing, 3) Business Assurance and 4) Taxation. Each module requires 14 weeks' study with syllabus and materials provided by HKCPA. There are workshops and a Final Examination for a CPA accreditation.

The Continuing Professional Development (CPD) programme is mandatory for certified members, according to the Professional Accountants Ordinance of 2004. The objectives of the CPD programme are to enhance and maintain up-to-date professional knowledge and skills to conduct professional duties competently throughout their career. Members can take up CPD activities and courses offered by HKICPA and other recognized institutes. The training could take the form of e-learning, long distance studies, conferences, professional journal writing and reading. The Institute has the right to reject the certification renewal of public practice of accountant members who fail to fulfill CPD requirement.

The significant differences between HKDA and other professional bodies in Hong Kong

Having examined the mature professional bodies, HKIA and HKICPA, and having compared them with the design body, HKDA, the following conclusions seem significant:

- Both HKIA and HKICPA possess ample disciplinary bodies of knowledge as competence assessment criteria, such as examination syllabus lists, examination frameworks, essential learning modules and professional examination handbooks. The HKDA has to rely on the personal judgments of the panel examiners. Codified disciplinary knowledge for objective competence assessment is lacking.
- HKDA is an independent organization, and its code of practice and the examinations are not bound legally or by government policy. By contrast, HKIA and HKICPA codes of practice and conduct, and their examinations are bound by government ordinances.
- Members of HKIA and HKICPA have to pass compulsory examinations to obtain a license to practice legally (some architects who cannot pass the examination can still practice legally on projects with limited scope mainly in interior design), whereas members of HKDA do not need a legal license to practice.
- Both HKIA and HKICPA possess comprehensive bodies of disciplinary knowledge, set out in their professional practice handbooks for members and registered students.

- CPD programmes and courses are mandatory and are provided to members of HKIA and HKICPA. License renewal will be refused if the member fails to complete CPD.
- The professional training period has to take place immediately after university graduation if students decide to become professionals. The transitional workplace training from university to professional examination is at least 2 years for architects and 3 years for accountants. However, there is no mandatory transitional training programme or structured CPD programme for graduates in the field of graphic design.

Strictly speaking, after making the comparison of HKIA and HKICPA with HKDA, graphic design is NOT considered as a profession (but just a minor craft!). Graphic design does not need a license to practice, with no disciplinary knowledge, mandatory CPD courses or transition programme after graduation.

Absence of official training and accountability in the transition for graphic design graduates

The analysis so far has illustrated a point of major significance, namely that the professional learning for graduate architects and accountants actually starts in the transition (the first two to three years after graduation before qualifying as professionals). This period seems to function as a 'bridge'. Employers, graduates, academics, the professional bodies and their members are all stakeholders during this period. Moreover, professional bodies of HKIA and HKICPA set out the essential qualities and competences that they demand in the professional examinations. By contrast, the most common entry level for the graphic design profession is either from the university undergraduate degree level or the higher diploma level from vocational institutes of the government subvented group. Although there are 'mandatory' and 'voluntary' student internships offered in the graphic design programs of the subvented institutes, there is no formal professional training or examination for graduates to further qualify themselves as 'professional designers' in Hong Kong. The fate of professional training lies in the hands of the individual graduate and his/her employer. Moreover, there are no well-defined duties for

employers, graduates and academics, professional members and professional body in this period, whereas other professions in Hong Kong, such as architecture and accountancy, delegate specific duties.

Generally speaking, the above mentioned factors clearly suggest that that the transition is nevertheless critical for apprentice designers. In other words, the lack of professional learning in the transition may have been one of the main obstacles preventing graphic design graduates from performing competently in the early stage of their career, and it might potentially also have a lasting effect on their entire career.

2.4.8 Comparison of professional assessment of graphic designers in Hong Kong, UK and North America

Three representative professional bodies have been selected in order to analyse how professional competence in the area of graphic design is assessed in the West. These are the AIGA, the professional association for design , the UK Chartered Society of Designers (CSD), and The Association of Registered Graphic Designers of Ontario (RGD Ontario), Canada. The official websites of CSD, AIGA and RGD all have similar stated goals and missions regarding professional standards of practice, responsibilities to the client, design community, society, general public and environment. CSD and AIGA both claim that design ought to benefit three key stakeholders – design providers (designers), design users (clients, consumers, government and general public), and design education (educators and students and Continuing Professional Development).

The Chartered Society of Designers (CSD) (2009) has been governed by Royal Charter since 1976. It has approximately 3,000 members in 34 countries, according to the website of the Design Council (no date). CSD provides membership assessment, a course endorsement programme, and continuous professional development. These programmes and assessments are all underpinned by the criteria of CSD Genetic Matrix™ with 4 core criteria and 16 competencies which are applicable to all disciplines, and to both the local and the international contexts.

The 4 core criteria and 16 competencies are shown in Table 2.4.3. The 'Course endorsement programme' is intended to promote design professionalism within local and international design education. It is open not only to members but also to designers, employers and industry. 'Continuous professional development (CPD)' courses are offered to designers and members, covering design related subjects such as strategic marketing planning, business planning, design and business development, conducting global business, design project management, design thinking, legal and professional practice ethics. CSD encourages designers to take the CPD programme, and if designers desire to become members, the record of CPD credits has to be shown in the assessment of CSD membership.

"Creativity – Demonstrate that you:
• are creative and possess insight, imagination, inspiration, and
• have the ability to generate relevant ideas, and
• are able to analyse, evaluate, select and develop those ideas, in order to
• Understand and exploit the potential of your ideas
Professionalism – Demonstrate that you:
• Practice with integrity, maintain ethics and values, and operate professionally, and
• Adopt best practice within your process, and are able to
• Communicate this to others, whilst ensuring you
• Understand and adhere to the requirements, regulations and adoptive standards in your particular area of practice
Skills – Demonstrate that you
• Possess the core skills of a designer, and also
• Evidence specific skills attributable to your area of practice, and can
• Show personal skills that you have developed, which combined allow you to
• Operate successfully and effectively in your working environment
Knowledge – Demonstrate that you:
• Possess sufficient general knowledge through qualification and training, and
• have gained sufficient knowledge whilst in practice, and that you are able to
• research, acquire and exploit such knowledge, as well as showing you
• hold extensive knowledge of your operating environment, from a process, technical and historical perspective"

Table 2.4.3: The CSD website; CSD Genetic Matrix™ – 4 core criteria and 16 competencies which are applied in all disciplines

The AIGA is one of the biggest and oldest design professional bodies, with 22,000 members and 66 chapters across the U.S. Although AIGA has not stated the criteria for membership assessment on its website, it allows both design educators and designers with 4 years or more of experience to apply for membership. For 'Defining the Designer of 2015' the AIGA website for 2012 states that since 2006,

AIGA (2012a) has collaborated in research with Adobe in defining the future competence of graphic designers. The research findings are intended to trigger responses from academia (in curriculum planning) and the design industry in order to develop future graphic designers that will demonstrate the following attributes (the 13 competencies are ranked in order of importance):

1. "Ability to create and develop visual response to communication problems, including understanding of hierarchy, typography, aesthetics, composition and construction of meaningful images
2. Ability to solve communication problems including identifying the problem, researching, analysis, solution generating, prototyping, user testing and outcome evaluation
3. Broad understanding of issues related to the cognitive, social, cultural, technological and economic contexts for design
4. Ability to respond to audience contexts recognizing physical, cognitive, cultural and social human factors that shape design decisions
5. Understanding of and ability to utilize tools and technology
6. Ability to be flexible, nimble and dynamic in practice
7. Management and communication skills necessary to function productively in large interdisciplinary teams and "flat" organizational structures
8. Understanding of how systems behave and aspects that contribute to sustainable products, strategies and practices
9. Ability to construct verbal arguments for solutions that address diverse users/audiences; lifespan issues; and business/organizational operations
10. Ability to work in a global environment with understanding of cultural preservation
11. Ability to collaborate productively in large interdisciplinary teams
12. Understanding of ethics in practice
13. Understanding of nested items including cause and effect; ability to develop project evaluation criteria that account for audience and context" (3rd Paragraph).

AIGA (2012) also conducts networking, organizes conferences, establishes designer portfolio forums, encourages publications and critiques on professional practice, and organizes design competitions, book, magazine and journal publishing.

The Association of Registered Graphic Designers of Ontario (RGD Ontario) (2012) is a relatively small, provincial professional body with about 3,000 members (graphic designers, managers and educators). There is a set standard of competence specified by RGD Ontario and the Examination Board for Registered Graphic Designers. Apart from a portfolio interview, a written examination needs to be passed to become a 'registered member'. The examination aims to evaluate the professional competence of the applicant (a degree holder with 3-4 years practice). According to the RGD website (2012), the written examination includes four areas:-

1) Design history and research
2) Business and design principles
3) Technology
4) Rules of professional conduct

RGD encourages members to be up-to-date, problem solvers, responsible and ethical in professional conduct. However, RGD (2012) states clearly that registration is not obligatory in order to practice graphic design in Ontario, and in fact some well regarded and highly competent graphic designers are not registered members.

The Hong Kong Designers Association (HKDA)

The Hong Kong Designers Association (HKDA) covers a wide range of design disciplines, from visual communication, multi-media design, product design, advertising, fashion design, exhibition design to architecture and design education. The majority of members belong to the graphic design discipline. The body is independent and is not subject to political influence from the government**.** The HKDA official website (2010a) proclaims a similar mission and similar objectives to the CSD and AIGA, including designers' accountability to employers, colleagues, clients and the general public. Its objectives are to promote and uplift design's professional standard and status, to encourage designers and students to take part in professional learning activity, and to promote the professional code of standards.

However, there is no written comprehensive competence framework for assessing fitness to become a full member or fellow of HKDA. According to the general comments from interviews with the committee members (the judging panel of graphic design) and the HKDA members, the portfolio of works of the applicant is presented to a panel of two or three experienced designers in the same discipline. The portfolio tends to be judged according to its aesthetic treatment and execution technique, technological capabilities, prestigious clients as well as the eminence of design awards, if any. The assessment tends to focus on the execution skills and the aesthetic side of graphic design, not on the full function of design activities that underlies the aesthetic appearance in professional practice such as design knowledge, process, research and professionalism. Furthermore, there is no regulated continuing professional development (CPD) programme to allow designers to keep up-to-date with rapid development of graphic design, even though the association's objectives are to encourage designers to develop continuing academic learning.

Is graphic design regarded as a profession by the general public?

Although the CSD, AIGA and RGD offer professional memberships with appropriate requirements and specific standards of competence, some of the standards are more well-defined than others. The professional and registered membership status is not compulsory for graphic designers to practice legally in the named Western countries. With the recent proliferation of graphic design programmes and lack of accreditation procedures, as McCoy (1997) suggests, there are significant questions that need to be asked: "Is graphic design a profession?... Where anyone with a computer and some software has a 'license to design', who is truly a graphic designer?"(pp. 11-12). This leads to even harder questions: Does the graphic design discipline need professional assessment or a licensing system in order to resolve the competence and quality issue? How would such assessment evaluate innovation, creativity, aesthetic quality and objectivity? Are professional assessment and licensing systems only applicable to the 'elite' professions involving public risks and economic safety? McCoy's (1997) solution is that in order to attain a higher standard of professionalism in the future, "we need fewer, bigger and better design

programmes" (p.6) with more rigorous accreditation. Defining the professional standard, core values and boundaries are also urgent needs of graphic design in the coming future, to prove that it has evolved into a more mature design discipline.

Whether graphic design needs professional assessment or a licensing system to raise the quality of practice is still a debated issue in the West and it could possibly be an issue also in Hong Kong. Cheung (2011) points out that rigorous professional standards of graphic design hardly exist in Hong Kong, as there is no comprehensive competence assessment provided by the related professional body; aesthetic appearance, technological awareness and execution are probably the only aspects the body looks at.

2.4.9 Aspects of professionalism as reflected in graphic design academic programmes and professional practice in Hong Kong

The previous section unveiled the challenges that graduates face during the transition from the academic learning environment to professional practice. According to existing research, there is a 'learning gap' that needs to be addressed and bridged (Boshuizen, 2003; Guile & Young, 2003; Tuomi -Grohn, Engestrom & Young, 2003; Eraut, 2007). However, in the context of design education in Hong Kong, the institutions often claim in their official documents that they prepare their students for a long-term professional career, but there is nothing mentioned regarding the existence of a 'learning gap', or whether or how the gap is to be bridged after graduation. Therefore, in this section, I will review of the curricula of the two most representative design institutions in Hong Kong, namely the School of Design (SD) of the Hong Kong Polytechnic University (HKPU) (the most competitive local degree course provider)and the Hong Kong Design Institute (HKDI) (the largest higher diploma course provider) (Heskett, 2003), in terms of the characteristics of professionalism mentioned in this chapter, i.e. *definitions of design, design thinking and knowing; value systems in graphic design; design ability and professional expertise*. In addition, this section also discusses the relationship between design institutions and professional practice in Hong Kong, as well as the criteria of

professional competence adopted by the local and overseas professional design bodies.

The curricula of two representative institutes: HKDI and HKPU

According to Portelli (1987), there are more than 120 definitions of curriculum. Many definitions can only capture a few characteristics of curriculum due to bias of the planners (Toombs and Tierney, 1993), and many definitions have their respective weaknesses and blind spots (Marsh, 2004). Some curriculum experts (i.e. Beane, Toepfer & Alesssi, 1986) suggest that the principles underlying curriculum planning and design have to do with the 'value orientations' and the reason why these values evolved from certain important 'concepts'. Some major curriculum concepts could be either social-oriented, student-centred, knowledge-centred or eclectic, as identified by Longstreet and Shane (1993). These guiding concepts can be combined or set higher in priority by the planner (Marsh, 2004).

According to the *Course Validation Document of Higher Diploma in Visual Communication of HKDI (2010)*, the largest provider of design courses in Hong Kong, HKDI graduates have a great reputation within the creative industry. It states that "Visual Communication will equip students with the necessary technical and professional knowledge and skills, initially at a paraprofessional level, via the blending of theoretical knowledge and practical application, to enable them to pursue a career in graphic design house, branding and advertising agencies, digital marketing companies, multimedia /exhibition /packaging /publication design companies, product development an entertainment, film and television, etc." (p.6).

The official documents of School of Design of HKPU also state that how the School equips the students to be competent designers in the future. According to the *PolyU's BA(Hons) in Design Programme Document (2010/11)*, "designers need to have both specialist knowledge and skills and wide-ranging knowledge of other design disciplines [such as] engineers or marketing and forecasting experts…we see designers as leader who can use practical skills, analysis, insight and creativity to sustain a competitive economy and improve the circumstances in which we live,

underpinned by humanistic concerns"(p.3). The Programme Aims state that "[T]he aim of our programme is to educate innovative problem-solvers, equipping them with necessary intellectual, technical and managerial skills that will facilitate their development as designers who can invent new futures" (p.4).

The above excerpts from official documents suggest that there are noticeable differences in the aims and objectives of the two institutions. It is clear that HKDI aims to equip students with the knowledge and skills necessary to meet the existing demand of the design industry in Hong Kong, so the courses focus more on job specific knowledge and technical skills. In contrast, PolyU aims to train students to look at design knowledge and skills from a broader and multi-disciplinary perspective. The aim is not to limit students' view within a confined profession, but to prepare them to be more willing to face challenges and improve the current circumstances for the future, i.e. to help them to become innovative problem-solvers.

In terms of qualification levels, HKDI produces graduates with a higher diploma (Level 4) qualification, which is validated with reference to the Generic Level Descriptors (GLDs) of the Qualifications Framework (QF) of Hong Kong. The graduates of PolyU are at a degree (Level 5) qualification and the university does its own course validation. Since the qualifications achieved by graduates of the two institutions are rather different, their competence is also different. At Level 4, "graduates [possess] the required [profession's] technical knowledge, skills, analytical and problem-solving skills, and computer and interpersonal communication skills" (HKDI, 2010, p.12). According to GLDs, Level 5 graduates are expected to have a higher level of analytical ability; they are able to tackle more abstract concepts even in ill-defined contexts and to communicate to a wider range of audiences than Level 4 graduates. Moreover, Level 5 graduates are expected to have developed higher managerial abilities in dealing with complex information and people.

In general, both curricula contain studio-based subjects and theoretical-based subjects with different numbers of hours per credit (see Table 2.4.9). HKDI's 3-year curriculum requires 414 credits. There are also two different kinds of modules in the credit system: 'General Education' and 'Vocational'. The 'General Education' Modules (i.e., Chinese, English oral and written languages and interpersonal skills) consist of 76 academic credits, and the 'Vocational' Modules (mainly practical graphic design subjects) are accorded 338 academic credits. PolyU's 3-years curriculum requires 96 credits, among which 52 credits are discipline-specific design subjects, while 29 credits are common, university requirement subjects such as Chinese and English language, design history, design thinking, cultural study, business, and research methodology. By comparison, theoretical study takes 30% at PolyU and 18% at HKDI, which means PolyU's curriculum tends to be more theoretical than that of HKDI.

The definition of graphic design in academia and professional practice

The term 'visual communication' is similar in meaning to 'graphic design', according to both the HKDI and PolyU curricula. HKDI's core graphic design programme is named as "Communication Design & Digital Media" under which there are several sub-programmes (see the table 2.4.4 below for reference). For easy reference, these programmes can be explained and divided into three main streams equivalent to the programmes of PolyU (2010-11): 1) Advertising, 2) Visual Communication, and 3) Digital Media.

Graphic Design Discipline	
PolyU's programmes in graphic design	**HKDI's programmes in Communication Design & Digital Media**
1. Advertising	1. Advertising Design
2. Visual Communication	2. Visual Communication / Publication Design / Print Media
3. Digital Media	3. Digital Media programmes: Creative Media /Digital Music and Media, Film and Television,

Table 2.4.4: The alignment of graphic design programmes of PolyU and HKDI

According to the website 'Apply for Membership' of Hong Kong Designers Association (HKDA) (2010), the graphic design discipline is broken down into several sub-categories for applicant's specialization purposes: Advertising; Illustration; Interactive Media; Packaging; Digital Imaging; and Graphics. These sub-categories

all fall under the umbrella of the graphic design discipline, as defined by the ICOGRADA (2012) as well.

Design thinking in design institutes and professional practice

The Course Validation Document of Higher Diploma in Visual Communication of HKDI (2010) states that students have to take some core modules and among these are Creative Thinking modules. The Creative Thinking modules introduce various techniques of design thinking such as Mind Mapping and Lateral thinking. Students are trained to understand how professional designers practice these kinds of thinking to develop appropriate solutions to solve design problems. According to the *BA(Hons) in Design Programme Document of PolyU, 2010/11*, design thinking is also a compulsory subject at PolyU and focuses on the attainment of creative thinking and visual communication skills. It also introduces thinking techniques that are demanded of all designers, including Mind Mapping and Lateral thinking.

One of the major types of design thinking is what Schön (1963) called 'reflective thinking', which is *not* explicitly mentioned in the prospectuses and the official documents of either of the design institutes. 'Reflective thinking' refers to how design professionals gain their tacit knowledge through reflection in practice (Waks, 2001). More importantly, there are seven levels of expertise (Dreyfus's model, 1986) that can be applied to all general professions including design (Dorst & Reymen,2004). Eraut (1994) suggests that the notion of reflective thinking (Schön, 1983, 1987) is important because it is through reflective thinking that professionals gain tacit knowledge that enables them to move from one level to a higher level of the seven levels of expertise. Since reflective thinking has been mostly documented by scholars as the way professionals think and tackle ill-defined situations in professional practice using their 'tacit knowledge', it is possible that this notion is not mentioned in the official documents as students are expected to gain a wide range of 'coded knowledge' from different subjects while they are still at the elementary learning stage. However, I consider reflective thinking as important in design education and should be included and taught in the curriculum of HKDI and PolyU. Students frequently use reflective thinking (do not realize that they are

using it) for generating design solutions in every design projects throughout the study years.

Value systems in graphic design academia and professional practice

As mentioned in section 2.4.4, content analysis of two graphic design programmes and three professional design bodies was conducted in order to understand to what extent the value systems arrived. Two analytical methods were used: manifest content analysis (i.e., the number of times a certain term appears in the content of a document) and latent content analysis (the meaning embedded in the use of the term). As Tables 2.4.5 and 2.4.6 show, the value systems of the two institutions are in fact rather similar. The tables present 13 various terms which have been frequently and explicitly expressed in the materials, suggesting that these represent values of fundamental concerns for these graphic design programmes. They are the important aspects for design students to understand, consider, participate in and relate to in the process of learning and becoming a professional designer. Furthermore, the *BA(Hons) in Design Programme Document 2010/11 of PolyU* emphasizes a few 'more values' which are supported under the combination of the these 'basic' values; they are " humanistic design, mastery of marking, strategic thinking, creative and critical engagement, envisaging design as process, sustainability, sensitivity to history and culture, cross-disciplinary collaboration, charity and conviction in communication"(p.4). Despite the similarity of the value systems of the two institutions, the learning outcomes in terms of knowledge and skills are not intended to be the same (already discussed in previous paragraphs).

Value/ Source	HKDI's Website (2012) (Mission)	HKDI's Prospectus 2011-12 (Advertising) (Higher Diploma)	HKDI's Prospectus 2011-12 (Visual Communication) (Higher Diploma)	HKDI's Prospectus 2011-12 (Creative Media Design) (Higher Diploma)	HKDI's The Course Validation Document of the Higher Diploma in Visual Communication (2010) (Aims and Intended Learning Outcome of the Course)
1.Academic	•	•	•	•	•
2.Aesthetic					•
3.Business		•			•
4.Creativity		•	•	•	
5.Cultural	•	•			•
6.Economic					•
7 Global	•			•	•
8,Market		•		•	•
9.Social	•		•		•
10.Personal	•	•	•	•	•
11.Professional			•	•	•
12.Technological				•	•
13.User		•		•	•

Table 2.4.5: Value system in graphic design of HKDI

Value/ Source	PolyU's Website (2011) (Mission & Core Values)	PolyU's Prospectus 2010-11 (Visual Communication) (Degree)	PolyU's Prospectus 2010-11 (Advertising) (Degree)	PolyU's Prospectus 2010-11 (Digital Media) (Degree)	PolyU's BA(Hons) in Design Programme Document 2010/11 (Designing an Education for Humanistic Designers) (Programme Aims and Outcome)
1.Academic	•	•	•	•	•
2.Aesthetic		•		•	•
3.Business			•		•
4.Creativity			•		•
5.Cultural	•	•	•		•
6.Economic			•		•
7 Global		•			•
8,Market	•		•	•	•
9.Social	•	•	•		•
10.Personal	•	•	•	•	•
11.Professional		•	•	•	•
12.Technological			•	•	•
13.User	•	•	•		•

Table 2.4.6: Value system in graphic design of PolyU

Similar analysis was applied to the website documents of The Hong Kong Designers Association (HKDA); the AIGA, the professional association for design; the UK Chartered Society of Designers (CSD) in order to compare the value systems of the two academic institutions to the values of professional bodies. The findings are presented below.

Value / source	HKDA website (2010) (Mission & Vision; Chairman Statement; Look for Designer)	CSD website (2009) (About; Royal Charter; Code of Conduct)	AIGA website (2012)(About AIGA, AIGA Standard of Professional Practice; Ethics and Social Responsibility)
1.Academic	•	•	•
2.Business	•	•	•
3.Creativity	•		
4.Cultural			•
5.Economic	•	•	•
6.Environmental		•	•
7.Market	•	•	•
8.Organization	•	•	•
9.Professional	•	•	•
10.Professional Ethics	•	•	•
11.Social	•	•	•
12.User		•	•

Table 2.4.7: Value systems of local and overseas' professional design bodies

As Table 2.4.7 shows, twelve different kinds of values were identified in the documents of the three professional design bodies. In general, some values are shared by the academic and professional bodies, as reflected through the use of the terms 'academic', 'business', 'creativity', 'cultural', 'economic', 'market', 'professional', 'social' and 'user'. But some values (presented in the shaded boxes of Table 2.4.8) only appear in one setting, i.e. aesthetic, global, personal and technological values (education institutes); environmental, organization and professional ethics (professional bodies). Although both the institutions and professional bodies appear to share similar values, they are *not* at the same levels and priorities. With the institutions, the students are still at the 'learning' level. With the professional bodies, the designers are at the 'practicing' level in the society. Business, economic, market and professional values should be given higher priority by the professional bodies than by the academic institutes.

Value/ Source	Value system in graphic design of PolyU.	Value system in graphic design of HKDI	Value system of local and overseas' professional design bodies
1.Academic	•	•	•
2.Aesthetic	•	•	
3.Business	•	•	•
4.Creativity	•	•	•
5.Cultural	•	•	•
6.Economic	•	•	•
7. Environmental			•
8. Global	•	•	
9. Market	•	•	•
10. Organization			•
11.Social	•	•	•
12.Personal	•	•	
13.Professional	•	•	•
14.Professional Ethics			•
15.Technological	•	•	
16.User	•	•	•

Table 2.4.8: Comparison of value systems between academic institutions and professional bodies

Comparison of design ability and professional expertise in academia and professional practice

Eraut (2007) explains that the main challenge of the transition from education to the workplace is that it involves "different types of discourse and epistemologies" (p.116). Another, though related, challenge is that novice graduates go "from 'learning' to 'doing'" (McGhee & Thayer, 1961, p.173 cited in Analoui, 1993). In Hong Kong, design students of HKDI and PolyU are learning under an academic system irrespective of whether the academic programme is references to the GLDs of the QF or the university bureaucratic approval system. The types of ability or competence are explicitly described in the curricula of both GLD and the university. In contrast to the professional practice in general, what the graduate is doing in the workplace is mainly determined by whether it is appropriate and feasible to achieve the desired objective within the budget constraints under clients' project brief. The knowledge is largely tacit and implicit (Guile & Young, 2003; Eraut, 2007). The term 'qualified' may be a better term to describe the graduate's ability to reach an appropriate level in academic setting. 'Competence' is mainly a term used to describe the professional's ability to deal with workplace problems.

Cross (1990) has provided a comprehensive analysis on design ability of professional designers (design students or graduates are not mentioned), and he has identified eight core features in his study (see section 2.4.5 for details). Notwithstanding, even if some graduates possess a few core features, their abilities in general are most likely at the elementary level. Various scholars (i.e. Analoui, 1993; Boshuizen, 2003; Eraut, 2007) describe the academic graduates who are transitioning to workplace as 'novices' or 'trainees'. The word 'novice' belongs to the lowest level of ability in the 7 levels of expertise under the Dreyfus's model (1986) (see table 2.4.1 of section 2.4.5).

In Hong Kong, there has been insufficient research on the 'core features' of competencies of local professional designers. The features of competencies should be established by a professional body such as the Hong Kong Designers Association (HKDA). However, the association does *not* provide any comprehensive professional measures that could be used as reference by the members or the academia to benchmark 'competencies' when designing and implementing academic curricula. In contrast, the AIGA, the professional association for design and the UK Chartered Society of Designers (CSD) have provided competence measure. While AIGA outlines 13 competences when defining 'the Designer of 2015', CSD has Genetic Matrix™ with 4 core criteria and 16 competencies which are applicable to all disciplines (see section 2.4.8).

Lack of coherent relationship between the values and expectations of design institutions and professional practice

Though the design institutions reviewed above and the professional bodies appear to have similarities in their definitions of 'design', the value systems and understanding of design thinking are different in terms of levels, focuses, priorities and knowledge systems (coded vs. tacit). The most remarkable difference is in design ability and professional expertise, as conceptualized by academics versus professional practice. Even though design ability and professional expertise are correlated in two settings, graduates could still be at the 'novice' levels of design ability and expertise in professional practice.

Having said this, it must be pointed out that both institutions try to draw connections between education and practice by introducing 'professional practice' and 'industry internship' modules (see Table 2.4.9 below). However, only 12 out of 414 credits in HKDI and 2 credits out of 96 credits in PolyU are assigned to the professional practice modules. The Industrial internship module is given 16 credits but is not mandatory at HKDI (2010) (see shaded area). For PolyU where this module is mandatory, the curriculum does not mention how many credits the internship receives (according to the Programme Leader, there are only 3 credits under the mandatory graduation requirement). Overall, these modules only represent a significantly small percentage of the total required credits in both institutions. In the studies on the relationship between Hong Kong's design education and professional practice, Cheung (2008) argues that there is insufficient professional training in the design institutions of Hong Kong, and a comprehensive professional framework of competence for professional designers is non-existent. Collaboration between academia and professional practice is rather inadequate which leads to a weak connection between the knowledge, skills and competencies expected in the two different spheres (Cheung, 2011).

BA(Hons) in Design (Visual Communication) of PolyU. (2010/11)		**Higher Diploma in Visual Communication of HKDI (2010)**	
University requirements (9 Credits)		**General Education Modules (76 credits)**	
Reading and Writing for Design	1	Professional Chinese Language	8
University English for Design Students	2	Professional Chinese Report Writing	8
Cultural Research Methodology	2	English and Communication (Written & Oral & Reports Presentations & Trade)	32
General Education Subjects (China Studies)	4	Whole Person Development (Personal & Career Development)	12
Common compulsory subjects (20 credits)		Whole Personal Development (Interpersonal Competency & Global Citizenship)	8
Hong Kong Lifestyle Design	2	Information Technology Fundamentals	4
Cultural Research Methodology	2	Office Automation	4
Design Thinking	1	**Vocational Modules (338 credits)**	
Introduction to Design History	2	Aesthetics and Semiotics	12
Introduction to Design Culture and Theory	2	Creative Thinking 1 & 2	16
Cultural Research	2	Cultural Studies (Fundamentals & Design)	20
Design in Business	3	Graduation Project	30
Co-operative Workshop	6	Professional Practice (Portfolio & Career Management; Design & Business)	**12**
Discipline-specific compulsory subjects (52credits)		Industrial Attachment	**16**
Introduction to VC Design – Visual Literacy	2	Event /Community Workshop	8
Introduction to VC Design - Colour	2	Inter-Disciplinary	8
Fundamental Typography 1& 2	5	Cultural Study Trip	8
Visualization Skills (Illustration & Photography & Digital Visualization)	5	Exchange Programme	8
Applied Typography: Book and Publications	6	Experiential Project	8
Design Studio	16	Competition Studio	8
History of Visual Communication	2	Master Class	8
Professional Practice	**2**	Brand Design	12
Independent Study	3	Digital Visualization	8
Final Project	9	Direct Marketing and Self-Promotion Strategy	4
Electives (15 credits)		Drawing & Visualization	8
VC Specific electives	9	Experimental Book Design	12
SD electives	6	Interactive Media Design Studio	8
Total Credits	**96**	Motion Graphic Studio	8
		Narrative Illustration	12
		Prepress and Print Production	4
		Production Design: Word comes to Live	12
		Typography 1,2,3,4	32
		User Centred Design & Usability	12
		User Experience Design	12
		Advergame Design	8
		Comic Design	8
		Multimedia Promotion Design	8
		Packaging Design	8
		Total Credits	**414**

Table2.4.9: Proportion of credits of professional practice modules in relation to the total credits of the curricula of Polyu and HKDI

2.4.10 Summary

This sub chapter has discussed graphic design professionalism, beginning with designer ability and expertise. Cross' (1990) core features of design ability and Dreyfus's skills based model of seven levels of expertise were used to explain the progression of design skills acquisition of designers. Though the theories of design ability and levels of expertise are relevant to the graphic design discipline, research on graphic design has paid little attention to the development of expertise by levels, and this needs more extensive research. In general, different elements of professionalism in the graphic design discipline were discussed in this sub-chapter, i.e. value system, design knowing and thinking, design expertise and professional assessment. Graphic design professionalism, its body of knowledge in particular, is still considered to be at its elementary stage, while professional assessment is not well-developed compared with more well-established disciplines such as architecture and accounting.

The transition has been identified as a crucial stage for professionals. According to previous research, there is a 'learning gap' between an academic qualification and the competence expected by employers (Schein, 1972; Argyris & Schön, 1989; Eraut , 1994, 2007; Boshuizen, 2003; Tuomi-Grohn, Engestrom & Young, 2003). To fill this gap, some mature professions and professional bodies, such as the Hong Kong Institute of Architects (HKIA) and the Hong Kong Institute of Certified Public Accountants (HKICPA), offer regulated transitional training. To enter these professions graduates have to engage in workplace training immediately after graduation. Employers authorized by the HKICPA and HKIA need to carry out duties as supervisors for graduate employees in the first two to three years of training, preparing graduates for the professional examination in order to qualify them to practice in Hong Kong. In contrast, there are no well-defined duties of employers, graduates, academics, and professional bodies in the transition in graphic design. There is no regulated training. Thus, there is no official stage at which a design graduate is officially qualified as a 'professional designer', and no mandatory CPD programme to update professional learning. The Hong Kong Designers Association (HKDA) does not offer a comprehensive standard for assessing professional

competence for graphic designers. It may be claimed that graphic design in Hong Kong is a relatively young discipline, so there is insufficient body of knowledge and research conducted in the areas of professionalism. It may also not to be considered as a discipline relevant to life and death issues of the society, so that professional training is not important. Also, from the perspective of the social and cultural norms in the society, the majority of members of HKDA may still embrace the perception of competence of graphic design as only 'the aesthetic appearance and execution'. These remain the major criteria of competence that the HKDA applies to evaluate applicants until the present time. The Chartered Society of Designers in the U.K., AIGA, the professional association for design in the U.S., the Association of Registered Graphic Designers of Ontario in Canada all provide more comprehensive competence measurements than the Hong Kong Designers Association. But these professional bodies only represent a small proportion of practitioners, and non-members are not excluded from practicing graphic design in the West or Hong Kong. For such reasons, it is important to understand how graphic designers could claim an exclusive professional status or standard for themselves, especially since some scholars question whether graphic design is a profession.

The review of the official documents that discussed the connection between professional teaching in academia and professional practice in Hong Kong has revealed that each of them holds different objectives and there is minimal connection between them. Thus the university competence system is not aligned with the concept of competence of the professional design practice. This lends support to the existence of a 'learning gap' between an academic qualification and the level of competence expected by the employers. While the transition is a critical time for graduates to move from learning to doing, known to unknown, there is no well-defined duty between the stakeholders and professional bodies on respective professional training in the transition. Moreover, graphic design as a young discipline has yet to establish its body of professional knowledge, standards for professional training and comprehensive assessment criteria or procedure in Hong Kong. All these issues have triggered some major questions around the

learning conditions and working experiences of graphic design graduates in Hong Kong, such as:

1) Is there a learning gap?,
2) Has the gap been bridged?
3) What do design graduates experience in the transition?, and
4) How to let the academics and design firm owners understand their respective training involvement?

These questions summarize the background issues and generate a focus for this research. The coming chapter will discuss the establishment of the 'Conceptual Framework' and research focus more explicitly and in greater detail. It will also clarify the connection between the literature review and the framework and how research questions are derived.

3. Conceptual Framework

Based on the review of the relevant literature presented in the previous chapter, Figure 3.1 below summarizes the relationship between the literature review, the conceptual framework and research questions.

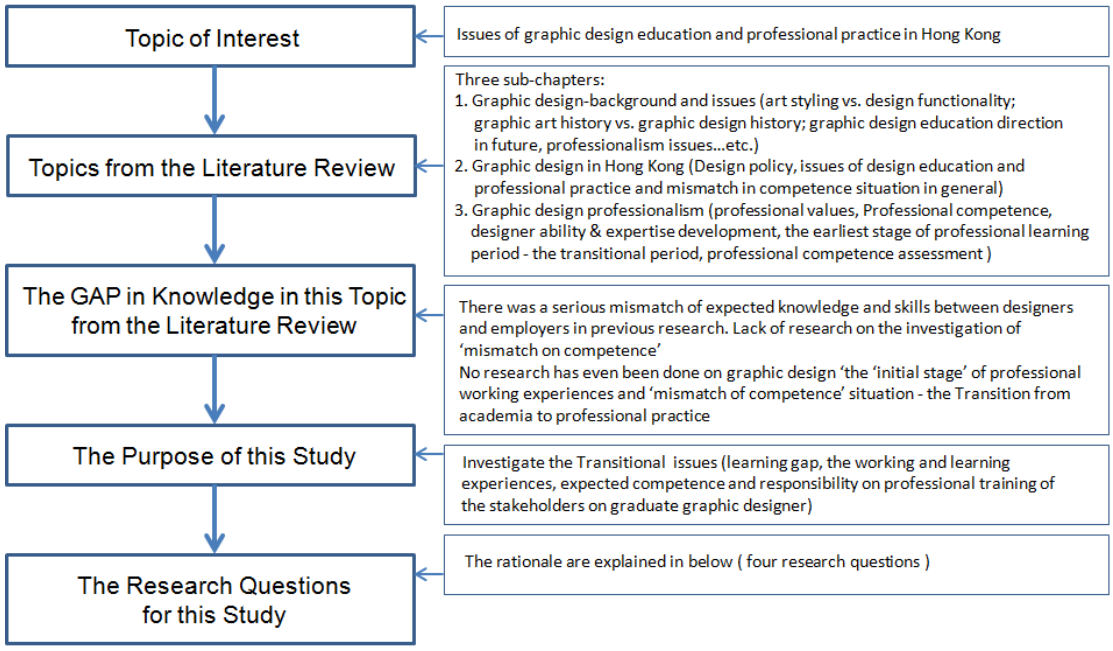


Fig. 3.1: From literature review to conceptual framework and research questions

The purpose of this chapter is to present the study's research focus: from setting up the boundary of the conceptual framework, to the explanation of the development of each major research question, which are to be addressed based on the research findings at the end.

3.1 Conceptual framework (The focus of the study)

Leading academics researching the transition have contended that the first two to three years after receiving an academic qualification are likely to be the most critical period for graduate entrants into any industry. They state that there is a 'learning gap' and new entrants need to adjust to the industry (Schein, 1972; Argyris & Schon, 1989; Eraut, 1994, 2007; Boshuizen, 2003; Tuomi-Grohn, Engestrom & Young, 2003; Asian Development Bank, 2012). The most challenging factor is that graduate entrants enter the workplace which involves "different types of discourse and epistemologies" (Eraut, 2007, p.116) than the educational context. In other

words, graduates get exposed to new ways of communicating, thinking and knowing. What is considered as knowledge in professional education is largely coded knowledge, while in the workplace, knowledge is mainly determined by what is appropriate, feasible to achieve the desired objective within budget constraints. This kind of knowledge is largely tacit (Guile & Young, 2003; Eraut, 2007). Due to these different kinds of expectations, novice professionals inevitably experience challenges, conflicts and struggles in the workplace. To help them overcome these challenges and make the transition smoother, senior staff needs to be accountable for and committed to providing essential support to novices (Eraut et al., 2005).

The aim of the present study is to investigate whether or not graphic design graduates in Hong Kong experience challenges similar to those reported in the literature. Figure 3.2 is a graphic representation of the 'Conceptual Framework' of this study. There are three major stakeholders in this study: Academia, Graduate Designers and Employers, but excluding the professional body (as there is no actual involvement in the transition at present). Firstly, the study investigated novice graphic designers' experience of the *'learning gap'*, i.e. whether the transition presents difficulties, conflicts, confusions, or adjustment problems for graduate designers due to different sets of knowledge and skills that exist between academia and workplace. The question is whether the 'learning gap' is bridged by the stakeholders in the transition. Secondly, the study examined whether graduates experience *different* kinds of expectations and norms of competence expected from the academia and professional practice and even among designers themselves. The research sought to identify the values and expectations of each of the three stakeholders and to determine whether these expectations cause conflicts and challenges and are hard to adjust to for graduate designers, and whether any assistance is needed to reach the expected competence.

Thirdly, this study also investigates academics' and employers' *'perception of involvement'* in professional training for the graduates. On the other hand, it asks whether design employers and designers criticize design education institutes and academia for having failed to fulfill their perceived task of equipping novice

designers with the practical knowledge and skills as required by the workplace or the industry as a whole. Conversely, it also asks whether academics argue that design firm owners have neglected their own responsibilities of providing training to graduate designers in the workplace. All these questions are summarized in Figure 3.2 below. Finally, on the basis of the mentioned issues, this study also explored the general perceptions of the working experiences of the graduate designers under such circumstances, to determine if there could be any further improvement with the novice graduates in the transition.

According to Eraut (1994, 2007), a transition period can be defined as the first three years at work after graduating from a professional education, before taking any professional examination to become, say, a qualified architect or chartered accountant; it can also be viewed as "the initial period during which novice professionals develop their proficiency in the general professional role" (Eraut, 1994, p.11). A longitudinal study conducted by Eraut (2007) dealt with the first three years of professional learning of graduate engineers, accountants and nurses in the workplace. Since the present study is about the issues surrounding the transition, novice graphic designers within the period of up to 'three years' after graduation were chosen for data collection. However, as mentioned in the last paragraphs, this study investigates the '*working and learning experiences*' of graduate graphic designers transitioning from an academia to a workplace setting in general. It also examines the *'expected competence'* of graduate designers and the *'perceptions of training involvement'* in the perspective of the academics, employers and graduate designers in order to verify whether there was a learning gap. Therefore, this study is an investigation of the '*reported experiences of graduate designers and the perceptions of all stakeholders'.* A cross-sectional research approach is more appropriate and sufficient for this study than the longitudinal approach, as substantiated by further discussions in Section 4.3.4 of the Research Methods chapter.

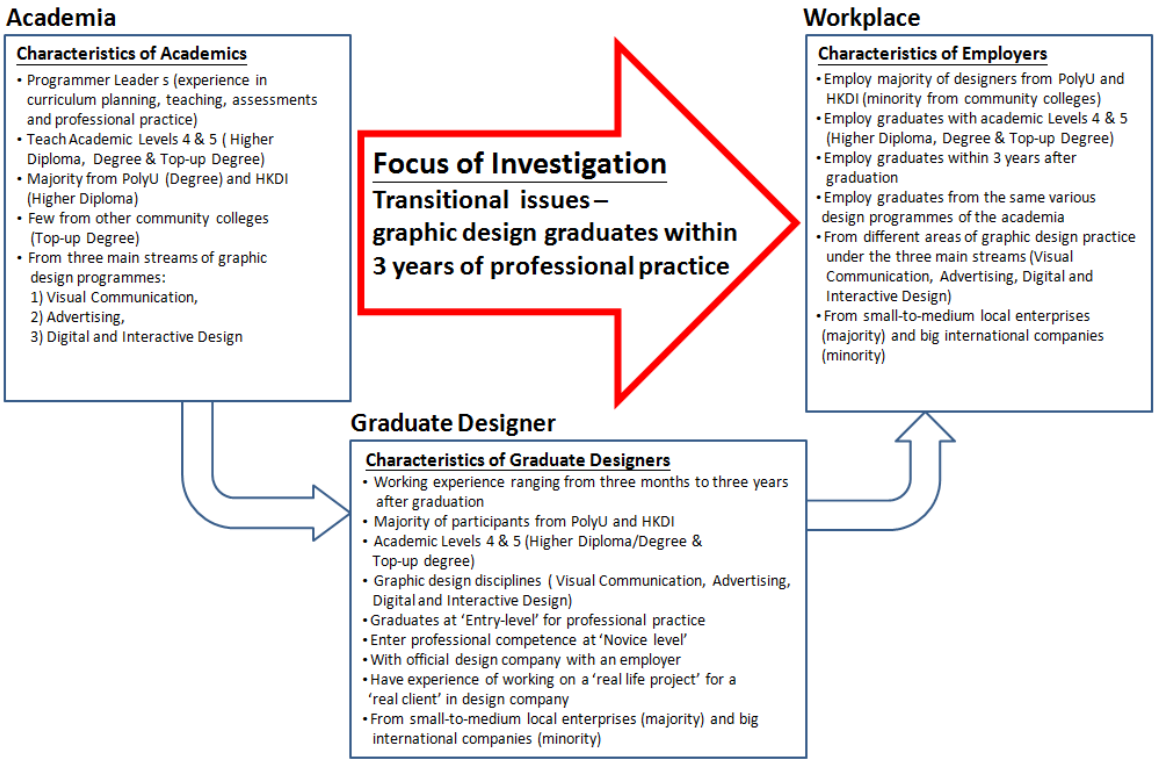


Fig. 3.2: Conceptual framework: graduates entering the first job in professional practice

3.2 Rationale and development of research questions

The issues proposed in the research and illustrated in Figure 3.2 delineate the scope of this study and lead to initial key research questions, which were then refined and reformulated in the course of reviewing and analyzing the literature, and later refined during the data collection stage. The four research questions are shown below, along with the rationale for asking them:

1) *What do Hong Kong graduate designers, design academics, and design firm employers understand by 'competence' and 'professional training' of graduate graphic designers undergoing the transition from tertiary education to professional practice?*

The first research question is to reveal whether or not there is a 'perceptional gap' in the graphic design discipline during the transition. Previous literature indicates that when graduates transition to the workplace from the academia, they are actually entering into a setting of different norms, knowledge and values. Some values held by the graduates were learned in their academic experience while

others may have been held by the graduates independent of their education. These values may either clash against or enhance the values and the standards of competence that employers expect from graduates. This represents the first question which aims to reveal the similarities and differences in the values of expected competence in order to identify whether there is a 'perceptional gap' which may cause conflicts between academics, employers and designers. Secondly, a question on 'professional training', inquires into academics' perception of the training they give to prepare graduates to enter the industry, as well as design firm employers' understanding and expectations of the training that design graduates should receive in their academic studies, as well as how the graduates actually experience this expectation and training during the transition.

2) *What do academics and design firm employers perceive as their role and responsibility in the professional training of graphic design graduates?*

This question examines the stakeholders' perspectives and beliefs about their own roles and involvement in facilitating the professional development of graduates. It is apparent that diverse beliefs of the roles of the stakeholders could lead to either favourable or unfavourable outcomes. In seeking to understand the reasons behind the perceived 'learning gap' between academia and professional practice, this research seeks to determine whether some design firm employers believe that academia should provide graduates with the essential skills so that, once in employment, graduates will be able to further develop their competence themselves, and that they, the employers, should not be involved in providing training. The research also asks, whether or not academics believe that their role is to prepare graduates to enter the job market only, and that apprenticeships or on-going professional training is the responsibility of design firm owners. If such positions can be verified, a 'Blind Spot' could be identified, for which neither stakeholder group feels itself responsible for training the graduate designer.

3) *What are the learning and working experiences of graduate designers in the transition?*

The third research question is to find out the working and learning experiences of graduate designers under the potential conditions of the 'learning gap' and the various stakeholders' positions (especially the employers') regarding their perceptions of their roles in the professional training of graduate designers during the period. Due to the stakeholders' perceptions of their respective roles and responsibilities, certain patterns of practice can be formed. This questions asks whether or not these patterns and practice have consequences which could either encourage or discourage professional learning of the graduate designers.

4) *What potential changes in design academia and professional practice may encourage the improvement of the learning and working conditions in the transition of the graphic design graduates?*

The fourth research question asks whether there could be any potential changes of the roles of the various stakeholders to encourage them to bridge the learning gap of design graduates during the period, if obstacles have hindered graduates' learning within the period due to various stakeholders' perception and practice. Apart from the roles of the employers or academia, the question asks whether any Hong Kong professional design bodies could be involved. In the most well established professions such as architecture, accounting and engineering, professional bodies provide professional training, competence evaluations and examinations for graduates within the transitional period. Those professional bodies have worked closely with professional education institutes.

These major research questions will influence the choice of the design research approach, methods and tools used to seek the answers. The coming chapter "Research Methodology" will discuss the rationale behind the research design in relation to the research questions.

4. Research Methods

This chapter explains the research methods adopted in this study. This research focuses on the time when graduate designers move from an academic environment to a workplace setting. It aims to examine the transition in the graduates' working experiences, and to gain insight into the role of guidance for graduate designers between three parties: 1) Academics, 2) Employers and 3) Graduate designers) to this transition, referred to below as 'stakeholders'. This phenomenon forms the research focus already developed and identified in the Literature Review, as well as the background for the theoretical framework of this study. Specific research questions were established to inquire into the phenomenon and a mixed method design, consisting of both qualitative and quantitative methods but principally qualitatively-driven was adopted as the approach for answering the research questions. A qualitative interview method was adopted as the core qualitative component, while a survey was selected as the supplementary quantitative component. Such combination is intended to help achieving depth and breadth in this study as well as to 'triangulate' the data. Purposive sampling with maximum variation was selected in both mixed methods, using qualitative semi-structured interviews as inductive analysis and quantitative survey as deductive analysis.

In this study, there were two separate phases in data collection and analysis. The first phase was qualitative interview study, consisting of 22 semi-structured interviews (academics, employers, graduate designers). Qualitative findings were used to develop the second stage of data collection and analysis, i.e. a quantitative questionnaire survey with 100 respondents (graduate designers only), in order to triangulate the conjectures developed in the first phase. Quantitative data were collected and presented statistically and then analyzed and interpreted (A multivariate analysis of variance [MANOVA] [one of the statistical tools of SPSS] was used to test whether there are significant differences in viewpoint concerning the questionnaire items based on the different education background of the participants). Eventually, both qualitative and quantitative findings were combined

and presented as mixed method findings for discussion in relation to the research questions.

4.1 Chapter overview

Figure 4.1 illustrates the procedures of the research stages, the flow of the research process and the selected research methods adopted in this study.

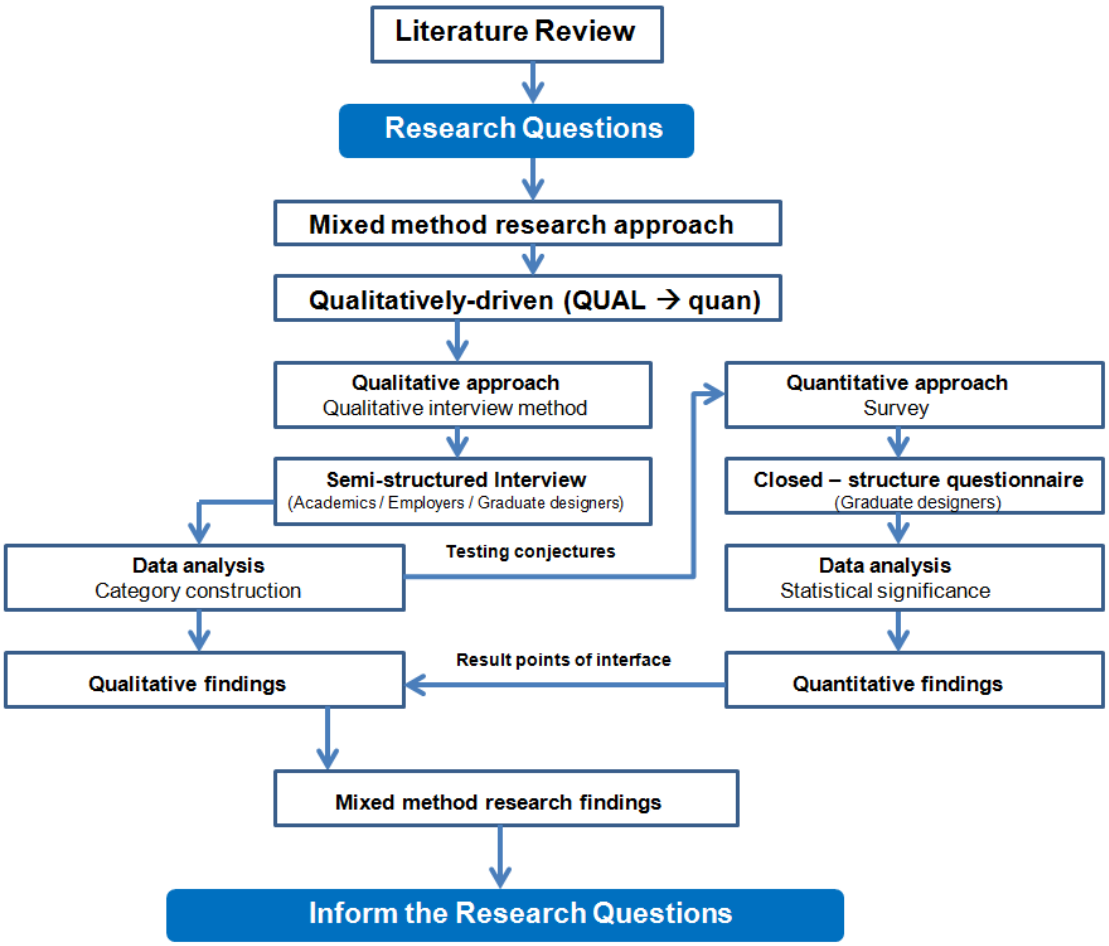


Fig.4.1: Flow of research procedures and methods

4.2 Major paradigms in research

According to *The Oxford English Dictionary*, research can be defined as "a search or investigation directed to the discovery of some facts by careful consideration or study of a subject; a course of critical or scientific inquiry"(Simpson & Weiner, 1989, p.692). According to Mertens (2005), research is a plan to collect and analyze data for understanding certain phenomena, and "the exact nature of the definition of research is influenced by the researcher's theoretical framework and by the importance that the researcher places on distinguishing research from other activities or different types of research from each other" (Menten, 2005, p.2). The theoretical framework of a piece of research reflects how a researcher perceives the world and the worldview or paradigm is what s/he brings to the consideration of an issue. The theoretical framework of this study has already been illustrated in the previous section.

Many different paradigms in different disciplines, e.g. Positivism, Constructivism, Participatory / Transformative and Pragmatic, are used in education and psychology (Mertens, 2005). There are two key dimensions (subjective and objective) and four Paradigms (Functionalist, Interpretive, Radical Humanist, Radical Structuralist) in social science according to Burrell & Morgan (1979). For broader disciplines, there are Postpositivism, Constructivism, Advocacy and Participatory and Pragmatism (Creswell & Clark, 2007). These paradigms represent individual philosophical beliefs that guide research thinking and action. These types of beliefs embraced by scholars in different disciplines guide them in determining whether their research design should take the form of a qualitative, quantitative or mixed method approach (Creswell, 2009).

1) *The Quantitative approach*: this is related to a deductive approach based on testing theory and often associated with quantitative research methods (Greener, 2011), "The researcher tests a theory by specifying narrow hypotheses and the collection of data to support or refute the hypotheses… the data are collected on an instrument that measures attitudes, and the

information is analyzed using statistical procedures and hypothesis testing" (Creswell, 2009, p.16).

2) *The qualitative approach*: this is consonant with an inductive approach intended to construct rather than to test hypotheses or theories (Merriam, 1998). "It is interpretive… it is experiential… it is situational … it is personalistic" (Stake, 2010, p. 15). Qualitative study accepts the researcher's intuition and multiple meanings and regards the research findings as the result of interactions between the researchers and subjects. The place and time of each research is unique and contexts are elaborated in great detail. It seeks people's points of view and the researcher is often perceived as a major instrument (Stake, 2010). Creswell (2003) sees qualitative research as a qualitative researcher interpreting certain social phenomena holistically: "the more complex, interactive and encompassing the narrative, the better the qualitative study"(p.182). Qualitative research is flexible in terms of research procedure. In practical terms, a researcher may need to modify design elements in response to unexpected developments during the research process, for instance by modifying research questions or selecting additional interviewees to amplify the understanding of particular categories (Maxwell, 2009).
3) *The mixed method design approach*: this strategy "attempts to contextualize research within a particular theoretical perspective. It is a process requiring imagination" (Greener, 2011, p. 201). It is an integrated methodology focusing on the needs of researchers who consider what is 'useful and works' for the investigation (Tashakkori & Teddie, 1998). Tashakkori & Teddie (1998) have conducted studies combining both qualitative and quantitative approaches in one single study with many phases. The mixed method design uses a triangulation technique involving the use of qualitative and quantitative findings to describe the same phenomena of the same study.

Guba (1990) has reduced all this to three questions the researcher must address: ontology, epistemology and methodology.

1. " Ontology: What is the nature of the 'Knowable'? Or, what is the nature of 'Reality'?

2. Epistemology: What is the nature of the relationship between the knower (the inquirer) and the known (or knowable)?

3. Methodology: How should the inquirer go about finding out knowledge?" (Guba, 1990, p.18)

A summary of the four major paradigms of research combined with the above three areas (see Table 4.1) would help to determine which research paradigm and strategies should be selected for this study.

Basic belief	**Postpositivism**	**Constructivism**	**Advocacy and Participatory**	**Pragmatism**
Ontology	One 'real' reality and apprehensible	Multiple realities, looking at different perspectives of the social world	Multiple realities affected by social, political, cultural, economic, racial, gender and disability factors	Single or Multiple realities, what is useful determines what is true. Researchers test hypotheses and provide multiple perspectives
Epistemology	Objectivity is the essential part of inquiry, goal for explanation and generalizations, verified hypotheses	Interaction between researchers and participants; values are expressed explicitly.	Researchers actively collaborating with the participants	Practicality, researchers collect data by 'what works' to address research question
Methodology	Deductive, i.e. researchers test an existing theory	Inductive, i.e. researchers take participants' views to build up theories	Participatory, i.e. researchers engage with participants in every stage of the research	Qualitative and quantitative combined, Mixed method to match to specific questions and purpose
Research strategies	Quantitative research approach such as experimental, Quasi-experimental, Survey	Qualitative research approach such as Grounded theory, Case study	Qualitative, quantitative or both mixed research approach can be used	Mixed method both qualitative and quantitative approach

Table 4.1: Four major research paradigms. Partially adapted from Creswell and Clark (2007, p.24-25) and Mertens (2005, p. 9-10)

The rationale for applying mainly the four paradigms of Creswell and Clark (2007) for constructing the above matrix table (Table 4.1) is that the scholars have combined their latest thoughts on mixed method design to form the paradigms which are useful to this study. Mixed method research design could be applied to broad disciplines such as human and social science, education, management and health science (Creswell and Clark, 2007, Creswell, 2009). This study illustrated that design education relates to the study of human and social sciences.

4.2.1 Overview of the selection of an appropriate paradigm in relation to the research questions

As described in Section 3 (the conceptual framework), this study examines a particular phenomenon that arises during the first three years of the career of design graduates in the graphic design community in Hong Kong, and involves stakeholders with multiple perspectives including personal, educational, cultural, social, economic, business and marketing…etc. The main purpose of this research is to investigate the issues of the phenomenon (the transition) concerning the graduate designers during the initial three working years under the influences of two other stakeholders (academics and employers). It examines the perceptions, beliefs of expected competence, training responsibilities and graduates working experiences held by the stakeholders.

The above is the subject of this study, identifying the practical issue and presenting it in multiple perspectives of the stakeholders that are affected by multiple contextual factors, examining the various beliefs and values, their similarities, differences, and influence on practice. The research method selected that best answers the research questions on subject is *pragmatism*.

4.2.2 Selecting an appropriate paradigm - pragmatism

In light of the four major research paradigms presented in Table 4.1, it can be seen that this research study could not be understood solely in terms of a quantitative, positivist paradigm, although such approach could provide breadth and generate statistical data. On the contrary, social constructivists seek to understand the world,

culture and society in which we dwell, making subjective meanings of individuals and groups and the views of participants of what is being studied count as much as possible. Constructivists also interpret findings in the light of their own background and experiences (Creswell, 2009). A purely qualitative research seems appropriate for a thorough exploration of the communities under investigation, since the aim of the research is not to generate or construct a unified theory, but rather to investigate and understand particular issues with multiple perspectives within the three community groups. These three community groups in fact represent a large population. PhD research is often limited by resources and time, and given the resources and time available to me, the selected participants could not be claimed to be representative of the entire population of the three community groups, even though they have been carefully chosen and possess unique insights of their field. Therefore quantitative data are needed to complement the qualitative data in answering the research questions.

The advocacy and participatory philosophical paradigm "focuses on the needs of groups and individuals in our society that may be marginalized or disenfranchised." (Creswell, 2009, p.9). Advocacy and participatory research is highly practical, with researchers actively engaging with the participants at every stage of their inquiries. The researchers embrace quantitative or qualitative approaches, or a mix of both, and emphasize rigor in research as well as the involvement of participants in planning, interpreting and analyzing the stages of research (Mertens, 2005). However, this study does not require the researcher to engage with the participants at every stage of the inquiry, and it does not focus on groups or individuals who are marginalized. Instead it aims to understand the views and beliefs of the stakeholders. Hence, the advocacy and participatory research paradigm would be unsuitable for this study.

It is the *pragmatic* paradigm that has been selected for this study, because as Tashakkori & Teddie (1998) put it, "pragmatists decide what they want to research, guided by their personal value system... including variables and units of analysis that they feel are the most appropriate for finding an answer to their research

questions… [This research approach] seems to describe the way that researchers in the social and behavioral sciences actually conduct their studies, especially research that has important social consequences" (p.26-27). Pragmatists avoid the constant metaphysical debate about the concept of truth or reality. In the pragmatic paradigm, what is useful and effective in contributing to the values of research would be considered as ontologically 'true' (Tashakkori & Teddie, 1998; Mentens, 2005).

4.3 Research design –mixed method approach and criteria

According to Johnson, Onwuegbuzie & Turner (2007), "mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purposes of breadth and depth of understanding and corroboration" (p.123). Morse & Niehaus (2009) describe the mixed method approach as the most up-to-date research design in social science, and say that such a design should be adopted when the phenomenon is complicated, i.e. when a single research method is insufficient in answering the research questions, or when the phenomenon cannot be easily explained by using one single method. Outcomes therefore could be meliorated by adding one more method. To pragmatists, the research questions determine the research method to be adopted. A mixed method using both qualitative and quantitative data is considered to be practical in describing and clarifying the understanding of the complexity of the issues of pragmatists (Mentens, 2005).

The rationale for selecting the mixed method approach for this study is presented below:

1) Adding quantitative to qualitative methods and analysis could enhance the validity of this study and help to better answer the research question, because purely qualitative data could be considered insufficient. Since the qualitative researcher, in conducting open or semi-structured interviews, will use his/her experience to interpret the findings, this may result in

personal bias. Using a mixed method approach could achieve both breadth and depth of understanding, especially when the participants (academics, designer employers and graduate designers) represent a large part of the design industry population in Hong Kong.

2) As mentioned in 4.2.2, the pragmatic paradigm supports this study's theoretical stance, since this study examines complex phenomena comprising social, educational, cultural, economic, business, professional, personal factors. The choice of the appropriate research approach would be one that is 'useful and works'.

4.3.1 Mixed method research design and its theoretical drive - abduction

'Theoretical drive' refers to the conceptual process in research and includes three directions: inductive, deductive or what Morse et al. call abduction (Morse, 1991, 2003; Morse et al., 2006, cited in Morse & Niehaus, 2009). 'Abduction' refers to a research inquiry that moves "back and forward between induction and deduction throughout the research by first developing conjectures and then systematically testing these conjectures." (Morse & Niehaus, 2009, p.39).

4.3.2 Mixed methods design - qualitatively-driven approach (QUAL → quan)

Mixed Methods research design can be defined as "consisting of a core component with an additional supplementary component that fits into the core component of the study"(Morse & Niehaus, 2009, p.14). The core component is the main focus of the research and addresses key areas of the research questions. It is the dominant part in the mixed methods design. The supplemental component is used more like a strategy rather than a method. It is conducted independently alongside with the core method, although both core and supplemental components eventually join together at the interface of the main project (Morse & Niehaus, 2009). Creswell (2009) states that all research methods have their own strengths and limitations, and biases already implanted in any one method could be offset by adding other methods. A mixed method approach could also enhance triangulating data across qualitative or quantitative sources by either reinforcing or cross-checking each

other's results, or identifying interesting areas or participants with one method that needs to be explored further using another method.

According to Morse & Niehaus (2009) and Tashakkori & Teddlie, (1998), there are several types of mixed methods research design (see below):

1) QUAL + *quan:*	Qualitative core component of the project (inductive theoretical drive) with a *simultaneous* quantitative supplementary component.
2) QUAL -> *quan:*	Qualitative core component of the project (inductive theoretical drive) with a *sequential* quantitative supplementary component)
3) QUAL + *qual:*	Qualitative core component of the project (inductive theoretical drive) with a *simultaneous* qualitative supplementary component.
4) QUAL -> *qual*:	Qualitative core component of the project (inductive theoretical drive) with a *sequential* qualitative supplementary component.
5) QUAN + *qual:*	Quantitative core component of the project (deductive theoretical drive) with a *simultaneous* qualitative supplementary component.
6) QUAN -> *qual:*	Quantitative core component of the project (deductive theoretical drive) with a *sequential* qualitative supplementary component.
7) QUAN + *quan:*	Quantitative core component of the project (deductive theoretical drive) with a *simultaneous* quantitative supplementary component.
8) QUAN -> *quan:*	Quantitative core component of the project (deductive theoretical drive) with a *sequential* quantitative supplementary component.

Table 4.2: Eight different types of mixed methods research design

This study examines the similarities and differences in viewpoints, perceived experiences and the in-depth values of three community groups. The proposition is that in analyzing the differences in viewpoints, in virtue of the complexity of contextual factors, most of the research questions could possibly be answered by mainly qualitative findings, thus the inductive strategy would be executed first in order to elicit what insights the stakeholders derive from their experience. Once the qualitative findings have led to the detection of certain patterns and conjectures, the deductive strategic quantitative approach would be introduced to compare and confirm the qualitative results. Based on this rationale, this study has taken a qualitatively-driven approach (QUAL → quan), i.e., the research design comprises a qualitatively driven core component and a quantitative supplemental component.

4.3.3 Point of interface

Morse & Niehaus (2009) explain that "[M]ixed method is systematic: at best, researchers conduct two components, keeping each data separated until the point of interface, or the position in the research process in which the two components meet. These two data sets do not mingle nor blend – each is handled appropriately according to its modus operandi until the researcher intentionally brings the two operations together, at a time when both of the two methods are 'ready' to be combined"(p.55). For this study, the main purpose of using quantitative data as a strategy is to test conjectures, i.e. the main propositions arising from the analysis of the core qualitative data. Another purpose of using quantitative data is to triangulate and identify the patterns developed in the qualitative data. The point of interface is set at the 'Research findings for QUAL' as illustrated in Fig 4.2. To test conjectures, "a minimum of two variables is needed for comparison, again the most basic level, the presence or absence of two characteristics… supporting or rejecting the hypotheses "(P. 105).

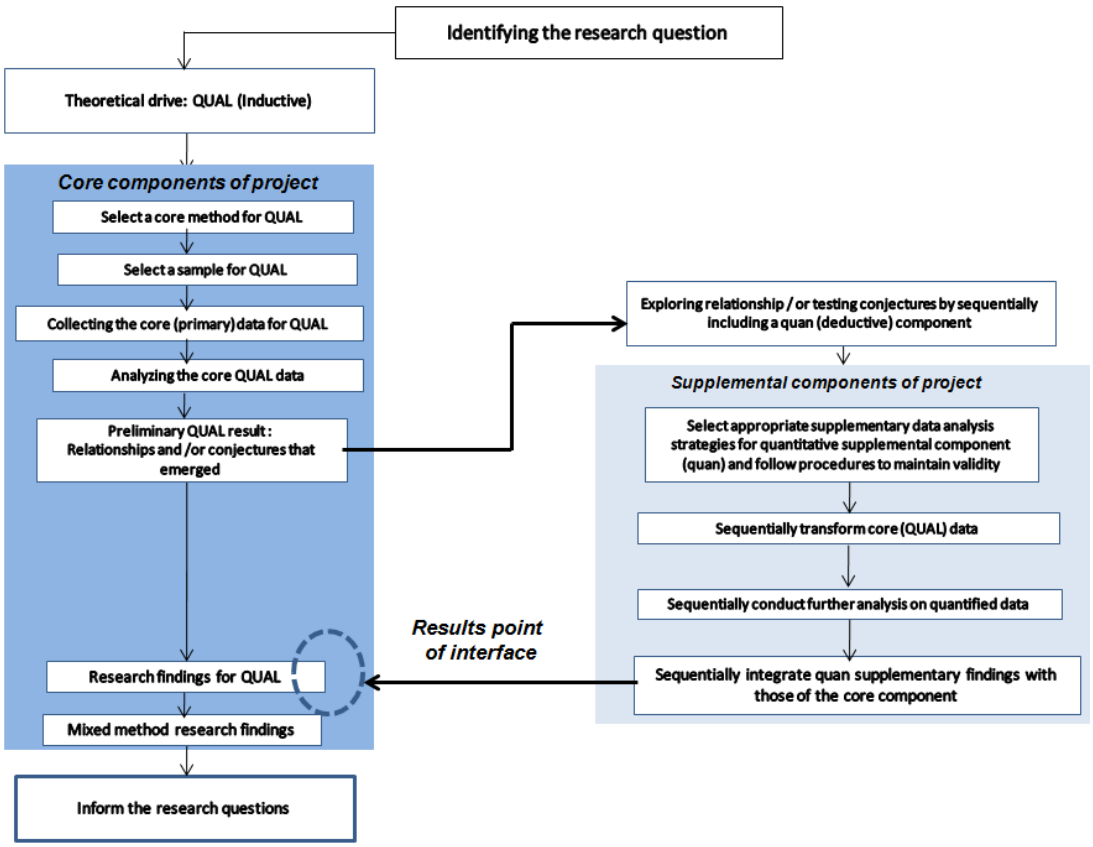


Fig.4.2: QUAL → quan mixed method design (Morse & Niehaus, 2009, p. 106)

4.3.4 Core component for Qual. - Qualitative Interview Method

Van Maanen (1979) states that qualitative research is "an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world" (p.520). Qualitative researchers are interested in understanding how people make sense of the world they live in and experience. There are seven most common types of qualitative methods falling under the 'qualitative' research umbrella: Case Study, Ground Theory, Phenomenology, Ethnography, Critical Qualitative Research, Narrative Analysis, and Basic Qualitative Study. They have some common attributes and share similar data collection tools, but each of them has a somewhat different focus (Merriam, 2009).

One of the qualitative methods most commonly used in education is Basic Qualitative Study. The 'major' goal of the Basic Qualitative Study is to unfold and interpret people's experiences and their meanings. Similar to the other qualitative methods, data are collected through some major tools such as interviews, observations or content analysis of documents. The data analytical approach is comparative and inductive. Findings are abundantly interpretive and presented in categories or themes (Merriam, 2009).

The study focus with the chosen method - Basic Qualitative Study with Interview method

This PhD study investigates the '*working and learning experiences*' of graduate graphic designers transitioning from an academia to a workplace setting. It also examines the *'perceptions of training involvement' and 'expected competence'* of graphic designers from the perspectives of academics, employers and graduate designers. Based on this rationale, the study is an investigation of '*reported experiences of graduate designers*, and *perceptions of all stakeholders'*.

Having considered the characteristics of the various qualitative methods, the Basic Qualitative Study was chosen as the most appropriate for the purpose of this study. Basically, this study is interested in people's life-working experiences, their opinions, thinking, expectations, feelings, and meaning construction. This study has no additional dimension expected of the other qualitative methods which would involve, for example, investigating a case in a bounded system using an intensive approach (Case Study); generating theory (Grounded Theory); challenging and changing the society through action (Critical Qualitative Research); studying culture of a specific group of people over a long period (Ethnography); or studying intense human emotions (Phenomenology). However, like these qualitative methods, the Basic Qualitative Method involves the use of similar data collection tools such as interviews, observations or document analysis.

Based on my previous working experience with stakeholders, the interview method was chosen to obtain qualitative information for this study. Considered to be the basic and major mode of inquiry throughout the history of qualitative research (Lichtman, 2013, Seidman, 2013), interviews have been used extensively in education research (Merriam, 2009; Seidman, 2013). As Merriam (2009) highlights, the use of interviewing as the major method for data collection should be based on "the kind of information needed and whether interviewing is the best way to get it" (p.88). This study aims to understand graduate designers' feelings, experiences, expectations, challenges and struggles. It also aims to understand the perspectives and expectations of various groups of stakeholders -- graduate designers, academics and employers—and these cannot be observed directly (Patton, 2002). Interviews were then used to elicit and understand people's stories and perspectives (Seidman, 2013), and, in a way, "to enter into the other person's perspective" (Patton, 2002, pp.340-341). This study involves the collection of information from the stakeholders' perspectives, expectations and reported experiences within the 3-year transition, and it is not an investigation into the development of the changes in perspectives, expectations and experiences during the 3 years' transitional period. A cross-sectional research approach is therefore more appropriate and sufficient for this study than the longitudinal approach.

The interview method in this study

There are several essential criteria that the researcher has to be aware of when using the interview method, such as the design and selection of the types of interview; sampling and their criteria; identification of the participants and the sample size as well as the validity of the interview process. These will be discussed extensively in the subsequent sections of the chapter (see section 4.5).

Semi-structured interviews were employed in the study. A written set of questions was used at each interview; however, these were adapted or additional questions were used as the researcher deemed appropriate based on how the interview developed. The written guides were essential because several interviews were conducted, and the aim was to have comparable and dependable qualitative data (Bernard, 2000).

Participants

According to the research questions which were asked in the Introduction Chapter, the interview information came from three major groups of participant: Academics, Graduate Graphic Designers, and Employers. Fig. 4.3 below shows a bigger circle of the study group which the graduate graphic designers fall into as the 'Core group' that is actually experiencing the transition from studying at the education institute to working for the employers. These are the 'focus' of this study. The academics and employers are in the smaller circles representing the 'secondary groups' which can provide essential information in both the academia and workplace settings. In fact, they are NOT the people who are actually going through the transitional learning and working experience, but they are engaged in their roles and make decisions which may affect graduate designers' training and working experience. Eventually, cross-checking and matching of the interview information or findings from all three groups was done to identify similarities, differences, and conflicted opinions in terms of experiences, perceptions and expectations. This cross-checking process strengthened the internal validity of the study.

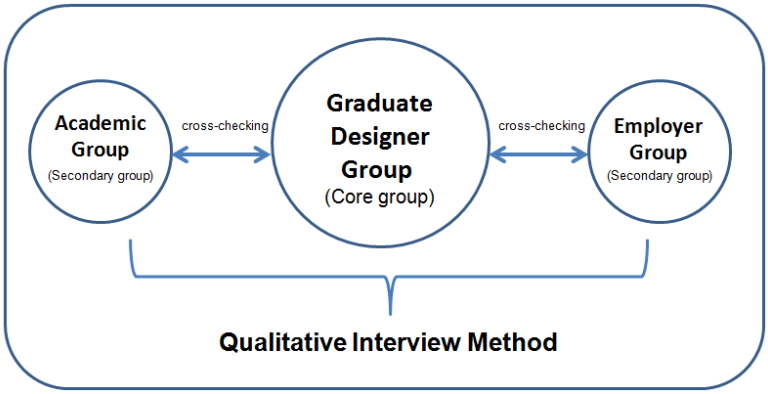


Fig.4.3: Three different groups in the interview method

4.3.5 Supplementary component - Quantitative Survey

The main purpose of the survey sample is to generalize from a larger population, and questionnaire is one of the main data collection instruments of surveys. However, the survey is only one of the methods of collecting and analyzing data. It can seldom be used as a stand-alone method and is often adopted with other research methods (De Vaus, 1996). Learvy (2012) explains that "surveys are by far the most common type of descriptive research. They are used in virtually every area of social and behavioral science. For example, psychologists use surveys to inquire about people's attitudes, lifestyle, behaviors and problems"(p.118). Surveys could utilize questionnaire or interview techniques to collect data, and it is a type of research method that could attempt to describe people's feelings, thoughts and behavioral patterns. Most surveys used are cross-sectional surveys, i.e. a group of respondents is surveyed, and these one-shot studies could provide significant information about the group (Learvy, 2012). Greener (2011) comments that social researchers use deductive methods to test hypotheses. Deductive methods are mostly related to the quantitative approach, and questionnaire surveys will be advantageous for testing hypotheses. He states that "[A] quantitative survey might be useful in a mixed-methods design, preceding qualitative research in order to find promising patterns of variables that can be subjected to more detailed analysis through it"(p.40). The research design of this study echoes Greener's view about quantitative methods for testing hypotheses. Once the qualitative findings have been completed in this study, findings from the questionnaire would be added for

comparison and further analysis in order to validate the hypotheses (conjectures) developed from the qualitative interview method.

4.3.6 Summary of methodological choices

In sum, this study has adopted a pragmatic research paradigm with a mixed research method approach, in view of the nature of the practical issue and the multiple perspectives and contextual factors the study deals with. A qualitatively-driven mixed method approach (QUAL → quan) using both qualitative and quantitative research methods was employed. Interview method was selected as the appropriate qualitative research method. Survey was selected as the quantitative method, in order to add breadth to the study as well as to test the conjectures of the qualitative findings. These two research methods were executed separately with the interview method being conducted first. The conjectures derived from the interview method were then developed into questionnaire statements for the survey. Eventually, both qualitative and quantitative findings would meet at the 'point of interface' for a final comparison with mixed method findings and discussion.

4.4 Validity and reliability

4.4.1 Internal and external validity

Validity is a principal element for all research to ensure trustworthiness and authenticity to readers. Every stage of the research process relates to validity by looking at how data are collected, analyzed, interpreted, and presented at the end of the research (Merriam, 1998). Internal and external validity are self-evidently highly important in research (Holloway, 1997; Merriam, 1998; Yin, 2009), irrespective of whether they belong to a qualitative or a mixed method design research.

Tashakkori & Teddie (1998) state two questions to challenge researchers about their measurement of validity and reliability: "Am I truly measuring/recording what I intend to measure/record rather than something else? This is the question of measurement validity... Assuming that I am measuring/recording what is intended,

is my measurement/recording without error? This is a question of measurement reliability" (p.80). Reliability means that similar results with a consistent instrument will be generated regardless of when, where and by whom the research is carried out repeatedly, though the term cannot be used in an absolute sense in qualitative research (Holloway, 1997). Merriam (1998) elaborates that "reliability is problematic in the social sciences simply because human behavior is never static" (p.205). The researcher is the main instrument of investigation. He/She interprets the world in the same terms as those who experience and describe it, and since the term 'qualitative' may carry many interpretations, it would be difficult to benchmark one single standard for repeated measures (Merriam, 1998). Lincoln and Guba (1985) suggest that "dependability and consistency" (p.288) of the results derived from data is a better way of putting it than demanding the same result (cited in Merriam, 1998, p. 206). Several strategies have been proposed to ensure dependability such as "the investigator's position, triangulation, and audit trail" (Merriam, 1998, p.206). The researcher should explain his/her position and assumptions and the theoretical background, as well as using multiple data collection and analysis methods in research. He/She should describe in detail how data and categories are derived throughout the process.

Internal validity tackles the query of whether the research findings address reality, and if the findings apprehend what is actually happening in reality (Merriam, 1998). According to Merriam (1998), Creswell (2003) and Yin (2009), triangulation seems to be regarded as an effective strategy to ensure internal validity by using multiple methods and sources of information as evidence.

External validity can also be taken to refer to whether the research results could be generalized or applied to different situations. It is often rather difficult to generalize qualitative research, because it is by definition specific to certain situations and places (Holloway, 1998). Creswell (2003) comments that generalizability should take up a lesser role in qualitative research. However, Strauss & Corbin (1990) claim that "theoretical concepts should have generalizability (and transferability). These concepts should be applicable to other similar situations. This emphasizes

the vital importance of thick description so that the reader has the knowledge on which to base judgments" (cited in Holloway, 1998, p.160).

4.4.2 Triangulation

"Triangulation is a process by which the same problem or phenomenon is investigated from different perspectives" (Holloway, 1997, p.157). It is a common belief that triangulation could enhance validity and neutralize the biases existing in one single perspective (Holloway, 1997). According to Patton (2002), there are four different kinds of triangulation in qualitative research evaluation:

"1. Methods triangulation: Reconciling qualitative and quantitative data

2. Triangulation of source: Triangulation of qualitative data sources

3. Analyst triangulation: Using multiple analysts to review findings

4. Theory/ perspective triangulation: Using multiple perspectives or theories to interpret the data" (p.556 & p.559).

Patton's 'triangulation of source' is referred to as 'data triangulation' by other qualitative and mixed method scholars (Holloway, 1997; Tashakkori & Teddie, 1998, Yin, 2009).

In this study, 'data triangulation (triangulation of source)' and 'method triangulation' were used to reinforce 'internal' and 'external' validity and to neutralize biases (see Figure 4.4). In data triangulation, each interviewee was asked similar questions regarding the three groups of stakeholders in the phenomenon, while comparisons were frequently used to construct categories and pattern matching were employed in data analysis among interviewees and groups in order to cross-check and identify the differences and similarities in opinions, values and beliefs. In method triangulation, the major findings from the interviews with graduate designers (the core group), employers and academics (secondary groups) were compared with the quantitative results of a questionnaire survey with 100 graduate designers (the graduate respondents did not only respond to the questionnaires that were developed from the core group's major findings, but also to questionnaires

developed from the secondary groups' findings that were vital to the graduates' experiences). In addition, there were also different external sources of evidence to support the qualitative and quantitative findings. A list of the multiple sources is presented in Table 4.3. Thus, internal and external triangulation was carried out in this study.

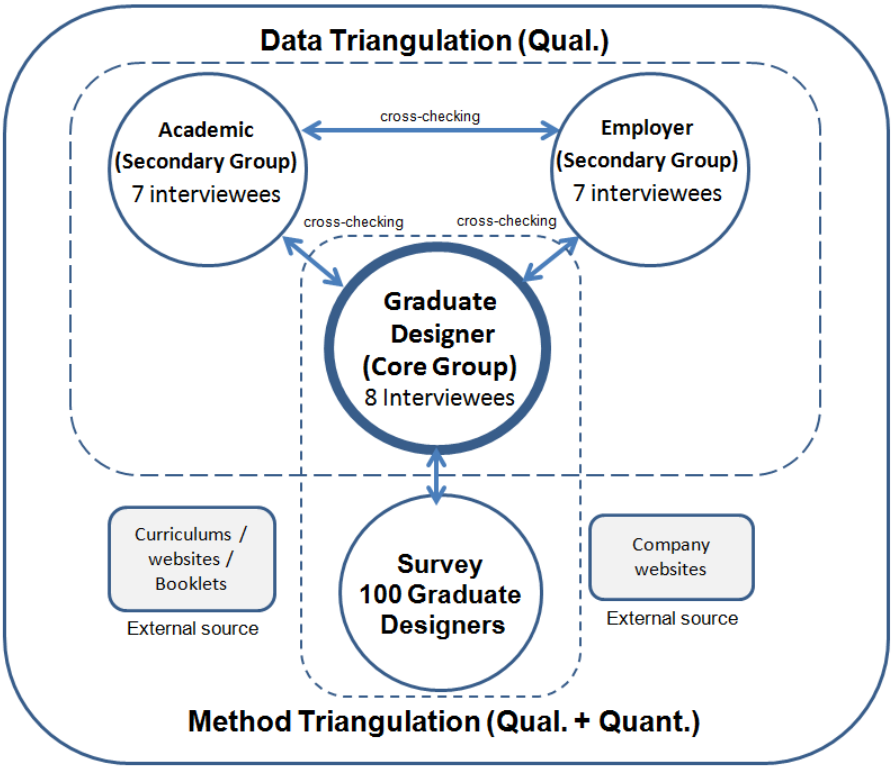


Fig. 4.4: Different kinds of triangulation involved in the study framework

Groups	External sources
Academic	• Programme curriculum • Institute programme prospectus • Institutes' official websites
Employer	• Company official websites

Table 4.3: External source of evidence to support the findings

Notwithstanding, it is not a simple task for a single investigator to analyze multiple sources of evidence, as this would require the investigator to master the techniques of data collection and data analysis with training for different types of research materials (Yin, 2009). For example, the pattern matching technique for

generating themes or categories could be used in interview transcripts when similar research questions are asked, but is not suitable for analyzing documents or artifacts such as programme curricula or company websites. Therefore, other different techniques were used for these purposes, such as manifest content analysis and latent content analysis (Holloway, 1997, Patton, 2002, Babbie, 2011) which were used to analyze the document mentioned in Table 4.3. Manifest content analysis counts the number of times a given word appears in a particular content while latent content analysis searches for the embedded meaning of the sentences or paragraphs in the documents.

4.4.3 Reflexivity of the researcher

As this study adopted a qualitatively-driven approach supported by quantitative technique, a major part of the research was based on the qualitative researcher's interpretation. Creswell (2003) states that qualitative researchers should reflect on their thinking and position constantly during the research process because a researcher fundamentally creates individual descriptions of the setting and participants, analyzes findings and categories, and draws conclusion based on the meaning to the researcher individually as well as theoretically. The researcher should be frank and open about acknowledging his/her biases, values, and interests. (Mertens, 2003 cited in Creswell, 2003). Patton comments: "Reflexivity reminds the qualitative inquirer to be attentive to and conscious of the cultural, political, social, linguistic and ideological origins of one's own perspective and voice as well as the perspective and voice of those one interviews and those to whom one reports" (2002, p.65).

In this PhD research, other than being reflective and self-critical, a self-reflective digital journal was also created to keep track of every stage of the research procedures, address changes, mistakes, comments, reflection on new directions and limitations. Furthermore, under the principle of reflexivity, every effort was made to offset the adverse effect of bias, (which means that there might be 'blind spots' of information of that the researcher do not see due to ignorance or

stubbornness). One of the methods used was to explain every stage of the research process clearly with transparency. Another way was through triangulation.

4.5 Phase one – Qualitative data collection phases and instrument

As mentioned in section 4.3.4, this study relied on interviews as the main method of collecting qualitative data. Several rounds of interviews were conducted with three groups: Academics, Employers and Graduate designers. The essential criteria that were considered in this qualitative data collection phase included the type of sampling, sample sizes and sample criteria with boundaries, the selection of interview type as well as the data analysis process.

Sampling consideration

There are two basic types of sampling: non-probability and probability sampling (with "random sampling" being the most popular term). A quantitative researcher using probability sampling draws a random sample from the population to generate statistical data. However, since generalization is not the goal of qualitative research, non-probability sampling is considered to be the most appropriate sampling strategy, under which the most popular type is purposive sampling (Chein, 1981; Merraim, 2009).

Purposive sampling is based on the researcher's judgment and knowledge of the population as well as the purpose of the study. Study participants are selected due to certain predetermined characteristics which allows the researcher to gather rich relevant information (Merriam, 2009; Babbie, 2011; Learvy, 2012), and, as Patton (2002) argues, "information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry"(p.230). As the above discussion suggests, prior to the use of a purposive sample, selection criteria need to be determined and a link between these criteria and the purpose of this study needs to be carefully and explicitly established (Merriam, 2009).

Patton (1989) suggests that there are several selection approaches for using Purposive Sampling, including "typical case", "extreme or deviant case", "critical

case", "sensitive case", "convenience", and "maximum variation" sampling (pp.100-107). Seidman (2013) considers "maximum variation" sampling as the best and most effective research strategy for selecting participants especially in interview studies (similar to this study). Maximum variation sampling is typically used when the aim of research is to understand how a phenomenon under study is understood or experienced by different people. Maximum variation sampling may also refer to the diversity of sites (Tagg, 1985). As Patton (2002) explains, "any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon"(Patton, p.234).

4.5.1 The chosen approach: 'purposive sampling' with 'maximum variation'

This PhD study was, to a large extent, inspired by the 'Design Smart Research Report' of the Hong Kong Polytechnic University (2008), which is one of the most comprehensive research studies in the area of design education in Hong Kong. The 2008 study engaged the 'maximum variation approach' to collect qualitative data using purposive sampling. Thus, data was collected from designers of different academic levels (sub-degree, undergraduate and postgraduate), and from design companies / employers of different business nature and sizes, in order to examine the general 'expectation of competence' between designers and employers in the design community. It states that "[T]o ensure heterogeneous and diversified views, members of various design industries in Hong Kong were invited to the focus group" (p.11).

This report, however, was a research study covering all design disciplines, while my study focuses only on the graphic design discipline and graduates with limited working experience (i.e., the transition period). I have applied the same principles of 'purposive sampling' and 'maximum variation' approaches in this study so as to present the findings from the 'widest' range of participants within the boundary of the study, with the aim to reveal the 'common shared and core experiences' of the participants. Since this study is interested in gaining more insight into the professional training offered to novice designers, competences expected of them,

and their overall transitional experiences, graduate graphic designers were the 'core group' under study. Academics, i.e. members of tertiary institutions who teach graphic design and are assumed to prepare graduates for their professional careers, composed the second group. The last group involved in the study consisted of employers, i.e. directors or representatives of graphic design firms who hired, supervised and evaluated the performance and working experiences of the graduates. Academics and employers were considered as the 'supplement-groups' in this study. It was believed that graduate designers, academics and employers all represented valid sources of information and became part of the purposive sample in this study. It was also believed that though the participants represented the diverse views of the graphic design industry, it was essential to identify and understand any common patterns that would emerge from the great variation of participants thus capturing their core experiences of the phenomenon.

The sample size consideration

Literature suggests that there is no standard "appropriate" number of participants in purposive samples (Merriam, 2009), but there are two basic criteria that must be considered in qualitative interview studies. The first one is 'sufficiency', as there has to be a sufficient number of participants to represent the range of sites and people in the population (Seidman, 2013). Patton (2002) also suggests identifying a minimum sample size "based on expected reasonable coverage of the phenomenon given the purpose of the study" (p.246). The other criterion is 'saturation' of information in the process, when there is no more new learning from the information (Lincoln and Guba, 1985; Seidman, 2013). Lincoln and Guba (1985) recommend that one can determine a justified sample size when data have reached 'saturation' or 'redundancy'. According to Holloway (1997), the sample size chosen for a qualitative research could be small with a range of 4-40 participants, but this sample size should comprise "information-rich cases" (Holloway, 1997, p.142). According to Morse (2000), the determination of the number of participants reaching saturation would depend on various factors such as:

1) The extent of the study: the bigger the scope, the longer the time it will take.
2) The type of topic: if the topic is apparent and focused, fewer participants will be needed.
3) Richness of the data: if the participants are experienced and the data provided are in the right zone and mostly useful, fewer participants will be required to reach saturation (Morse, 2000 cited in Robson, 2002).

Sample size in this study: 'sufficiency' and 'saturation'

In total, 22 participants were involved in interviews in this study (see tables 4.4, 4.5, 4.6). This sampling size has reached the 'sufficiency' level, in that there were a sufficient number of participants to represent the diversity of sites and population: different academics and graduate designers of different academic levels that came from different aspects of graphic design, as well as from different sites or institutes. Graduate designers worked in design firms of different sizes ranging from Small to Medium Enterprises (SME) to international companies employing from 2 to 200 staff. In the employer group, the employers specialized in different aspects of graphic design and hired graduate designers coming from a wide range of academic levels, specialized programmes and institutes as mentioned above.

The research focus of this study has a uniquely tight period (the transition). In fact, all stakeholders are closely linked in terms of their roles and responsibilities in training, supervision and evaluation of performance of the graduate designers before and during the transition into professional practice. Interview questions were thus designed in such a way that data could be cross-checked: i.e. ask each stakeholder how he/she perceives his/her own role and responsibility as well as how he/she perceives the other stakeholders in similar situation in the transition (for example, ask how graduate designers see employers' responsibility in training…; ask how employers see responsibility in training graduate designers; how academics see employers… so on). So in the 22 interviews, similar questions were asked of the three interview groups, for example, learning and working experiences of the graduate designers and stakeholders' training responsibilities (see appendices 1-3), multiple perspectives were gathered. Furthermore, most participants could be

considered as 'experts' and 'elites' in the fields, i.e. all academics were 'programme leaders' with experience ranging from 5 to 20 years, and most employers were from well-known and established graphic design firms with 5 to 20 years of business experience. These two groups of 14 interviewees could give 'richness of the data' in this study (see Tables 4.4 & 4.5). Eventually, a lot of data were gathered and repeatedly analyzed to cross-check respective views to identify the similarities and differences in the similar questions until reaching the point of 'saturation of information' in the interview process when no new information came in relevant to the scope of the study.

4.5.2 The criteria for selecting the purposive sample

As mentioned earlier, "maximum variation" purposive sampling is the most effective research strategy for interview studies (Seidman, 2013). Several factors were considered when selecting the purposive sample in this study (see Fig.4.5): graphic design programmes, academic programmes levels, design business firm models in Hong Kong.

According to the definitions of graphic design provided by ICOGRADA and by the programmes offered by the major leading sub-vented institutions (Polyu and HKDI)(see section 2.4.1), graphic design programmes can be classified into three main streams:

4) Visual Communication Design (VC)
5) Advertising Design (AD)
6) Digital and Interactive Design (DI)

'The Design Task Force' research report (Heskett, 2003) and 'The DesignSmart Research Final Report' (2008) state that graduates of PolyU hold the **most competitive degree** in Hong Kong while HKDI graduates represent the **largest** workforce in the city. These local tertiary institutions offer design programmes which are sensitive to the changing demand of the design industry of Hong Kong (A Study on the Framework of Hong Kong Design Index, 2011). Having said that, the majority of the graduate workforce in Hong Kong is still educated at the sub-degree level, and degree holders (including top-up degree graduates) represent the

minority with a ratio of about 2:1. Since 2006, there has been an increase in the overall supply of design graduates from sub-degree and top-up programmes which are provided by the self-funded community colleges (A Study on the Framework of Hong Kong Design Index, 2011).

Based on the official information given above, **'higher diploma', 'degree'** as well as **'top-up degree'** academic levels were thus essential in the model, especially the graduates of HKDI and PolyU who are deemed as the *most* representative and the *most* popular providers of workforce of higher diploma (HKDI, 2010) and degree levels (Heskett, 2003). On the other hand, as noted recently by the reports, there is an increasing number of programmes of higher diploma and top-up degree levels that are run by self-funded community colleges and vocational institutes such as the School of Continuing and Professional Education (SCOPE) of the City University of Hong Kong and the School of Professional and Continuing Education (SPACE) of the University of Hong Kong, as well as the School of Professional Education and Executive Development (SPEED) of the Hong Kong Polytechnic University (PolyU) and the Hong Kong Design Institute (HKDI).

Regarding the design business firm model, design graduates in Hong Kong are *mostly* employed by **Small Medium Enterprises (SME)(94%)** rather than international firms (Heskett, 2003). "SME" is defined by the Hong Kong SAR Government as any non-manufacturing business firm which hires fewer than 50 persons in Hong Kong (Trade and Industry Department, 2004). Thus, the majority of employers and graduate designers were selected from SME firms. Notwithstanding, in order to have diverse views in this study, several designers and employers were selected from international firms.

In conclusion, Fig. 4.5 below shows 'a decision tree' for the selection of the three purposive samples. These three groups were selected following the general criteria shown in the table (please see the rows). For example, the first row of Fig. 4.5 shows the three main streams of graphic design programmes. The second row shows the academic level covering higher diploma, degree and top-up degree

(According to the Qualification Framework (QF) set by the Hong Kong Education Bureau (EDB),. Higher diploma belongs to Level 4 [L4] and degree and top-up degree are Level 5[L5] (see section 2.3.3). HKDI graduates represented the majority of the higher diploma population, while the minority came from PolyU and other community colleges of local universities. PolyU graduates comprised the only degree level progamme represented in this study. Graduates of top-up degree programmes came from community colleges of local universities namely SPACE, SPEED, SCOPE and HKDI. The final row shows the business nature of the employers/ design firms which hired graduates from the abovementioned academic programmes in this study, and majority of these came from SME firms (under 50 staffs). Strictly speaking, the **majority** of the interviewees had a higher diploma and degree background from HKDI and PolyU respectively, while top-up degree holders were in the **minority**.

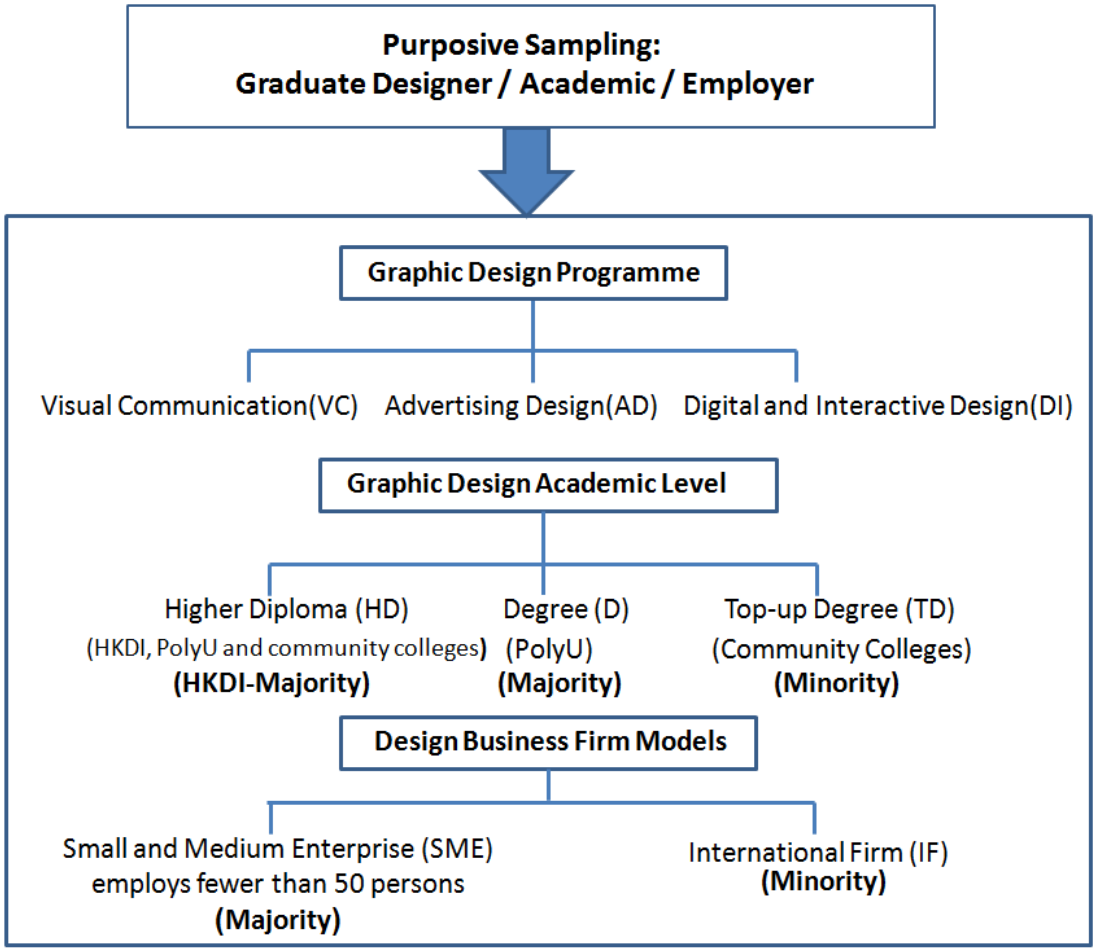


Fig. 4.5: A decision tree for the selection of purposive samples from the three groups

The 'shared experiences and dimensions' of the purposive samples

As Figure 4.5 above shows, the 22 interview participants came from a range of backgrounds and they were at various graphic design academic levels acquired from different design institutions. Even when the same academic level is considered, some could be more studio or skills based while others are more theoretical. Although the design firm/employer interviewees mainly came from SME companies, the firms' scope of graphic design works is also diverse ranging from advertising, general graphic design and interactive design, to gearing towards graphic design productions. Nevertheless, whatever the diversities were, all the interviewees did share some '**common characteristics**' and '**core experiences**' which were vital to this study. In brief, their shared commonalities are as follows:

1. The academics of various design institutes in Hong Kong train graphic design graduates only up to the 'entry-level' in graphic design professional practice.
2. All graduate designers from various programmes and institutes enter professional practice with the general 'novice level' of competence.
3. Though graduates work in diverse firms, they are all given an opportunity to experience 'real life projects' with 'real clients'.
4. All the graduates from various backgrounds and academic levels have 'official employers' who hired them and evaluate their work no matter what size of graphic design firms they are with.
5. All the graduate designers have to experience the transition from academia to a workplace setting (if the graduate decides to work in the graphic design professional field).
6. All the graduates will experience the differences in assessment practices and expectations between academic programmes and the workplace during the transition.

Specific criteria for selecting 'academic' participants:

- The majority of participants should be from the programmes of PolyU and HKDI.
- These participants should be involved in Level 4 or 5 graphic design programmes offered by either from government subvented institutes or independent design institutes

- They should possess in-depth experience in curriculum planning, teaching, assessments, and internships placement of the programme as well as the professional practice in the graphic design industry (i.e. Programmer Leader)
- They should be selected from as wide a base as possible, and should cover different aspects of graphic design from general to specific.

Participant	Position	Years of education experience	Programme Level	Programme description
Participant 1	Programme Leader (PolyU)	5 years	Degree	Visual Communication
Participant 2	Programme Leader (PolyU)	5 years	Degree	Advertising
Participant 3	Programme Leader (PolyU)	20 years	Degree/ Higher Diploma	Digital and Interactive Design
Participant 4	Programme Leader (HKDI)	16 years	Higher Diploma	Visual Communication (branding & advertising)
Participant 5	Programme Leader (HKDI)	6 years	Higher Diploma	Visual Communication (information & interactive Design)
Participant 6	Senior Programme Leader (SPACE)	20 years	Higher Diploma	Visual Communication (Branding, digital and Interactive design and advertising)
Participant 7	Programme Leader (SCOPE)	8 years	Top-up Degree	Visual Communication

Table 4.4: Participants in the academic group

Specific criteria for selecting 'design firm employer' participants:

- The participants should be employing graphic designers who came primarily from PolyU and HKDI programmes.
- The employers should have previous and current experience of employing graduate designers who have studied a Level 4 or Level 5 programme, within the first three working years after graduation.
- The employers must be employing graduates who have graduated from various graphic design programmes illustrated in above Table 4.4. Academic group
- The selection of the employer participants should be wide ranging and cover design firms dealing with different aspects of graphic design practice under three main streams: Visual Communication, Advertising Design and Digital and Interactive Design.
- The participants should be selected from a range of firms with under 50 staff from SME (majority) to international companies.

Participant	Nature of Company (years of establishment)	Position	Number of staff	Number of designers	Academic level of the employed graduate designers and Institute	Scope of works in graphic design discipline
Participant 1	SME (16 years)	Founder (Designer)	15 staff	6 designers	Higher Diploma level of HKDI	graphic design house (general graphics, multimedia and exhibition design)
Participant 2	SME (14 years)	CEO (Business management background)	20 staff	5 designers (in-house)	Higher Diploma level of HKDI	Outdoor Advertising billboard owner(in-house design team provides advertising print, brochure and moving graphics in advertising)
Participant 3	SME (20 years)	Director (Business management background)	45 staff	3 designers (in-house)	Higher Diploma Level of HKDI	Graphic output and production (general graphic design solution - 2D &3D)
Participant 4	SME (20 years)	Founder (Advertising Designer)	6 staff	6 designers	Top-up Degree and Higher Diploma level of SPACE	Branding and graphic design house (excluded advertising design)
Participant 5	SME (1.5 years)	Founder (Designer)	2 staff	2 designers	Degree level of PolyU	General graphic design, branding and cooperate identity
Participant 6	SME (12 years)	Founder (Designer)	4 staff	2 designers	Higher Diploma level of HKDI and PolyU	Production design such as booth and stage design, print materials and advertisement for PR event
Participant 7	International (5 years)	Associate Director (Designer)	Approx. 200 staff	8 designers	Higher Diploma (HKDI) & Degree level (PolyU)	Architectural Signage, town planning, interior information graphic design, website design

Table 4.5: Participants of the design company employer group

Specific criteria for selecting graduate designer participants:

- The majority of graduate graphic design participants should be from PolyU and HKDI programmes.
- All participants must be within three years of graduation, with working experience ranging from three months to three years.

- Participants must be graduates of a Level 4 or Level 5 graphic design program illustrated in Table 4.4.
- There should be a broad spectrum of participants, coming from different types of graphic design programmes at Level 4 and Level 5.
- These participants should be engaged in a range of graphic design jobs under three main streams: Visual Communication, Advertising Design and Digital and Interactive Design.

Participant	**Nature of Company**	**Position (years of experience)**	**Number of staff**	**Number of designers**	**Academic level and programme of the institute**	**Scope of works in graphic design discipline**
Participant 1	SME	Graphic designer (1.5 years)	12 staff	2 designers	Top –up degree of SPACE (Visual Communication)	General graphic design company (brochure, billboard and PR events)
Participant 2	SME	Assistant art director (1 year)	13 staff	5 designers	Degree of PolyU (Digital and Interactive Design)	Advertising for brands (print ad, leaflet, TVC, cooperate video)
Participant 3	Self-employed freelancer	Designer - self-employed (2 years)	1 staff	1 designer	Degree of PolyU (Information design)	Web design, graphics, gallery promotion and catalogs
Participant 4	International Advertising Company	Digital designer (3 months)	20 staff	3 designers	Degree of PolyU (Advertising design)	Advertising interactive design
Participant 5	SME	Designer (2 years)	6 staff	3 designers	Higher Diploma of HKDI (Visual Communication)	Websites and general graphic design
Participant 6	SME	Designer (2 years)	3 staff	1 designers	Higher Diploma of HKDI (Visual Communication)	General Graphic design
Participant 7	SME	Designer (2 years)	20 staff	4 designers	Higher Diploma of HKDI (Visual Communication)	Websites
Participant 8	SME	Sr. Designer (3 years)	24 staff	12 designers	Higher Diploma of HKDI (Visual Communication - information)	Exhibition, event and general graphic design

Table 4.6: Participants of the graduate graphic designer group

In summary, this study has taken the 'purposive sampling' with 'maximum variation' approach, which means that identifying and gaining insight into the 'core experiences' of the diverse samples was very important. Certain boundaries were set, as was discussed in this section, i.e. confined context elements to bind the

purposive samples into three groups. These bounded contextual elements are defined graphic design programmes; academic levels; institutes; business firm models; defined focused years for the study. Graduate graphic designers were classified as the 'core-group' in this study (the group that has direct and first hand experiences in the transition), whereas academics and employers were considered as 'supplement groups'.

4.5.3 Data collection: semi-structured interviews

In general, there are three types of interviews: unstructured, semi-structured and closed interviews. Unstructured and semi-structured Interviews are the most common data collection instrument for qualitative research. Since this study sets out a specific scope and boundary, semi-structured interview is an appropriate data collection instrument. According to Holloway (1997), "the semi-structured interview has a more specific research agenda and is more focused (it is also called the focused interview), but the informants in this type of interview describe the situation in their own words and in their own time" (p.95). Although a semi-structured interview needs a certain tightness of structure, in order to collect essential information in a given time, the informants will still have the opportunity to express their feelings and beliefs (Holloway, 1997). Before conducting the interview, the interviewer should prepare introductory comments and an orderly list of questions that he or she would like the informants to respond to. Probes and prompts are common interview techniques to help interviewers to seek for more information from the informants, on the basis of the interviewer's intuition that the informants have more information to offer (Robson, 2002).

There were 22 semi-structured interviews in this study (7 with academic participants, 7 with employers, and 8 with graduate designer participants), and the whole data collection process took eight months to complete. The first month was used to develop interview questions and protocol, and subsequently three pilot interviews were conducted with three simulator interviewees from all the three groups, with some amendments implemented after the pilot (despite the interview questions were in English, the pilot interviews were conducted verbally in Chinese

language as the interviewees could understand the questions better when presented in their first language). The pilot interviews were used to ensure the avoidance of leading questions, double questions, or jargon words (both in English and Chinese) which contained ambiguities that might confuse the participants in the actual interviews. While conducting semi-structured interviews in this study, the interview protocol (i.e. procedures and a list of questions prepared beforehand; see Appendix 1) served as an introduction, with easier questions being asked first to allow interviewees to 'warm-up'. Questions were asked in the same order in every interview of every group. Probes and prompts were used during interviews in order to elicit deeper information.

The interview protocol was written in English and clarified in Chinese (Cantonese) where necessary during the interviews (dependent on the English proficiency of the native Chinese interviewees), but the interviewees mainly replied in Chinese (as they felt most comfortable to use given it is their first language). Each face-to-face interview took around one to two hours to complete with digital recording in a quiet environment, while the digital records were subsequently listened to and transcribed from Chinese to English (During the actual interview, clarifications were needed to define the meanings of some 'English design terminologies' into Chinese language for the interviewees, as some English words could be problematic to them). Some unclear statements in the interviews were followed up by telephone or face-to-face clarifications with the interviewees.

4.5.4 Data analysis

"Data analysis consists of examining, categorizing, tabulating, testing or otherwise recombining evidence, to draw empirically based conclusion" (Yin, 2009, p.126). One of the most appropriate and common techniques for analyzing qualitative data is 'pattern-matching', especially when using interviews as the recording technique (Merriam, 1998, 2009; Yin, 2009). Nevertheless, the main objective of data analysis is to cross-check the research questions derived from the initial motivating idea for the study. Thus, the motivation of the study could assist in drawing attention to certain data while disregarding others (Yin, 2009), or vice versa, as the data from

the research process can also sharpen the research questions specifically (Maxwell, 1996).

In this study, all data gathered from interviews were transcribed into a readable format in which information could be highlighted and notes or comments could be added to track the evidence of patterns. To discover patterns, the constant comparative method was used. This method of data analysis "consists of 'categories', 'properties' and 'hypotheses' that are the conceptual links between and among the categories and properties" (Merriam, 1998, p.159) and category construction is useful for forming patterns in interviews. Basically, many properties are selected on the basis of the researcher's experience and proposition to link the properties to form 'tentative categories' in a set of interview transcripts, while similar procedures are conducted in another set of transcripts of the same incident to form tentative categories, which are then compared constantly within many sets of tentative categories in order to form higher level of themes. Merriam (1998) paraphrases Glaser and Strauss' (1967) terminology of 'categories', claiming that they have 'a life of their own' and that they are conceptions derived from data, while pure data carry no meaning alone. The concept of category construction is illustrated in Figure 4.6. Merriam (1998) proposes that the naming of the categories should come from three sources: the researcher, the interviewees, and the information derived from literature. The researcher comes with the name with concepts, and the categories mirror how researchers see the data. Categories should be specific, heuristic and audience sensitive. All categories used in a particular research should be at a similar level of abstraction.

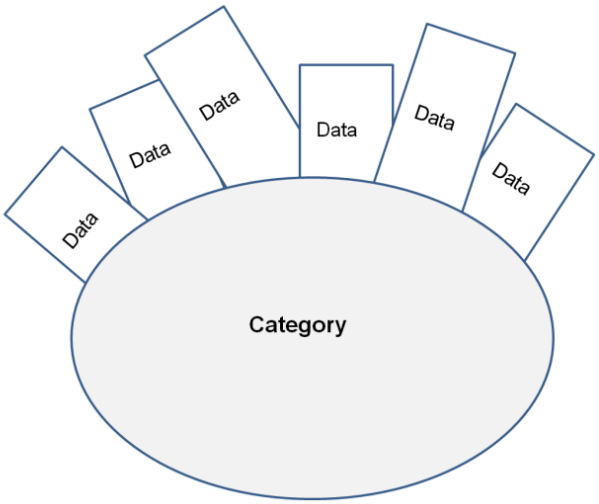


Fig.4.6: Redrawn from Merriam (1998, p.182) - Deriving Categories from Data

The data was analyzed across three groups, as shown in Figure 4.7. There are three different levels (phases) of analysis. The first level was within-group analysis. Many sets of categories were developed for each group: for example, Academic group, 7 sets of categories for 7 interviews of Academics, then 7 sets of categories for 7 interviews of Employers and so on. The second level of analysis, still within-group analysis, was to combine all categories into one major category of each individual group, so that there are three major sets of categories. The final level of analysis is a cross-group analysis which was quite similar in method to within-group analysis. Eventually, one combined category was formed from three major sets of categories for further analysis. The whole analytical process took eight months to complete (for details refer to the research timetable in Table 4.8)

Once all within-group analyses are completed, major sets of categories, i.e. the 2nd level of analysis of each group, could be inserted into a matrix diagram (see Table 5.1.11 of 5.1.6 Summary) to check against the original research questions, for the purpose of validation. That diagram also helps to consolidate the categories or findings of all groups related to the research questions.

Based on its theoretical framework, this study aims to understand the general working experience of graduate graphic designers, as well as the perspectives and expectations of various groups of stakeholders (graduate designers, academics and

employers) in the transition from academia to the workplace. Consequently, cross-checking and pattern matching of the 'combined categories' of all the three groups would enable the identification of patterns of similarity, difference, and conflicting opinion. As the focus of this study was the 'gap' of learning, 'mismatch' of expected competence and 'discrepancy' in perceptions in professional training among the three groups of stakeholders in the transitional settings, unveiling similar experiences and conflicting values / beliefs behind the stakeholders' perceptions and expectations was vital. Hence, with the evidence of the general pattern in the stage of Final Level of Analysis, four major significant divisions of opinion were derived from the combined categories and recommended for the analysis and discussion in this study: 1) Agreement; 2) Partial agreement; 3) Disagreement; 4) Contesting perspectives (see Fig. 4.7).

After completing the final level of analysis, 'Four major divisions' with supporting evidence could be derived as the conclusion for the final report of groups-analysis. However, the final reporting is not just limited to the final level of analysis or the significant division. In fact, each level of analysis should be summarized with specific evidence derived from the interviews, in order to trace the evidence of the logic of development of each stage.

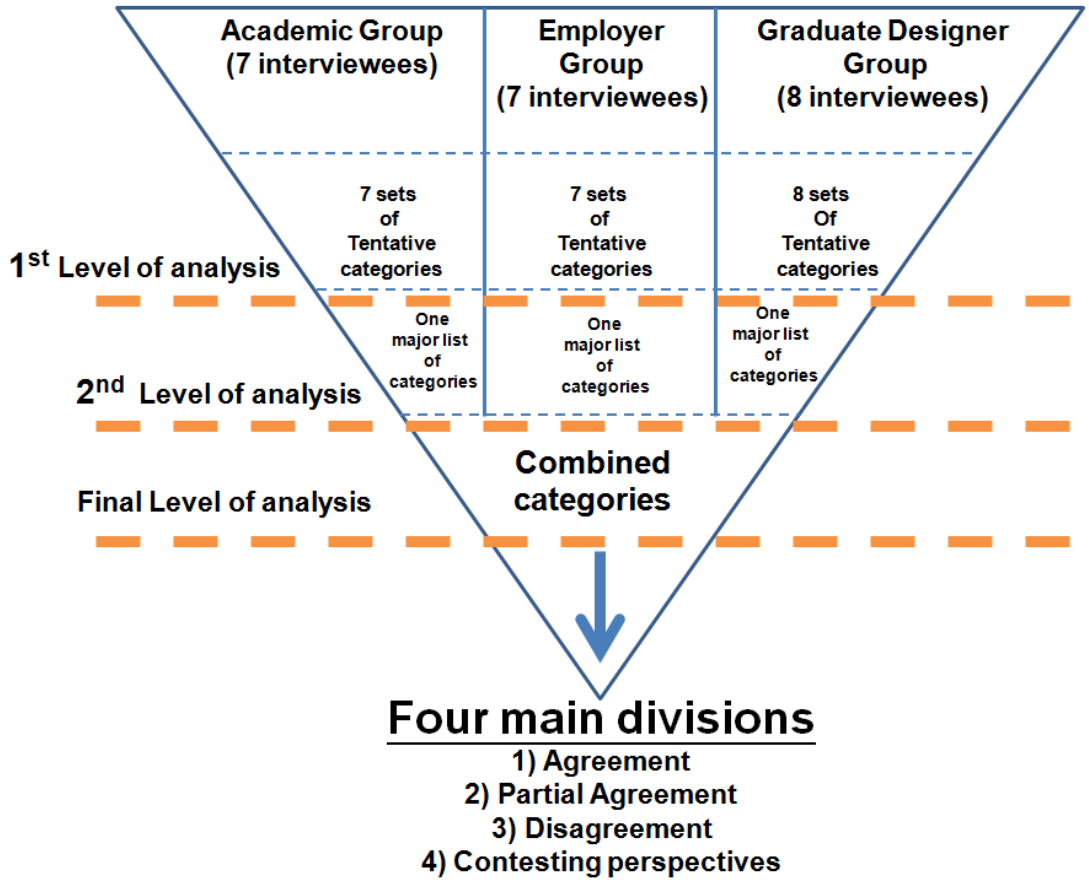


Fig. 4.7: Three levels of category in the three-group analysis

4.6 Phase two: Quantitative data collection phase and instrument

4.6.1 Participants and sample size

In a general quantitative research, samples can be divided into two main classes: probability samples or non-probability samples (Learvy, 2012). Probability samples could answer different kinds of research questions, describe thoughts or feelings of a particular target group, and could be selected as a representative sample of the population by researchers (Leary, 2012). Most probability sample techniques require certain essential information such as the size of the total population as the base, or a sampling frame that from which the sample could be selected. For this type of sampling, the larger the percentage of a population is included in the sample, the more accurate the analysis will be (Learvy, 2012).

Given the predominantly qualitatively-driven mixed method approach adopted in this study for the nature of objectives and research questions were asked, the

purpose of using quantitative data was mainly to verify the conjectures derived from the qualitative results. As maximum variation purposive sample method was used for qualitative interview stage, in order to test the conjectures that were generated from qualitative findings, purposive sampling of non-probability samples would be more appropriate for this quantitative research. Based on the explanation in Section 4.5.1, researchers use their previous research experience and judgment to decide which respondents and interviewees should be included in the sample, in an attempt to select respondents who represent a typical sample of the population of the study (Learvy, 2012).

During the first phase of qualitative interviews, eight sampling (graduate designers) subjects were interviewed, all of them willing and able to provide rich and in-depth information. With previous constructive experience, another 100 participants were selected for the quantitative survey research, with respondents being graduate designers rather than design company employers or academics. Because this is a study of the learning and working environment of the designer population, design graduates are the core target population (there are also weaknesses and limitations for not selecting employers and academics in the Survey, of which rationale will be discussed extensively in the section on "Limitation" at the Conclusion chapter). Although the opinions of design firm owners and design academics could also provide insights into the behavior of the target population, their opinions do not yield evidence of first-hand experience and feelings of the core target group. Moreover, the study faced issues of low return rate from the academics (teaching L4 & 5 levels) who do not represent a satisfactorily large population, i.e. under 100 in graphic design in Hong Kong (some of them are full-time employers but teach part-time in graphic design modules). I was unable to attain access to a comprehensive list of the employer group in Hong Kong, which employed the 'core group' of graduates. If a survey were conducted with the employers and academics, this lack of information would have affected the 'validity' of the study. Due to these reasons and constraints, a total of 100 graduate designers (selected from the official graphic design graduation documents of the representative institutes) were regarded as an appropriate representative population, and the selection criteria for

these participants were similar to those applied in selecting appropriate samples of qualitative interviewers addressed in Table 4.6 (Participants of the graduate graphic designer group) of Section 4.5.2.

4.6.2 Data Collection and Instrument

As mentioned in Section 4.3.5, the main criterion of the sample in a survey is to generalize to a larger population, and the questionnaire is often one of the main data collection tools of survey design. Sociologists, governments and advertisers often use surveys and questionnaires to provide descriptions of thoughts, feelings, views, attitudes, behaviors or buying patterns. Questionnaires are widely used because they are a relatively simple, inexpensive and time-saving way to gather a large amount of data (Learvy, 2012). However, different types of questionnaire design have different assumptions about what kind of knowledge the design is attempting to produce. Sets of criteria have been established by Greener (2011) to achieve effective questionnaire design, including the selection of open or closed questions, questions which clarify without ambiguity and abstraction, avoidance of leading and double questions, proper design format to avoid question 'density', pilot testing before conducting the actual survey, adopting appropriate rate scales and so forth. Having taking these considerations into account in my questionnaire design, a sample of the pilot questionnaire and then the finalized questionnaire used in the survey is presented in Appendices 2 & 3. The original version was in English, the other is a direct translation into Chinese, which was used in order to achieve maximum clarity for those Chinese respondents to the survey for whom English presents difficulties.

As mentioned in Section 4.5.4, the central focus of the qualitative findings (categories) of the 22 semi-structured interviews was to explore the differences and similarities in views, values and experiences of the stakeholders. Thus the categories were analyzed, filtered and assigned to several significant typological divisions such as 'Agreement', 'Partial Agreement', 'Disagreement' or 'Contesting with Perspectives' as preliminary conjectures. These divisions formed the basis for the supplementary component of the questionnaire design.

As mentioned, a survey by questionnaire was used to generate statistical data in order to test the major conjectures. The categories under the major divisions were subsequently developed into a full set of questionnaire statements. The questionnaire is composed of statements to which each respondent was asked to respond. Since the main objectives of this study were to investigate the opinions, perceptions and experiences of the stakeholders, an attitude rating (or 'Likert') scale was introduced. The respondents were asked to reply whether they Strongly Agree, Agree, have No Opinion, Disagree, or Strongly Disagree with each of the propositions in the questionnaire. Attitude scales are tools to reveal the general tendency of the feelings, thoughts and attitudes of respondents, and the 'Likert Scale' is probably the most direct and easiest way to obtain respondents' views and thoughts (Robson, 2002; Bell, 2006).

According to Robson (2002), the Likert scale has many advantages over other rating scales. It is in common use, relatively easy to develop, and can stimulate respondents' interest and provide more valuable information for researchers by avoiding perfunctory answers. Other types of rating scale include the Thurstone scale, the Guttman scale, and the Semantic differential scale (Robson, 2002, p.292). The Thurstone scale requires two enquiry stages. The first stage asks the respondents (for example: 50-100 judges) to fill in a 11-point scale according to their preference of the most favorable or unfavorable answers. The second stage asks the respondents to further elaborate their judgments. The Guttman scale requires the researcher to design a large number of relevant statements that elicit either a yes or no (or agree or disagree) answer from the respondents. Eventually, these yes and no statements will be used to construct a kind of diagram to show the most favorable and unfavorable answers. The semantic differential scale is used to verify subjective concepts instead of testing respondents on how much they support the concept, so the scale will be designed with a series of opposite words for rating such as dirty vs. clean, bad vs. good, stupid vs. intelligent in a 7- point scale (Robson, 2002).

In this study, the 100 respondents, graduate designers with three years or less working experience, were invited to take part in the survey through either direct or re-direct emails. As the respondents responded anonymously, it would be impossible to contact the respondents again to elicit further in-depth elaboration once they had completed the questionnaire. A 'Yes' or 'No' answer format would also have been inadequate, since this study does not focus on the comparison of the kind of questions that the respondents would agree with most. The main objective was to examine the 'statistical tendency' of agreement or disagreement with certain statements generated from the qualitative findings, With this in mind, the Likert Scale was adopted as most appropriate, convenient, and compatible with the overall time and resource constraints of this study.

4.6.3 Data analysis

Generally speaking, a Likert Scale asks respondents to express their disagreement or agreement with series of statements on a scale of between 5 and 7 points (Bell, 2006). Some versions of the scale are simply verbal or diagrammatic, and the scale could have as many as ten points (Vaus, 1996). The number of respondents is one of the major factors determining the choice of scale range to be adopted. With 100 respondents in this survey study, a 5-point scale would be more likely to project significance than a 10-point scale, because the latter would be likely to produce a large spread of responses, but without allowing a graphic presentation (such as a bar chart) that would generate statistical significance. Also, with so many points on the scale, it would be difficult for both the respondents and the researcher to evaluate how the significance of the difference between one point and the next on the same scale.

There are several measures of central tendency for statistical description: mean, median, mode and standard deviation (Bell, 2006; Greener, 2011; Learvy, 2012). The 'mean' represents the average arrived at by adding up the scores for all respondents, and dividing them by the total number of respondents (Learvy, 2012). The median becomes useful when there are heavy concentrations at both ends of the score of the range. Mode is the most frequently used score. However, it is not

often applied in small research projects (Bell, 2006). Standard deviation is defined as “the measure of variability that is the sum of the deviations from the mean squared… The standard deviation and mean are often reported together in research tables because the standard deviation is an indication of how adequate the mean is as summary statistic for a set of data”(Mertens, 2005, p.402). Standard deviation summarizes the degree of spread of data which differ from data from the mean (Bell, 2006). Among all these measures, the ‘mean’ and ‘standard deviation’ seemed to be most appropriate tools, thus they were selected as the measures of central tendency for statistical description for this study. In conclusion, this study adopted the 5-point Likert scale. Respondents were asked to reply to each statement on the questionnaire by circling an appropriate score from (1) to (5). The percentages for the selections for each score were calculated through an Excel spreadsheet, the elements which help to indicate statistical tendency such as mean and standard deviation were applied. A bar chart was generated to display the percentage of respondents in each score category of all quantitative findings from the 100 respondents.

There are a number of popular software packages for statistical calculation, including SPSS (Statistical Package for the Social Sciences) and Windows Excel. SPSS can deal with more complicated analyses, such as testing the significance of relationships between various groups and requires specialized training. In this study, Excel and SPSS calculation methods were both used. The study presented here required simpler calculations in the beginning, designed to validate the findings from the qualitative research in which the 100 respondents belonged to one specific group (i.e. graduate designers), and so spreadsheet software such as Excel was sufficient for performing the tasks involved at first. The 100 respondents consist of L4 (higher diploma) and L5 (degree and top-up degree) graduates coming from different institutes.

A multivariate analysis of variance (MANOVA) (one of the statistical tools of SPSS) was used to test whether there are significant differences concerning questionnaire items based on the different education level achieved by the three different groups of participant, i.e. higher diploma (L4); degree (L5); top-up degree (L5).

4.7 Interpretation and presentation of the findings

Once the qualitative and quantitative analyses were completed, the mixed method interpretation took place. Teddie and Tashakkori (2009) use the terms 'inferences' and 'meta-inference' (p.300) to explain mixed methods interpretation. Creswell and Clark (2011) elucidate Teddie & Tashakkori's terms as "conclusions and interpretations drawn from the separate quantitative and qualitative strands of a study as well as across the quantitative and qualitative strands" (p.213). Onwuegbuzie and Teddie (2003) develop a model for data analysis of mixed methods involving seven stages, which Creswell and Clark (2011, pp 213-214) render as "1) Data reduction, 2) Data display, 3) Data transformation, 4) Data correlation, 5) Data consolidation, 6) Data comparison, and 7) Data integration". According to Creswell and Clark not all these steps are logically connected or appropriate to all mixed methods projects; the researcher should decide on the correct sequence and steps.

Since a mixed methods design qualitatively-driven approach was adopted in this study, the sequence of analytical steps (as indicated in 4.3.3 Point of interface, Fig.4.2) was similar to that of the mixed method analysis and presentation design developed by Creswell and Clark (2011). The interpretation and presentation of qualitative and quantitative findings in this study has taken some suggestions from them. There are six types of research design as summarized in table 4.7 below:

Types of design	Mixed methods data analysis step	Types of procedure for analysis	Types of displays for joining qualitative and qualitative data
1.Convergent design	Collecting the quantitative and qualitative data concurrently	Merging analysis	Displaying quantitative results side by side with a qualitative theme
2. Explanatory design	Collecting the quantitative data first and using qualitative data to explain the quantitative data	Sequential analysis	A display at the end of the study that links qualitative themes to quantitative result for the purpose of explanation
3. Exploratory design	**Collecting the qualitative data first and using quantitative data after to generalize the result of the qualitative data**	**Sequential analysis**	**A display of quotes, codes, and themes that match proposed items, variables, and scales for instrument development** **A display at the end of the study to show how the quantitative results generalize the qualitative themes and codes**
4. Embedded design	Analyzing the primary data set first to answer primary research questions and then analyzing secondary data either qualitative or quantitative that embedded within the primary data	Merging or sequential analysis	A display that links the qualitative themes to recruitment strategies for an intervention trial A display that link qualitative themes to specific intervention activities
5.Transformative design	Analyzing the quantitative and qualitative data by merging or connecting using the steps involved in the convergent, explanatory, or exploratory designs. This design is mainly to explore inequities in society	Merging or sequential analysis	A display that compares the strategies in a call for action with the quantitative statistical result or with the qualitative theme results or both
6.Multiphase design	Analyzing the data for each project in the overall program. Multiplying the previous questions in different phases	Merging or sequential analysis	A display of the themes and quantitative results across studies and how these result have changed over time

Table 4.7: Types of mixed method data presentation (from Creswell and Clark,2011, pp 215-220, 246-247, partially adapted)

In Table 4.7, 'exploratory design type' (in bold) possesses similar features to this study's chosen mixed methods design. The remaining design types do not relate to this study's original design, or they are quantitatively driven as well as collecting and analyzing the quantitative and qualitative data concurrently- for instance convergent design. According to Creswell and Clark (2011), typology is one of the best instruments for analyzing and displaying qualitative data with lists of themes or categories of qualitative data forming the typology. For exploratory design, Creswell and Clark (2011) recommend that researchers analyze, interpret and display qualitative and quantitative results separately first, then both kinds of data (i.e. qualitative and quantitative) would join in the mixed methods data analysis procedures.

In order to summarize the display and interpretation of the mixed methods design findings, major qualitative findings (categories) were displayed in the form of a typology for answering the research questions. Sequentially, separate quantitative statistical data in table formats were shown with the scores (percentages), the mean, and standard deviation of each statement. The percentage data for each statement was used to generate a bar chart, which was then further elaborated to explain the result of each bar chart. The mixed methods findings were then integrated into the final presentation. The significant quantitative findings were compared with each qualitative category for discussion of the conjectures

4.8 Outline of the research (Gantt chart)

Table 4.8 below illustrates the five stages of this research study: 1) preparation stage, 2) research design stage, 3) data collection stage, 4) data analysis stage, 5) report writing stage, as well as the total time required from the start to the finish.

Stage	Task	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
		2011													2012		2013
Preparation Stage	- Confirmation of the thesis topic - Literature Review - Identify the scope, resources and respondents - Clarification of ethical issues of materials																
Research Design Stage	- Selection of research design - Refinement of the research design - Confirmation of the research approach - Confirmation of the research method - Questionnaire for interview - Pilot test - Questionnaire for survey - Pilot test																
Data Collection Stage	- Conducting 22 semi-structured interviews - Conducting survey with 100 respondents - Transcript writing from interviews																
Data Analysis Stage	- Transcript data categorization from interview - Final categories formation of interview - Questionnaire survey data input into Excel - Statistical results of survey form																
Report Writing Stage	- Chapters confirmation - Draft chapters to supervisor - Amendments of draft chapters - Finalize thesis																

Table 4.8: Gantt Chart- Research study time table from start to finish

4.9 Summary

This chapter has discussed the research methodology and the rationale of the research design for this PhD study. Given the development of the theoretical framework and the research questions of this study, a pragmatic paradigm was adopted in dealing with the different perspectives of the stakeholders. Pragmatism advocates a mixed method research strategy, involving both qualitative and quantitative data which belong to the abduction research direction, suggesting the researcher should "move back and forward between induction and deduction throughout the research by first developing conjectures and then systematically testing these conjectures" (Morse & Niehaus, 2009, p.39).

Qualitative interview method was selected as the core research component to develop the conjectures, with a quantitative survey acting as a supplementary component to test the conjectures with a qualitatively-driven mixed method design approach. The nature of the research questions was the major reason for selecting the qualitatively-driven approach, since they could be mostly answered by qualitative data. The quantitative approach was used to validate the qualitative results, and to add breadth and depth.

In this study, both internal and external validity were taken into account. In the interview method, pattern matching is one of the best techniques to ensure internal validity. The use of multiple methods (e.g. the survey in this study) and sources of information (e.g. official websites, official document of curriculum) also functions as a triangulation technique for achieving internal and external validity.

There were two data collection and analysis phases in this mixed method approach. The first phase involved qualitative data collection through interviews. Pattern matching was applied and categories were then formed. Sequentially, the categories were analyzed, filtered and portioned into several major significant typological groupings. These typologies formed the basis of the supplemental component of questionnaire survey design in the second phase of data collection and analysis. Statistical analysis was conducted and examined for interpretation.

Finally, qualitative findings obtained from the first phase and quantitative statistical findings obtained from the second were integrated to display and address the research questions of this study.

5 Mixed Method Findings

This chapter discusses the mixed method findings, which consist of qualitative and quantitative data. As mentioned in Chapter 4, the methodology chapter, this study has taken a qualitatively-driven mixed method approach. The core qualitative component is the dominant part of the design and it was conducted first**.** The supplementary quantitative component was used more as a means of triangulating the qualitative findings. Both core and supplementary components will ultimately meet at 'the point of interface', where the combined findings of this study are discussed (see Fig. 4.2 QUAL → quan mixed method design in Section 4.3.3).

There were three phases of generating mixed method findings during the process (see Fig.5.1 below). The first phase was qualitative findings and analysis, following qualitative data collection, involving 22 semi-structured interviews (Academics; Employers; Graduate Designers) in which categories were formed. The categories were presented sequentially, and filtered into significant typological groupings. In the second phase, the categories of the qualitative findings formed the basis of questionnaire survey design, and a hundred graduate designers were selected as respondents. A graphical presentation of the statistics was made, and the data were interpreted. The third phase was mixed method analysis which involved combining the qualitative and quantitative findings for analysis. In addition, multiple sources of external information such as websites and curriculum booklets were analyzed to substantiate the findings in the third phase of the mixed method finding analysis.

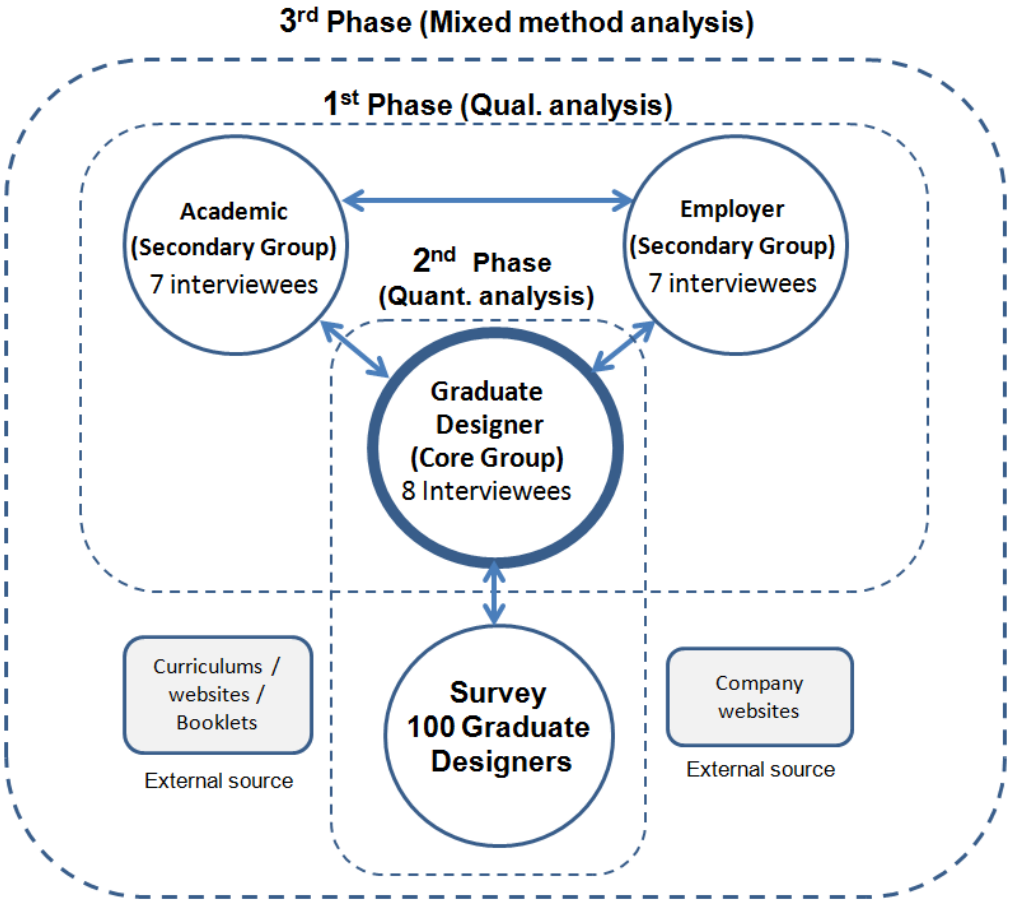


Fig. 5.1: Three-phase mixed method findings analysis

5.1 Qualitative findings

In this research, there are three levels in the qualitative interview method analysis (see Figure 4.7 in section 4.5.4). The first level of analysis was 'within-group analysis' and many sets of 'tentative categories' were developed for each group. In the Academic group, seven sets of tentative categories were developed from seven interviewees; in the Employer group, seven sets were developed and in the Graduate designer group, eight sets of tentative categories. The second level analysis was a higher level within-group analysis, which combined all the tentative categories into one major list of categories for each group. The rationale and identification of selected categories were based on the similarity of the majority of interviewee opinions (i.e. more than 50% agreement on one single proposition). Therefore three different groups resulted in three major lists of categories. Eventually, the final level of analysis was conducted. One combined list of categories was formed from the three different groups. Based on the rationale developed in Chapter 3 (Methodology), all categories of the three groups were then divided and grouped into different divisions: 1) Agreement; 2) Partial agreement; 3) Disagreement; 4) Contesting perspectives.

In order to present a logical trace without being overcrowded by the data of the first level analysis, the second level analysis (three major lists of categories) will be explained at beginning. In other words, each category will be explained and summarized in brief, drawing on the analysis of the first level of interviews.

5.1.1. The academic group – Categories

Fifteen major categories were formed in the second level analysis from the seven academic interviewees, as shown in Table 5.1.1, with the interviewees listed in order of status, including each interviewee's background, such as academic level and programme description. Each interviewee was given a code from A1 to A7. In Table 5.1.2 all the categories were then arranged in order according to the number of respondents (prioritized by rank).

Participant	**Position**	**Years of education experience**	**Programme Level**	**Programme description**
Participant 1 **A1**	Programme Leader (PolyU)	5 years	Degree	Visual Communication
Participant 2 **A2**	Programme Leader (PolyU)	5 years	Degree	Advertising
Participant 3 **A3**	Programme Leader (PolyU)	20 years	Degree/ Higher Diploma	Digital and Interactive Design
Participant 4 **A4**	Programme Leader (HKDI)	16 years	Higher Diploma	Visual Communication (branding & advertising)
Participant 5 **A5**	Programme Leader (HKDI)	6 years	Higher Diploma	Visual Communication (information & interactive Design)
Participant 6 **A6**	Senior Programme Leader (SPACE)	20 years	Higher Diploma	Visual Communication (Branding, digital and Interactive design and advertising)
Participant 7 **A7**	Programme Leader (SCOPE)	8 years	Top-up Degree	Visual Communication

Table 5.1.1: Participants for the academic group

Major categories from academic interviews (7 interviewees)
1) Bureaucratic approval procedure for curriculum design (7 interviewees-100%)
2) Holistic approach related to professional, social, cultural, business and personal factors (7 interviewees-100%)
3) An arduous working environment with very long working hours makes it hard to nurture competent designers (7 interviewees-100%)
4) Most companies (especially SMEs) do not take responsibility for training graduate designers (7 interviewees-100%)
5) The curriculum equips graduates to become competent designers for the long term (6 interviewees-86%)
6) Graduate designers are not considered competent at work in the first few years (6 interviewees-86%)
7) Curriculum provides graduates with professional competence at entry-level (5 interviewees-71%)
8) Famous designers project a mixed image of artist and professional designer which has influence on graduates (5 interviewees-71%)
9) Education's competence criteria are different than those of the industry (5 interviewees-71%)
10) Employers should have the main responsibility to help graduates' professional development (5 interviewees-71%)
11) Responsibility of an educator is to inspire graduate designers, not to assist professional development in design industry (5 interviewees-71%)
12) Continuing professional training is needed for designers' lifelong learning (5 interviewees-71%)
13) Design graduates have to rely on themselves in harsh working conditions in industry (5 interviewees-71%)
14) A competent designer should be well-rounded (4 interviewees-57%)
15) There is no standard measure of professional competence for designers (4 interviewees-57%)

Table 5.1.2: Categories for classifying academics' responses

In the following, each category used for the academic group will be explained. These categories were developed from the list of semi-structured interview questions for the seven interviews of academics. The interview questionnaire is found in Appendix 1.

1) Bureaucratic approval procedure for curriculum design (100%)

Interviewees from the academic group tended to perceive the validation of curriculum design as a complex process, irrespective of whether it is for a higher diploma or an undergraduate degree. They see it as a rigorous academic process which involves internal academic and external industry members in curriculum design. In some cases, overseas advisors are invited to review and enhance the design of the curriculum. The design should achieve the broad learning outcomes of the curriculum, enabling students to understand various aspects of graphic design. Each curriculum usually runs at most for 5 years before substantial revision, and there is no flexibility for any major change within this period due to the complex bureaucratic approval procedures. For example, one interviewee (A5) who is involved in Higher Diploma curriculum design commented that the "Qualification Framework of the Education Bureau has significant influence on the institute of curriculum design for higher diploma: validation from Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ) has to take place every 5 years". Another interviewee (A3) said: "The university review board can validate its own curriculum design with the approval of the undergraduate departmental programme committee. If small changes occur in the curriculum, the programme committee will be involved. If big changes happen, they have to be presented to the University Review Board to validate".

2) Holistic approach related to professional, social, cultural, business and personal factors (100%)

Although all interviewees agreed that the curriculum should be built to meet the demands of the industry, they believed curriculum design had to be holistic to cover essential areas that prepare students' learning for short and long term professional development. The areas include economic, social, cultural, professional and

personal awareness. Interviewees commented that most design projects would comprise all of these. Other liberal and cultural studies were also intended to create awareness among students about knowledge in these various areas.

In addition, academics claimed to regard student personal development as a vital factor in curriculum design. For example, one interviewee (A1) commented: "It is hard to train graduates to be outstanding in all aspects of knowledge and skills. The most important part is to develop the student's design thinking, critical mind, learning how to adapt to future changes". Most of the interviewees agreed that the curriculum did not emphasize professional practice and design management in terms of the amount of time devoted to them in the module design. But guest speakers would be invited to give lectures on professional practice experiences. In contrast, interviewee (A7) said: "design management and strategic concept forming are very important design skills that graduate designers should be acquiring in the programme. In addition, user values and global cultural values should be emphasized in the curriculum design".

3) An arduous working environment with very long working hours makes it hard to nurture competent designers (100%)

All interviewees commented that the graphic design industry made it hard to nurture graduate designers. The general working environment was not healthy for many reasons, such as extremely long working hours with no overtime pay (sometimes overnight work, occasionally during weekends); less job satisfaction, as most graduates worked in small and medium-sized design firms that offered no formal training; tight project deadlines; fast-moving jobs etc. All of these created a stressful working environment in the academics' view.

Most interviewees expressed the view that long working hours were the 'norm' of practice for graduate designers. For example, Interviewee (A3) criticized the 'norm' that "designers do not mind the low salary and long working hours in the beginning, but the harsh situation persists for several years and their passion eventually burns out, so they eventually leave for another career or discipline, and even talented

designers will be gone from the industry". Another interviewee (A4) asserted that "the designers work long hours and are underpaid. The employers are not willing to hire more staff, to share the workload of designers, which causes exhausting working conditions. SME companies mostly cannot nurture designers' competence development".

4) Most companies (especially SMEs) do not take responsibility for training graduate designers (100%)

All interviewees agreed that most small to middle-sized enterprise (SME) employers do not wish to provide training to graduate designers, and would seldom offer any promotion plan for graduates. Most interviewees agreed that profit-making was the main focus of these employers, and they did not want to invest in training. For example, interviewee (A7) criticized that "employers mainly 'utilize' the execution skills of graduates, while they do not do anything to nurture the graduates". One interviewee (A5) commented: "the owner exploits the designers and uses the graduates' strength to the fullest at the beginning of their career. Employers believe there is more supply than demand of graduate designers and so it is always easy to find replacements". Some interviewees (A4, A5, A6) believed only well-known design firms (employers that are themselves designers) or sizeable companies with long term vision are capable of training graduates.

5) The curriculum equips graduates to become competent designers for the long term (86%)

All interviewees except A3 believed the components of the curriculum should help build graduates up to become future competent professionals. The most essential components were seen to be design thinking, creative and analytical thinking as well as strategic thinking. Interviewee (A1) explained the qualities of design thinking: "Design thinking concerns the needs of others, how to learn to search for new ways and adapt to new changes, deal with ill-defined design problems. Design thinking also includes critical and analytical thinking ability". Another interviewee (A4) also reckoned that the curriculum has prepared the students to develop future competences, because the training had equipped them with ability to know how to

learn, enhanced their analytical thinking through liberal studies. Although there are no serious management skills learned in the course, they would learn them in practice and reach management levels in the future.

6) Graduate designers are not considered competent at work in the first few years (86%)

Most interviewees (A2, A3, A4, A5, A6, A7) agreed that graduates with one to three years' working experience could not be considered as competent. They needed to follow strict rules given by senior staff at work, because they did not know the standard of 'good' work. One interviewee (A4) was able to give a specific description of the progression of a graduate from the first to the third year. As he put it, "the first year graduate needs to take orders, follow guidance, needs close supervision from senior staff. The second year graduate could be considered as an 'advanced beginner' who could come out with workable ideas but still has to follow some rules. The graduate could probably take up small scale projects and responsibilities. In any case, a graduate with 2 to 3 years' experiences would still be considered as an advanced beginner".

7) Curriculum provides graduates with *professional competence* (see Appendix 4: Glossary) **at entry level (71%)**

Higher diploma and undergraduate degree programmes have been considered by the academics as 'the entry level' in the graphic design industry. However, the ability of graduates at entry level was not considered as meeting the 'competent level' of industry as perceived by most interviewees (A1, A2, A4, A6, A7). Nevertheless, graduates were trained in a holistic way, provided with general knowledge of design processes and technical skills.

Some interviewees (A1, A2, A4, A5) commented that entry level employees might be considered as incompetent as judged by employers in the short term. However, the programmes are designed to equip the graduates with long term and fundamental competence, especially in design thinking and concept generation, which would allow them to know what to learn in future professional practice. One

interviewee (A7) said that "even though the programme is to train students up to entry level of industry, they also need to understand design management". The interviewees generally reckoned the programmes only provided graduates with broad knowledge, while graduates should have the humility to learn *professional knowledge* (see Appendix 4: Glossary) in the actual world. Some interviewees (A1, A4) reckoned that a "good attitude is essential at entry level".

8) Famous designers project a mixed image of artist and professional designer which has influence on graduates (71%)

Most interviewees (A2, A3, A5, A6, A7) agreed that students could be influenced by the famous graphic designers in Hong Kong and that these designers do project an artistic style image as a designer. On the other hand, concepts of art and design could be blurred, especially as these concepts had already been merged into the graphic design curriculum. Interviewee (A5) commented: "The older generation famous graphic designers consider their competence as relying on artistic talent, style and skills mainly." Another interviewee (A6) agreed: "A designer could be an artist too. Our programme has always invited those famous designers as our guest speakers. Their achievement could stimulate students' interest". In contrast, interviewee (A7) argued that "the situation of mixing art and design concepts still exists in academia and industry. The artistic and stylish sides of graphic designers have always deceived many people. Overall these famous designers are businessmen, using personal style to increase their fame and business". Interviewee (A5) also asserted that the "style of famous designers has great influence upon students through cultural works and mass media. Some graduates might try to copy their direction in the beginning, but they will make many business mistakes if they continue this direction".

9) Education's competence criteria are different than those of the industry (71%)

Most interviewees (A1,A2, A3,A5, A7) generally believed that the criteria of competence held by design academia and those held by industry were different. They were of the opinion that academia has broader and more objective criteria for

measuring competence of students, while the industry has narrower and more subjective measures For example, interviewee (A1) said that "academia concerns the graduates' long-term career development in knowledge and skills. The industry is more concerned with short-term skills for benefit of the company's business. Employers desire employees to achieve short-term immediate competence with contextual knowledge, i.e. they purely want their employees to satisfy the job for serving the business clients". Another interviewee (A7) criticized that "many employers still treat designers' hand as a mechanical computer operation tool. Nevertheless, the institute has already started training students with new knowledge envisioned to be required by the employers".

10) Employers should have the main responsibility to help graduates' *professional development* (see Appendix 4: Glossary) **(71%)**

Generally, the interviewees discerned a learning gap in competence between graduating to the early stage of a professional career. Thus most interviewees (A2, A3, A5, A6, A7) believed that the employers had the main responsibility for training graduate designers. Interviewees were of the opinion that employers should coach the fresh graduates as their growth depends both on the company's support and the individual's self-learning ability especially in the first few years after leaving academia. In fact, the graduate had no real life professional knowledge to survive. For example, interviewee (A5) reckoned that the first few years' training for graduates was the critical period of their career. This period help shape the graduate's aspirations and hopes. Furthermore, the graduates know almost nothing about business, so the employers should be responsible to train them in this area. Another interviewee (A3) strongly agreed that employers should take up the responsibility of educating the fresh graduates, especially in the first three years which is believed as the ''best golden years" of their career development. However, one interviewee (A7) argued that some employers were not capable to train graduates, because they did not possess sufficient design knowledge and capability. Even if the employers trained the graduate, the training would be merely limited to technical skills.

11) Responsibility of an educator is to inspire graduate designers, not to assist professional development in design industry (71%)

Most interviewees (A2, A3, A4, A6, A7) believed they as educators are responsible to train students up to entry level, and the main objective is to enable them to find the first design job with the basic skills they learnt. However, the currciulum should also cover comprehesive knowledge and skills for long term development, such as liberal studies, design thinking, strategic thinking and management and contextural design research in order to build up their long-term competence. However, the educators could not offer any insight into how they could contribute to young designers' development after graduation. Graduates are largely left to their own devices to guide their future career development.

Some interviewees (A2, A4) believed they had inspired the graduates with a professional attitude by being a good role-model to them. Another interviewee (A3) asserted long term influence, as he said that "the educator should project correct perspectives of 'art' and 'design' as two separate concepts. We don't want our students to become artists in attitude when doing a design job. I hope our teaching can formulate their correct mindset and positive views about the design industry, help the graduates to develop a life-long search for good design, sustain their passion for design in life-long career, and nurture them to reach their full potential." Another interviewee (A7) said: "We have taught designers not only to fulfill the boss's requirement, but to inspire the designers to envision the future based on the current trends, using their learnt knowledge of user experience, design research, design system thinking from the institutes".

12) *Continuing professional training* (see Appendix 4: Glossary) **is needed for designers' lifelong learning (71%)**

Most interviewees (A1, A2, A4, A5,A6) agreed that the designer in the workplace should never stop learning after leaving academia. As design is a profession that changes rapidly, further professional knowledge is essential. An effective way to keep up with the changes is through continuing professional training. Designers are required to keep up-to-date. Extra learning should relate to both the internal and

external environment, which means that designers should also possess knowledge in business, marketing, and user behavior. This is especially so because most graduate designers work for SME companies which do not provide training.

One interviewee (A1) said that "a training gap exists between the period of graduation and that of early professional practice. Employers generally believe graduate training is the academia's job, but in fact the academics are not in control of the training of graduates who have already entered the industry. *Continuing Professional Development (CPD)*(see Appendix 4: Glossary) can enhance professional competence of designers. In fact, CPD is important for professions that involve changes. Some overseas professional design bodies actually implement CPD programme for practicing designers. It would be a good idea if CPD can be made compulsory in collaboration with the employers".

13) Design graduates have to rely on themselves in harsh working conditions in industry (71%)

Generally speaking, interviewees (A2, A3, A5, A6, A7) believed that designers work very long hours and face tight and exhausting work deadlines, as most graduates work in small and medium-sized companies which offer no training. The working conditions are very unhealthy. Hence, the graduates have to rely on their own resources to look for alternative ways to learn in this situation. Some interviewees (A2, A6) asserted that in the current slow economy, employers are generally facing high overheads and fierce competition. The harsh working environment was a result of the companies striving to survive in the difficult market conditions. Another interviewee (A2) criticized that "the well-being of the graduates is not the concern of the employers, who focus on money-making which is their first prioriy". Another interviewee (A3) reckoned that "if harsh working conditions continue, one of the ways to escape the situation is to leave for another career… One characteristic of the design profession is 'passion', as young designers do possess strong 'passion'. But an exhausting working atmosphere could also kill talented designers' passion in a few years' time and they eventually would choose to leave the industry". One interviewee (A7) has noticed such a phenomenon and

commented that " most of my graduates are aware of the exhausting conditions of being an employee in design firm, so they have set up their own small design company in 2 to 3 years after graduation. I think this is the trend of this moment".

14) A competent designer should be well-rounded (57%)

Most interviewees (A1, A5, A6, A7) could describe the general requirements of competent designers demanded by the industry, despite the fact that they believed the criteria of academia and industry differed. They reckoned the competent designer has good design thinking (analytical and critical ability); is a good communicator; understands the design brief and clients' needs; has good general knowledge; is a problem solver; communicates well with the user; has a good professional attitude, and is a good team player. One interviewee (A7) believed that, "competent designers might not win many awards, but they function well in society, understand the market and clients' needs. Their design communicates well to the user. Competent designers possess good general knowledge to accomplish a good job". Another interviewee (A5) said that "competent designers have social responsibility, good marketing sense, producing design works that relate to business functionality instead of focusing just on aesthetic appearance".

15) There is no standard measure of professional competence for designers (57%)

It was generally agreed by interviewees (A3, A4, A5, A7) that there is a need for a 'measure' to judge the different competence levels of professional designers. They commented that Hong Kong's professional design body – the Hong Kong Design Association (HKDA) has not provided a competence measure for graphic designers. Although HKDA has an entry interview examination with a judging panel to qualify potential 'members', the examination was thought to be too subjective. They reckoned that the HKDA membership does not certify the member as a 'professional designer' to practice officially, unlike other older professions under which similar examinations have official authority to certify the applicant to officially practice as a 'professional'.

One interviewee (A7) commented: “I know it is important to define the professional qualities of designers, but it is hard to define and implement any criterion, because graphic design has no absolute rules and often does not offer one single solution. HKDA has tried to define it, but it seems that it has no idea where to go… To further progress, I think research would be an important step to find out some competence and scope of criteria to define competence”. Another interviewee (A3) believed that designers need professional bodies to provide a recognized system for assessing competence, otherwise the situation in design practice would continue to be as messy as it currently is. The implementation of the system would require a joint effort of the stakeholders, including the professional design body (HKDA), the education institutes, and the government official design body (i.e. Hong Kong Design Centre).

Summary

There are 15 major categories which were formed after interviews with seven design academics, the categories being arranged according to the percentage of respondents agreeing. The four highest ranked categories with 100 % agreement indicate that academics tend to be knowledgeable about the bureaucratic procedure of curriculum design, that they seemed to believe the design industry working environment is harsh for graduate students and that most SME employers do not take responsibility for training graduate designers. Many categories (between 71%-86% agreement) show that the academics had their opinions about the *professional development* (see Appendix 4: Glossary) in the short and long term related to the curriculum design. The lowest-ranked categories with just a slight majority of agreement (57%) are about the knowledge, skills and attitudes essential to a competent designer, and the absence of a professional competence measure standard for designers.

5.1.2 Employer group – Categories

There are 18 major categories formed in the second level analysis from the seven employer interviewees, as shown in Table 5.1.3 below, with the interviewees listed in order of status, with each interviewee's background, such as company size and nature of business description. Each interviewee was given a code from O1 to O7. In Table 5.1.4 all the categories were then arranged in order according to the number of respondents (prioritized by rank).

Participant	**Nature of Company (years of establishment)**	**Position**	**Number of staff**	**Number of designers**	**Academic level of the employed graduate designers and Institute**	**Scope of works in graphic design discipline**
Participant 1 **O1**	SME (16 years)	Founder (Designer)	15 staff	6 designers	Higher Diploma level of HKDI	Graphic design house (general graphics, multimedia and exhibition design)
Participant 2 **O2**	SME (14 years)	CEO (Business management background)	20 staff	5 designers (in-house)	Higher Diploma level of HKDI	Outdoor Advertising billboard owner (in-house design team provides advertising print, brochure and moving graphics in advertising)
Participant 3 **O3**	SME (20 years)	Director (Business management background)	45 staff	3 designers (in-house)	Higher Diploma level of HKDI	Graphic output and production (general graphic design solution - 2D &3D)
Participant 4 **O4**	SME (20 years)	Founder (Advertising Designer)	6 staff	6 designers	Top-up Degree and Higher Diploma level of SPACE	Branding and graphic design house (excluding advertising design)
Participant 5 **O5**	SME (1.5 years)	Founder (Designer)	2 staff	2 designers	Degree level of PolyU	General graphic design, branding and cooperate identity
Participant 6 **O6**	SME (12 years)	Founder (Designer)	4 staff	2 designers	Higher Diploma level of HKDI and PolyU	Production design such as booth and stage design, print materials and advertisement for PR event
Participant 7 **O7**	International (5 years)	Associate Director (Designer)	Approx. 200 staff	8 designers	Higher Diploma (HKDI) & Degree level (PolyU)	Architectural Signage, town planning, interior information graphic design, website design

Table 5.1.3: Participants in the design company employer group

Major categories from employer interviews (7 interviewees)
1) Competent designers are well-rounded, able to deal with internal and external issues and clients' requirements, but hard to find in Hong Kong (7 interviewees-100%)
2) No external or internal training program is offered, mainly on-the-job training (7 interviewees-100%)
3) It has become a norm that entry-level designers receive a fixed salary and work very long and non-negotiable working hours (approx. 10 -13 hours each day) (7 interviewees-100%)
4) Most employers allow entry-level designers to try out most aspects of the whole design process (6 interviewees-86%)
5) Entry-level designers are not competent in many aspects of knowledge and skills (6 interviewees-86%)
6) In the first 3 years of employment, junior designers may switch jobs three times or more (6 interviewees-86%)
7) Graduate designers need to take self-initiative to expand their professional knowledge in the business world (6 interviewees-86%)
8) Graphic design has not been recognized by the general public in Hong Kong as having professional status (6 interviewees-86%)
9) In the first three years, there is no firm promotion scheme and no big jump in salary (5 interviewees-71%)
10) It is hard to nurture graduate designers to become competent in the present situation (5 interviewees-71%)
11) Many company owners will not train entry-level designers, as they do not want to invest in them (5 interviewees-71%)
12) Clients do not respect the graphic design profession (5 interviewees-71%)
13) The majority of employers think they do not have responsibilities in training graduates for professional practice (5 interviewees-71%)
14) Graduates are incompetent in terms of general business knowledge, and require further training (5 interviewees-71%)
15) Criteria to measure competent designers should be based on business contribution to companies (5 interviewees-71%)
16) For entry-level designers, attitude is the most important quality for getting employed (4 interviewees-57%)
17) Graduates could not differentiate art and design in the business world. They think a personal style is useful (4 interviewees-57%)
18) Professional accreditation to measure competence of graphic designers should be formed (4 interviewees-57%)

Table 5.1.4: Categories of Employers

1) Competent designers are well-rounded, able to deal with internal and external issues and clients' requirements, but hard to find in Hong Kong (100%)

All owner interviewees agreed that competent designers have to be competent in two main areas: internal and external. The internal aspect means that the designer is capable in concept generation, providing a creative solution to a given problem with good artistic execution, can work independently, and demonstrates good time management of project deadlines. The external aspect means that the designer is a good communicator who understands client's problems and needs, able to present his/her ideas well. This means the designer has a certain level of knowledge of marketing, business development, and the users of the product/services. Thus they would not expect entry level designers to be competent. In addition, some interviewees believed competent designers had to have a good attitude and be able to function well inside and outside the company. Given these qualities, most interviewees (O1, O2, O3, O4, O6) agreed that competent designers are somewhat hard to find in Hong Kong. One interviewee (O7) said: "A designer's attitude, mindset, and management are the most important. A designer is like a salesman who is able to sell ideas to clients". Interviewee (O6) said a competent designer does not need to be an employee anymore, he/she could run a company.

2) No external or internal training programme is offered, mainly on-the-job training (100%)

All interviewees commented that their companies have not provided any internal or external training programme for graduate designers, only on-the-job training. Most interviewees reckoned that this is an effective training method for work efficiency, as the designers are made to work under tight deadlines. Interviewee (O6) commented that "designers are only trained on an on-the-job-basis. I do not desire to train designers for meeting clients, as it is a waste of the designer's time which could be used for execution of work for other clients." By contrast, an interviewee (O7) from an international firm said that "no formal internal corporate training is documented officially, but some extra software training was previously provided to

designers during lunch time. In fact, general talks from guest speakers are occasionally open for all departments, not just for the graphic design team".

3) It has become a norm that entry-level designers receive a fixed salary and work very long and non-negotiable working hours (approx. 10-13 hours each day) (100%)

All interviewees agreed that long working hours are the common 'norm' in the graphic design field, while a fixed salary with no overtime payment is also a common practice. Interviewees commented that 10 working hours per day is an average for the designers, sometimes even longer up to 13 hours during high seasons. Some design firms would require designers to work overnight and over weekends, meaning that all designers, trainee or qualified, have to work those hours. One interviewee (O4) said that "the first three years were tough for entry level graduates, while the first year was the toughest". Another interviewee (O5) recalled: "Usually, the fresh graduates are not familiar with many things, so working long hours are inevitable. I would think the situation with those small advertising and design firms with only 3 to 4 staff is the worst, as it is normal for fresh graduates there to work for 10 to 12 hours a day". Another interviewee (O7) commented that "as we work in an international company, working hours are quite reasonable (but still the juniors quite often work overtime without extra pay). However, I understand other local companies exploit designers and even demand the graduates work during personal time to finish the jobs".

4) Most employers allow entry-level designers to try out most aspects of the whole design process (86%)

Most interviewees (all except O3) commented that they would prefer to allow fresh graduates to experience different aspects of the design process. As graphic design has a wide coverage, with subjects ranging from traditional printed matter, moving graphics and television, commercial, interactive website to information and exhibition design, entry level designers could work on projects involving various subjects at the same time, although they mostly work at execution level for production. On the other hand, the boundaries of jobs are not well-defined in small

and medium-sized design houses, as manpower is sometimes insufficient; thus almost every member had to contribute effort towards given projects.

Interviewee (O1) said: “The entry level designers give us new design ideas of their generation, creating a stimulus to the company. Every designer needs to generate ideas, not just the senior designers”. Another interviewee (O4) said: “Team work is very important. We give graduate designers different kinds of tasks to try (seniors will coach them when mistakes appear). As my company does not hire executives to serve clients, I even let the entry level designers join me in client meetings. Apart from this, these designers normally have to try and work on different computer software, participate in brain-storming session and prepare design presentation for clients”.

5) Entry-level designers are not competent in many aspects of knowledge and skills (86%)

Almost all interviewees (except O2) believed that graduates within three years after graduation cannot be considered competent, especially the first and second year graduates. They are not competent in any aspect of design process, from visualization to production. Despite being considered more competent in the third year, most designers are still not capable of handling projects independently. For example, interviewee (O1) commented on the incompetence of graduate designers that “they mainly contribute in creativity but no practical solutions are structured for the clients”. Two interviewees did believe however that some changes could occur in the third year. As one interviewee (O5) said: “For fresh graduates, the first year is really about getting to know the real world, co-workers and clients’ relations. There are not many major changes in the second year, and it is not until the third year that the big change could start when designers could handle design briefs independently”. Interviewee (O7) commented that “the second year designers know better what to do and they ask fewer questions. The third year designers should be able to handle projects independently”.

6) In the first 3 years of employment, junior designers may switch jobs three times or more (86%)

Most interviewees (O1, O3, O4, O5, O6, O7) agreed that graduate designers switched companies within the first three working years. They pointed out a few main reasons for this: staying in one company, the graduate designer would not have a substantial increase in salary in the first two years. The only way to earn more would be to change jobs. Another reason was for the position title. Some interviewees (O1, O4, O5, O6) pointed out that in the first three years, the junior designer might have switched among three to four companies already. Some fresh graduates even stayed in a company for only three to six months to one year at most.

One interviewee (O7) commented that "most graduates work in small to medium-sized companies, and if they have not received any developmental training, they would switch to another company for better opportunities. I think they would stay longer in a big company as they could learn more." One interviewee (O3) from a small to medium-sized firm pointed out: "Generally, graduate designers do not stay in a company long, thus I seldom invest in training them".

7) Graduate designers need to take self-initiative to expand their professional knowledge in the business world (86%)

Almost all interviewees (except O2) encouraged designers to grab opportunities proactively and to equip themselves to be competitive in the market, especially those graduate designers working in SMEs exposed to very little training from the workplace. They have to be passionate to stay in the design profession, when the working conditions are so tough. Some interviewees (O1 and O7) believed there are very few good design jobs and good design companies around, but graduates still need to push themselves to expand their learning horizon, experiencing different types of client and job. Interviewee (O5) said: "Graduate designers should have vision and ambition for the future and should be constantly upgrading themselves. As most designers in Hong Kong could not handle clients well, they

should take a management course after work, which is normally not provided in design courses while they studied".

8) Graphic design has not been recognized by the general public in Hong Kong as having professional status (86%)

Almost all interviewees (except O7) admitted that graphic design has not gained professional status. Some reckoned the general public believed design is an academic under-achiever's profession (interviewees O3 and O6). Graphic design is not considered to have achieved the same professional status as architecture or even interior design (Interviewee O1). One interviewee (O3) elaborated: "The whole Hong Kong society judges people's success by their income. A graphic designer does not earn a high income". Some interviewees (Q1, O2, O3, O5) questioned whether the ordinary person can tell whether a designer is a qualified 'professional designer'. Other professionals have rules and regulations and qualifying examinations before official practice, but the graphic design profession has no such measure and qualification system. Interviewee (O4) asserted that even though many graphic designers have joined the Hong Kong Designer Association (HKDA), membership is not adequate to qualify the designer as a professional.

9) In the first three years, there is no firm promotion scheme and no big jump in salary (71%)

Most employer interviewees (O1, O3, O4, O5, O6) commented that they did not offer a systematic promotion scheme for graduate designers in their first three years of employment. They thought there should not be any big promotion or increase in salary. For example, interviewee (O3) stated that "there is no such promotion scheme in place in SME design firms, which is a small unit." Interviewee (O1) also commented that "although designers are generally promoted on the basis of ability, not years of experience, the company has not previously promoted any graduate designer with less than three working years".

10) It is hard to nurture graduate designers to become competent in the present situation (71%)

It is hard to nurture graduate designers to become competent designers as recalled by most interviewees (O1, O3, O4, O5, O7). Several reasons were given: i) Hong Kong design industry has a 'fast speed working culture', in which designers are facing tight deadlines. So they often need to work overtime, which is unhealthy for them; ii) design firms often exploit designers, and late nights and long working hours seem to have become compulsory and part of the job description. Most employers do not want to invest in their training; iii) clients do not value design of the designers who work long hours for them. They do not have a clear concept of how design fees are set, so they often squeeze the design fee of the appointed design firms, which also adversely affects the pay of the designers.

For example, interviewee (O5) said: "Working late at night has been a bad tradition for decades in this industry. Designers do not have time for further study. Many employers will not train their designers because they think it is not a good investment. Overall, graphic design does not provide professional prospects and often does not allow a work-life balance". Another interviewee (O1) also commented that "most clients want fast execution, which does not allow the designers much time to reflect on what they produce, and try to improve and develop their skills further. Most projects are of small scale, mainly low-level execution, so it is hard for designers to get involved in and learn project management and expand their horizon".

11) Many company owners will not train entry-level designers, as they do not want to invest in them (71%)

Most interviewees (O1, O3, O4, O5, O7) admitted they hesitated to train entry-level designers, and they reckoned that SME owners in general would not wish to train entry-level designers either (unless the owner came from a design background, as was pointed out by Interviewee (O4) who is a designer). They provided several reasons: i) graphic design firms in general have to face tight deadlines, so it is hard to provide additional training within their tight working schedule; ii) there is no real

business benefit and no profit return from training; iii) most employers actually expect the graduates would change jobs within one to two years time, so they would not consider to invest in such a short-term relationship.

One interviewee (O5) thought graduate designers with one to two years' experience do not possess the ability to earn money for their company, so the owner is reluctant to invest in them. By contrast, another interviewee (O4) said that "some SMEs like printing houses, trading firms and premium houses are simply not capable of providing proper training to designers." One young owner interviewee (O5) who previously worked as a designer in a famous Hong Kong design firm recalled: "My firm's owner did not want me to have interaction with clients. He gave me no specific training. I think he was afraid that I could learn from his success and get freelance jobs from his clients".

12) Clients do not respect the graphic design profession (71%)

Most interviewees (O1, O3, O5, O6, O7) commented that graphic designers are under-credited compared with other professionals. Interviewees gave various reasons: 1) Hong Kong society in general stereotypes design professionals as academic under-achievers; 2) a few substandard private schools produce low quality designers; 3) clients do not value design, and they think graphic design is easy to execute. Some clients even took up the design direction and told the designers how to design.

For example, interviewee (O6) recalled that for several design and production projects he worked on, clients did not want to pay the design fee, just the production, as they did not regard design as worth a fee. Another interviewee (O5) made the criticism that "The marketing clients do not understand the steps involved in design and the processing time required, and so handed out very tight deadlines. They expect us to work long hours, even overnight, 7 days a week on-call. If they truly respected us as professionals, they would not have given us such harsh requests". Another interviewee (O7) agreed that "most people do not consider graphic design as a serious profession; graphic designers are looked down upon in

general and receive the lowest salary range given the same number of years of academic training as other professions".

13) The majority of employers think they do not have responsibilities in training graduates for professional practice (71%)

Most interviewees (O1, O2, O3, O6, O7) commented that they do not have a responsibility to train graduate designers especially as there are no well-defined rules or regulations that employers have to observe. Some (O1, O2, O3, O6) believed design is a business, so the relationship they have with the graduate designers is strictly on business terms. Some interviewees (O1, O2, O6) even argued that the designers are supposed to contribute financial value to the company, not to come for training.

For example, Interviewee (O2) said, "as an employer, I do not see myself having apprenticeship involvement. Graduates ideally should start working right after they left academia and support the business." Another interviewee (O7) said: "Company owners do not have such a role, it all depends whether the employer wants to provide the training. Although our company does not provide an official training programme, we have provided graduates many opportunities to develop their skills". However, one interviewee (O6) argued that "it is not my responsibility or SME owners to invest on the graduates as they only stay in the company for a year or two".

14) Graduates are incompetent in terms of general business knowledge, and require further training (71%)

Most interviewees (O1, O3, O4, O5, O7) commented that while the workplace is a real business environment, graduate designers are not competent in production, marketing and business knowledge and skills. In short, they do not understand client needs. Interviewee (O7) commented that extra training after graduation is essential for graduate designers, and that they should also acquire knowledge of marketing and business strategy. On the other hand, on-job-training should be provided to keep the designers up-to-date e.g. the company should provide

software handling, seminars and management skills. CPD programmes are essential to graduate designers like other professionals.

Interviewee (O1) made the criticism that "there is a gap between the institute and the workplace. There is no real client in the institute and the business situation cannot be learned in an academic environment, so the environment cannot convey 'real' professional practice elements to the students". Also, interviewees tended to believe that teachers focused too much on aesthetic aspects in their teaching, missing out marketing knowledge which is essential and fundamental. Another interviewee (O5) who is a designer said that "academia's role is to help graduates get their first job. All these calculation of design costs, design management skills, and business strategies are not taught in institutes while they studied. They should have been taught a bit more on the management and business side".

15) Criteria to measure competent designers should be based on business contribution to companies (71%)

Most interviewees (O2, O3, O5, O6, O7) agreed that graphic designers should contribute business value in monetary terms to their companies, clients and brands. The way to measure the competence of a designer is by assessing his/her performance based on business contribution to the company, as reflected by positive feedback from clients, and return on business.

For example, Interviewee (O2) commented: "Designers in the design team help to solicit more clients for the company. No design team, no sales, so the designer's work is directly related to profit-making… If the design does not make sense to the business, I would not tolerate it, even if the design is aesthetically good. Making business sense is the basic requirement of good design". Another interviewee (O5) said: "Graphic design's business contribution towards my company is very valid. I desire my designers to be more analytical, able to find the appropriate direction to sell ideas to clients in order to gain more business".

16) For entry-level designers, attitude is the most important quality for getting employed (57%)

Most interviewees (O3, O4, O5, O7) commented that attitude was one of the most important qualities for entry level designers. It was essential to be flexible as they faced business people with various backgrounds. Entry level graduates were not generally considered competent, so diligence, a sense of responsibility, and modesty are very important qualities to gain employment. Notwithstanding, two interviewees (O3, O4) criticized degree graduates from one specific institute. One interviewee (O4) said: "The graduates of this institute have one major weakness – strong ego. They are proud and think they are very competent. In fact, competence should not be judged by themselves. Somehow, higher diploma graduates have a better working attitude than them". Another interviewee (O3) agreed: "Adjustment of mindset is needed for those degree graduates as they have a bigger ego than others; they must remain humble in order to learn new knowledge".

17) Graduate could not differentiate art and design in the business world. They think a personal style is useful (57%)

Most interviewees (O1, O3, O4, O5) commented that some graduates may not know how to distinguish art from design in the business world, as they may think that building up a personal style in work is useful. However, they do not have strong awareness of the criteria of clients and the information that they need to convey to the users in the business world. Consequently, the clients would mostly reject designers' works that merely exhibit an artistic and stylish touch without meeting the design objectives. Generally, the new graduates value culturally-related jobs over commercial jobs, as they feel that they may focus on developing their own style, neglecting the focus of the company and the client. They may also think that a commercial job is less creative and imposes too many restrictions. However, some interviewees (O4 and O5) commented that graduates or students could be influenced or 'confused' by the famous graphic designers in Hong Kong who project an image of designer as artist. Those famous designers all have their own design companies. If new graduates want to build up a reputation with business success,

they feel the commercial jobs are inadequate to sustain their reputation for competitiveness. Therefore, they feel they need a personal artistic style to gain reputation as a 'celebrity'.

One interviewee (O5) who has worked with several well known local graphic designers throughout the years recalled that this 'art style oriented design business' has always been confusing to him. Eventually, he realized that "these designers have developed an 'art-oriented designer' image with a purpose, which is to conceal their real business motives. They often gain exposure in cultural activities such as art exhibitions and charity events, using their artistic reputation as a vehicle to potentially meet high society clients at those events.

18) Professional accreditation to measure competence of graphic designers should be formed (57%)

Most interviewees (O1, O3, O5, O6) have positive views about establishing a competence measure for an appropriate standard of practice. However, two interviewees (O3 and O5) felt that a competence measure could be hard to define. Interviewee (O1) felt strongly that graphic design should establish professional recognition and even an official Continuing Professional Development (CPD) programme, and that such a programme would definitely help designers to upgrade their professional knowledge. Another interviewee (O6) gave his opinion on establishing professional recognition: "It is a design educational problem in Hong Kong, allowing too many incompetent graduates from private schools to practice. Employers are also spoiled by the variety of graduates they could choose from, never worrying about the supply of work force. However, a professional examination will not benefit the lower academic ability designers from private colleges in the job market. For employers, professional qualification could benefit them, since it would tell them something about the standard of potential design employees".

Summary

There are 18 major categories which were arrived at after 7 interviews with design firm employers. The three highest ranked had 100 % agreement, as the interviewees tended to know well from their perspective what was required to be a competent graphic designer. However, all of them acknowledged that their companies do not offer any training programme to graduate designers. The designers need to work very long hours, which is the 'norm' of the industry. Most propositions, which achieved 71%-86% agreement of employers, concerned the harsh working conditions, the incompetence of the graduates and low graphic design profession status in general. The remaining categories with 57% agreement expressed the employers' views about the misunderstanding of art and design concepts of the graduates in the business world, and the need for the establishment of professional accreditation for designers.

5.1.3 Graduate designer group – Categories

There are 20 major categories formed in the second level analysis from the eight graduate designer interviewees, as shown in Table 5.1.5 below, with the interviewees listed in order of status, with each interviewee's background, such as academic achievement and nature of the company in which they worked. Each interviewee was given a code from D1 to D8. In Table 5.1.6 all the categories were then arranged in order according to the number of respondents (prioritized by rank).

Participant	**Nature of Company**	**Position (years of experience)**	**Number of staff**	**Number of designers**	**Academic level and programme of the institute**	**Scope of works in graphic design discipline**
Participant 1 **D1**	SME	Graphic designer (1.5 years)	12 staff	2 designers	Top –up degree of SPACE (Visual Communication)	General graphic design company (brochure, billboard and PR events)
Participant 2 **D2**	SME	Assistant art director (1 year)	13 staff	5 designers	Degree of PolyU (Digital and Interactive Design)	Advertising for brands (print ad, leaflet, TVC, cooperate video)
Participant 3 **D3**	Self-employed freelancer	Designer - self-employed (2 years)	1 staff	1 designer	Degree of PolyU (Information design)	Web design, graphics, gallery promotion and catalogs.
Participant 4 **D4**	International Advertising Company	Digital designer (3 months)	20 staff	3 designers	Degree of PolyU (Advertising design)	Advertising interactive design
Participant 5 **D5**	SME	Designer (2 years)	6 staff	3 designers	Higher Diploma of HKDI (Visual Communication)	Websites and general graphic design
Participant 6 **D6**	SME	Designer (2 years)	3 staff	1 designers	Higher Diploma of HKDI (Visual Communication)	General Graphic design
Participant 7 **D7**	SME	Designer (2 years)	20 staff	4 designers	Higher Diploma of HKDI (Visual Communication)	Websites
Participant 8 **D8**	SME	Sr. Designer (3 years)	24 staff	12 designers	Higher Diploma of HKDI (Visual Communication - information)	Exhibition, event and general graphic design

Table 5.1.5 Participants for the designer group

Major categories from designer interviews (8 interviewees)
1) Wide scope of graphic design work for graduates designers, from idea formation to execution completion (8 interviewees-100%)
2) Most graduate designers work long and non-negotiable hours (10 to 13 hours a day) with no extra monetary compensation (8 interviewees-100%)
3) Employers should have provided the graduate designers training opportunities instead of exploiting graduates (8 interviewees-100%)
4) Hong Kong's most famous graphic designers have projected both a distinctive artistic visual style and also a professional designer image (7 interviewees-88%)
5) Most graduate designers would like to develop their personal visual style (7 interviewees-88%)
6) In the first year, graduate designers are not competent at all; they have to follow rules (7 interviewees-88%)
7) The long working hours, heavy workload and tight deadlines damper graduate designers' passion and damage their health; it is hard to nurture designers (7 interviewees-88%)
8) At college, students are to a large extent free to design with personal interests, whereas at work the design is constrained by the clients (6 interviewees-75%)
9) Although design students learn to do research at college; in the workplace, the client/employer seldom allows the designers enough time to do it (6 interviewees-75%)
10) The judgment of performance is based on readiness to do overtime work to deal with heavy workload in short period of time (6 interviewees-75%)
11) The concepts of art and design being together are ambiguous in design institutes (6 interviewees-75%)
12) Competent designers are well-rounded, working competently in both internal and external environments and are knowledgeable (6 interviewees-75%)
13) Graphic design has low professional status and is less well paid than other design professions (6 interviewees-75%)
14) Graduates should have a good attitude and be flexible, and should continue to update themselves with most recent design knowledge and technical skills (6 interviewees-75%)
15) Non-negotiable long working hours in current graphic design practice need to be restricted (6 interviewees-75%)
16) The design programme only equips designers with basic knowledge and skills, while the workplace demands that designers deal with real world knowledge of professional practice (5 interviewees-63%)
17) There is useful professional knowledge which is not well taught at institutes, but which could help us to understand the professional world better (5 interviewees-63%)
18) In the first 3 working years, graduate designers are passionate about creating work pleasing to them. However, visual direction is always dictated by clients (5 interviewees-63%)
19) Continuing Professional Development (CPD) and guidance should be expanded for graduate designers in the transitional period (5 interviewees-63%)
20) A measure of professional standard by certification would be good for designers but hard to implement (4 interviewees-50%)

Table 5.1.6: Categories of designer

1) Wide scope of graphic design work for graduate designers, from idea formation to execution completion (100%)

All interviewees asserted that their work was wide in scope, starting from concept generation, brainstorming with team members, to design layout execution, working with contractors and suppliers (some with in-house programmers), and supervising final production. In addition, most interviewees mentioned that they need to present work and communicate with clients during the design process. Most interviewees also commented that they not only work with the conventional printed graphic media such as print advertisement, brochures, leaflets and billboard production. They are also involved in working on design on interactive websites and moving image media. However, interviewees (D4) and (D7), who were from pure website design and digital advertising companies, which focused exclusively on on-line platform production such as digital advertising (such as banner and applications on website), had no exposure to conventional printed matter design.

2) Most graduate designers work long and non-negotiable hours (10 to 13 hours a day) with no extra monetary compensation (100%)

All interviewees agreed they have worked for 10 to 13 hours daily during peak seasons and occasionally for urgent projects. Some designers might need to work until midnight, overnight or even during weekends / holidays. It has been a general 'norm' of the graphic design industry that there is no monetary compensation for overtime work, although a few companies would offer extra holidays for designers as compensation.

Some interviewees described their past and present experience of long working hours right after graduation. Interviewee (D5) said: "Many late nights and heavy workload in the first two working years, sometimes I worked about 12 hours a day. In the worst case, I worked from 10:30am till morning (2-3 days in a week like this throughout the first two years)". Interviewee (D8) had just finished three years work in the same company and reported that "my salary was quite low when I first started (HKD7,000 - HKD8,000). Some of us with 3 years working experience are earning HKD10,000 a month… I work around 10-13 hours a day. On a normal

working day, I can leave the company between 7:00 and 9:00PM. On an abnormal day, I work even longer e.g. until 12 midnight or 3 o'clock in the morning. Throughout the whole working year of the company, it is about 30% as normal day, 70% is abnormal. It has been a 'norm' that companies do not provide overtime compensation; only a few do". Interviewee (D7) criticized strongly: "The employers have taken advantage of new graduates with heavy workload, long working hours and tight deadlines, with no monetary compensation. The pressure is huge for designers".

3) Employers should have provided the graduate designers training opportunities instead of exploiting graduates (100%)

All interviewees agreed that their employers should provide graduate designers with training, and this should be the employers' responsibility. The training would allow designers to understand the industry, be confident and perform effectively in the workplace. However, all interviewees seemed to agree that most employers do not take on such a responsibility. Interviewees (D6) and (D8) felt that fresh graduates are bound to lack sufficient work knowledge in the beginning, so the employers should be responsible for training them.

Some interviewees described their experience of lack of training and being exploited by employers. Interviewee (D1) expressed: "My employer did not give me guidelines, I did not know what to do and how to make the right decision. Sometimes, I even did not know the reasons for rejection of my work, as I seldom received feedback from my superior". Interviewee (D2) said: "The employer is stingy, he thinks the employees should work overtime so he could hire less staff... The employer did not schedule and manage the resources well; that caused us to be overloaded with work". Interviewee (D3) reckoned that most of the design companies are SME, so they do not have enough resources to provide extra training support to graduates. The employers expect the employees they hired to be functional immediately.

4) Hong Kong's most famous graphic designers have projected both a distinctive artistic visual style and also a professional designer image (88%)

Almost all interviewees (except D8) agreed that Hong Kong's most well-known graphic designers all possess both a unique personal style like an artist, and a professional designer image which is business-centred. Most interviewees believed that the ways in which these famous designers present themselves have been successful in the design business and popular in the design community. They are recognized as either a successful brand identity or a celebrity.

Interviewee (D1) commented on the celebrity phenomenon: "Famous designers do not desire to be perceived as professional designers but like to be labeled as 'artists' who provide a feeling of high-end luxury… One's status can be raised from designer to artist, and clients are willing to pay a higher price for his/her work… Famous designers would like to be celebrities, because the masses do not know how to judge a 'good designer', but celebrity image can project the feeling of a 'good designer'".

Some interviewees (D1, D5) argued that whether these well-known designers are knowledgeable or not is not known, but they would always be recognized as an artistic celebrity. One interviewee (D6) accepted their 'style' approach and said: "I do not see being an artist and being a designer as contradictory. There is no problem if you can do something artistic, but also provide solution to the clients". However, one interviewee (D3) argued that there is ambiguity as perceived by design students. As she said: "Students may not see both sides of the coin (having personal style vs. design solution) and think style is everything. Famous designers merely project a personal artistic image to the masses, but they may not produce the same kind of stylish work for the clients. Personal style is for showing off, while the other side is all business".

5) Most graduate designers would like to develop their personal visual style (88%)

Most interviewees (D1, D2, D3, D4, D6, D7, D8) believed that it is good for designers to possess a personal style, and the most famous graphic designers also have a cultural identity in Hong Kong. Some interviewees (D2, D4, D6) reckoned that aesthetic development is the most important aspect of graphic design. However, clients would often reject design works with personal style, due to their lack of aesthetic training and appreciation.

For example, Interviewee (D2) said: "A client may hinder the development of a designer. Success comes from being passionate, skillful and talented in designing aesthetic works". Interviewee (D6) felt the same way strongly; as she said: "Designers feel unhappy when they are told to make major changes in a design by clients who do not share their style. Designers should maintain their own style which is their strength". Another interviewee (D1) commented that design students have been influenced by famous graphic designers, she said: "Most famous Hong Kong graphic designers do possess a personal style with cultural identity. Since these designers have been successful in the market, they have become idols for some students".

6) In the first year, graduate designers are not competent at all; they have to follow rules (88%)

With their workplace experiences, almost all interviewees (D1, D2, D4, D5, D6, D7, D8) agreed they were not competent in all aspects of professional work in the first year. They had to follow rules and working patterns of the senior staff. Some interviewees (D7 and D8) recalled that their first year experiences were confusing and scary, due to lack of experience. Interviewee (D7) elaborated his memory: "I was confused in the first year. I did not know what the client's requirements were and I always asked for help. I found it hard to deal with one or two projects, but then I started to follow some rules". Interviewee (D2) also explained that "in the first year of working after graduation, my professional and technical knowledge was

very limited. Even in the second year, I still had to follow the senior designer's direction closely". Interviewee (D2) commented that the characteristic of her first year's experience was that she could not judge whether she had produced a good or bad design after finishing them.

7) The long working hours, heavy workload and tight deadlines damper graduate designers' passion and damage their health; it is hard to nurture designers (88%)

Almost all interviewees worked in SME design companies, and most of them (D1, D3, D4, D5, D6, D7, D8) summarized their experience of work as being that designers are expected to work long hours and meet tight deadlines, so they felt the working environment is not healthy for designers. Some interviewees (D1, D6, D7, D8) asserted that this environment might affect designers' mental as well as physical health. Some interviewees (D6, D8) commented that the deadlines of the jobs are too tight, it is hard to have reflection during execution.

Some interviewees described the details of the situation. Interviewee (D1) said that "the tough working environment is hard for designers to endure in the first few years. In fact, I guess there are many graduate designers leaving this field after the first few years of working". Another interviewee (D7) said: "Employers place profit-making as their top priority; thus designers are forced to work under harsh working conditions". Interviewee (D8) concluded that "long working hours do more harm than good. We have to sacrifice our personal life and learning opportunities after work. We often feel tired".

8) At college, students are to a large extent free to design with personal interests, whereas at work the design is constrained by the clients (75%)

Most interviewees (D2, D4, D5, D6, D7, D8) believed they are given a large degree of freedom and time to do their projects at colleges based on personal interests, to expand their creativity and imagination, doing something 'beautiful'. They are encouraged to think out-of-the-box. In the workplace which is client driven and

sales-oriented, they have to consider many factors from the clients' perspective and face tighter deadlines. This sets strict limits to creativity and imagination.

Interviewee (D2) commented that "we were trained with design thinking and theory at university. At work, it is mainly practical and execution, to produce a design that the client will buy. In our company, the designers are asked to look at the references (client's competitors' designs) in order to provide a solution that similar or superior to the competitors' design". Another interviewee (D8) in information design said: "At college, we aimed at creating beautiful designs with a good concept. In the workplace with clients, we have to consider many factors, and even if we have already produced a beautiful design, factors such as technical restrictions, budget, materials, different team members, client and contractors' perspective may lead to a different end design. There is a great difference between the requirements at work and at college".

9) Although design students learn to do research at college, in the workplace, the client/employer seldom allows the designers enough time to do it (75%)

Most interviewees (D1, D3, D5, D6, D7, D8) agreed that they had learned research knowledge and skills in college. However, these research skills are not appreciated in the workplace; the clients and employers do not provide enough time for designers to conduct research to facilitate more creative solutions. Clients and employers mostly judge the functionality of the design options on the basis of their own experience, not on the findings of designers' research. They want the designers to produce design solutions at a fast pace in order to quickly launch into the market.

Interviewee (D5) recalled some facts about workplace research: "The biggest difference is that students have a longer time to do research at college (about 1-2 weeks) than in the workplace. In my workplace, my colleagues would tell me to spend just 10 minutes on the Internet to find some relevant information and copy it down for future use if necessary". Another interviewee (D8) states that "the employers and clients only have time to care about research [into] competitors'

finished design, and not for the kind of research that could enlighten designers to develop new ideas".

10) The judgment of performance is based on readiness to do overtime work to deal with heavy workload in short period of time (75%)

Most interviewees (D1, D3, D5, D6, D7, D8) agreed that employers expect designers to work long hours to meet tight deadlines, and to deal with the pressure of heavy workload. One interviewee (D8) commented on his feeling about his employer's mindset on overtime work: "My employer likes to have the designers work overtime. When the designers work longer hours, employers feel the designers are making money for them. No matter how good you are, the employers want to impose heavier workloads onto the designers and make them work fast". Another interviewee (D1) stated three essential performance criteria expected by her employer: 1) employer and clients want designers to finish the job in a short period time; 2) designers have to be capable of producing as many design options as possible within a short time frame, and 3) have to be able to maintain good visual quality of these design options.

11) The concepts of art and design being together are ambiguous in design institutes (75%)

Most interviewees (D1, D2, D3, D5, D6, D7) found that there is some confusion of the concepts of art and design as learned at the design institutes. The confusion is caused by the fact that the boundary between art and design is not clear. Interviewees had also learned that Hong Kong's graphic designers have a mixed role as both artist and designer. Some interviewees (D5, D6) accepted this dual role. One interviewee (D2) recalled: "Some classmates think that having a 'style' will make them famous, so they will keep trying to develop their own style. But I do not agree with developing only one style. Following in the famous designers' footsteps is not my goal". Another interviewee (D5) asserted that tutors actually encouraged this dual role. She recalled: "Some tutors at the institute encouraged us to be both designer and artist and have our own personal style. They discouraged us from being 'too commercial'. But some tutors would talk about useful information in

marketing and market analysis. I guess two schools of thought co-existed at the institute: as an artist and also a designer." Overall, the designer interviewees expressed ambiguity of having art and design concepts in graphic design and practice. At their level, it is hard to judge whether it is a good or bad thing, as these two concepts co-existed and depended on each other in their studies.

12) Competent designers are well-rounded, working competently in both internal and external environments and are knowledgeable (75%)

Most interviewees found it easy to define the concept of 'competent designer' (D1, D2, D3, D6, D7, D8). They believed competent designers are good problem-solvers and communicators, and understand the client's needs. They are all-rounders, which means they are capable of dealing with internal matters (managing team members and projects, with good technical skills and design sense) and external ones (understanding clients' background and needs, good communications and presentation skills, good contextual knowledge e.g. marketing). One interviewee (D8) commented: "Competent designers should be all-rounders, good in general knowledge and yet having their own unique style". Another interviewee (D3) said that "competent designers should not only conduct internal and external matters effectively, but also have a holistic viewpoint and global awareness that can be brought to bear locally".

13) Graphic design has low professional status and is less well paid than other design professions (75%)

Most interviewees (D1, D2, D4, D5, D7, D8) commented that the graphic design profession has a low professional status and low salary (lower starting salary and lower rate of salary increase compared with other professions).

Interviewee (D7) commented that "my salary was almost the same as the 'minimum hourly rate' for the protection of manual workers recently made law by Hong Kong Government. The salary is not commensurate with the long working hours and the education we have received". Another interviewee (D8) also commented on how others viewed graphic designers. He said: "In our industry, clients do not respect

our opinions. Other professionals (such as lawyers, doctors or architects) do not think we are doing something important".

14) Graduates should have a good attitude and be flexible, and should continue to update themselves with most recent design knowledge and technical skills (75%)

For future professional career development, most interviewees (D1, D2, D3, D5, D6, D8) regarded a good attitude and continuous learning as important. Some emphasized the importance of upgrading their design-related knowledge and technological trend-related skills (D1, D2, D3, D5, D6).

Some interviewees provided some interesting opinions. For example, Interviewee (D6) reckoned: "If you have this hardworking attitude, you would learn many things". Interviewee (D1) believed that "graduates should study more subjects like marketing and psychology, etc. They should know more about the operation in the business world. Designers should also read more materials related to the design field such as magazines, internet, websites and blogs, etc". Another interviewee (D3) said: "In order to envision what is to happen in the future, young designers should have a global as well as a local overview and keep their own knowledge up-to-date. However, we do need other disciplines' knowledge such as consumer psychology, law and business if designers want to set up their own business".

15) Non-negotiable long working hours in current graphic design practice need to be restricted (75%)

Most interviewees (D1, D2, D3, D5, D6, D8) expressed their dissatisfaction with the very long working hours as a 'norm' in the industry; especially since there is no monetary compensation for overtime in most companies. Some interviewees reckoned that if the harsh situation continues to prevail, they would not be able to cope as they became less healthy as a result. They hope this would be changed in the future.

Other interviewees also expressed their personal view on the situation. Interviewee (D1) said: “It is impossible to work in a graphic design company for 14 hours a day. If I am 30, I cannot do that! The role of designers in production should be changed from labour-intensive to knowledge-based”. Interviewee (D5) said: “I worked overtime a lot; the long working hours caused sickness. I was concerned about my health. That was the main reason why I left the previous company”. Furthermore, Interviewee (D2) criticized the situation that “in a working environment like this, how can we find time and money to study? I think what I earn a day is less than ‘the minimum hourly rate’ set by the ‘Minimum Wage Commission’ of the Government, including especially all the unpaid overtime hours every week”. Interviewee D8 suggested that “HKDC and HKDA should set up some standards and guidelines for overtime hours, scope of work and fee standards to protect the designers”.

16) The design programme only equips designers with basic knowledge and skills, while the workplace demands that designers deal with real world knowledge of professional practice (63%)

Most interviewees (D1, D5, D6, D7, D8) agreed that the knowledge and skills they learned from academia are useful and general. However, knowledge and skills are limited and remain at an elementary level. Much technical ‘know-how’ and many production skills are not taught in academia. The interviewees are fully aware that specific and different kinds of knowledge exist in the workplace and there is a gap of knowledge that needs to be filled, and that this ‘professional knowledge’ is required for real-world practice. The most observable difference is that there are ‘real’ clients in the workplace.

For example, interviewee (D8) commented that “I do not agree that the school has equipped me with all the essential professional knowledge such as design management and interpersonal skills in handling relationships with boss and colleagues… the design institute provided knowledge and skills at an elementary level which would raise our awareness and which we could pursue further if interested , but we would have to upgrade ourselves through other training in the

industry". Interviewee (D1) also commented on the differences: "At design colleges, students are able to develop their own personal ideas based on a relatively clear design brief provided by tutors. In the workplace, the information on design briefs is incomplete, there are sometimes hidden requirements that I cannot interpret, and I often feel that I could only read part of a client's expectations".

17) There is useful professional knowledge which is not well taught at institutes, but which could help us to understand the professional world better (63%)

Most interviewees (D1, D3, D5, D6, D7) commented that important aspects of workplace professional knowledge such as business and marketing were not taught sufficiently in the education programme. If they had learned this knowledge earlier, they reckoned they could understand the professional world better. Some interviewees (D3, D5, D6) criticized that the tutors did not possess sufficient knowledge in real-world professional practice.

One interviewee (D1) recalled that "it is important to know the business world and project and design management; these subjects were never taught in the programme". Another interviewee (D3) commented there was confusion and outdated teaching in the programme. She said: "It is the educators' responsibility to reflect a real experience and professional practice, but it seems the tutors gave some wrong accounts of the field (some tutors were so into fine art)… The business, marketing and technology aspects of the degree course were not up-to-date … Although user-centered research and production methods were taught in the programme, we need real business knowledge to back up these kinds of knowledge".

18) In the first 3 working years, graduate designers are passionate about creating work pleasing to them. However, visual direction is always dictated by clients (63%)

Generally, most interviewees (D2, D3, D6, D7, D8) agreed that the designers' passion for creating attractive visual layouts is stronger in the first 3 years, because they want to achieve public recognition for their work. However, they agreed that

clients' decisions always create obstacles to the designer's freely applying creativity. Clients only use the designers' execution skills (their hands, not their thinking) in the design process.

One Interviewee (D3) said: "In the first three years, most designers want to do something that is unprecedented and can be publicly recognized. For myself, I of course desire to do some work which is groundbreaking, with powerful visual impact that nobody in my field has achieved before". Another interviewee (D6) commented: "In professional practice, only design can survive, not art, because clients might not know how to appreciate art and style. Clients think design is more important." However, Interviewee (D7) saw both sides of the problem and said: "Most designers are artists and are rather self-centered. Graduates take years to mature to become more objective in their viewpoint. On the other hand, clients use designers' abilities mainly for visual execution, as they do not find designers' thinking useful, and so designers cannot find freedom".

19) Continuing Professional Development (CPD) and guidance should be expanded for graduate designers in the transitional period (63%)

Most interviewees (D3, D4, D5, D7, D8) welcomed the idea of a Continuing Professional Learning programme in the first few years of early career development. Some thought the programme could offer learning courses to enhance the designer's competitiveness in the market and/or provide continual career guidance. The ideas could be implemented by official design bodies or institutes.

Interviewee (D4) thought that a "CPD certificate programme is good for both designer and employer. It can raise professional standards and help the designers to receive promotion, especially as 'design' remains an ill-defined field with no recognized standard of competence. CPD certification could enhance fair competition". Interviewee (D8) said: "I wish the design bodies would evolve something more down-to-earth like CPD programme design, no free pitching in design projects and rules and regulations against long working hours." Moreover, Interviewee (D7) commented: "After graduation, there should be some guidance to

lead us on the career path. The design bodies or institutes should pick up this role in the transitional period. However, the biggest problem for CPD is I doubt if all design firms would allow time for the employees to study".

20) A measure of *professional standard* (see Appendix 4: Glossary) **by certification would be good for designers but hard to implement (50%)**

50% of the interviewees (D1, D6, D7, D8) supported the idea of setting up a professional standard certification for designers. But despite their positive response, they were doubtful about the implementation and validation of such a standard, as "design" remained an ill-defined discipline. For example, Interviewee (D1) commented that "the professional examination could help clients in judging the designer's competence. However, the content of the examination would be hard to set". Another interviewee (D7) also commented: "Everyone has their own preferences about what is good or bad design; it might not be fair to set an absolute standard. For the work of professionals such as accountants, where there is an absolutely right and wrong answer, that is possible, but for design it is somehow hard to judge whether it is good or bad".

However, the interviewees did not have an idea or ever consider other older design disciplines' ways of judging professional standards as a model for graphic design, because (for example) architects' registration examinations do not mainly test the subjective aspects (i.e. aesthetic), but mainly the objective aspects such as building law, site management,.. etc.

Summary

After the eight interviews with designers, 20 major categories emerged. Of these there were three for which there was 100% agreement among the graduate designers. All designers tended to believe that their work was wide in scope, from idea formation to execution. Also, they all believed that they are working in a harsh environment, and that design firm owners provide no proper training, exploiting them with long working hours with no extra monetary compensation. Interestingly,

the replies of the designers' Categories 2 & 3, the owners' Category 3 and academics' Category 3 concur, with 100% agreement for all three groups.

The second highest ranked questions attained between 88% and 75% agreement. These categories generally expressed designers' opinions that there are differences in knowledge and criteria of competence between academia and workplace; the difficult working situation (long working hours, tight deadlines, motivation and health issues); the co-existence of art and design concepts that are found in design institutes; but somehow this co-existence creates certain conflicts between owners and designers on how they judge criteria of design solutions for clients. The lowest-ranked categories agreed to by a majority of interviewees are between 63%-50%, in which the designers mainly expressed concerns about insufficient knowledge and skills learned from institutes that relate to practice in the workplace. Other opinions were related to the establishment of continuing professional learning and criteria of professional standards during the transitional period.

5.1.4 Final level of combined categories

The purpose of combining the categories of all three groups is to identify and combine those with similar concepts and leave others standalone, then to consolidate them all into one table for the next and final stage of analysis based on four major definitions of division: 1) Agreement; 2) Partial Agreement; 3) Disagreement; and 4) Contesting Perspectives.

Categories of similar concepts found in all THREE groups

There are six categories with similar concepts found among the three groups:
The first category was conceptualized by comments in all groups (Academic - Category 6; Employer- Category 5; Designer – Category 6) that, based on the interviewees' observation and experience, graduate designers are not regarded as generally competent in the workplace in the first few years. Thus, this category is written as *"Graduate designers in the first few working years are not considered competent".*

The second category related to a common view in all groups (Academic – Category 3; Employer – Categories 3 & 10; Designer – Categories 2 & 7) is that the difficult working environment makes it hard to nurture competent designers. In order to be specific, this category is simplified as *"Arduous workplace environment makes it hard to foster competence in designers"*.

The third category was conceptualized from similar concepts expressed in all groups, that competent designers are well-rounded and knowledgeable of clients' needs, though the Academic group (Category 14) has not provided a definition of 'well-rounded'. The Employers (Category 1) and Designers (Category 12) are able to describe a 'well-rounded' designer as a good communicator who is knowledgeable and capable of dealing with the internal and external environment. On the basis of the rationale, this category is labeled as *"A competent designer is knowledgeable and performs well in both internal and external environment".*

The fourth category conceptualized that "professional accreditation to measure competence of graphic designers should be formed" (Employer group - Category 18). In the Academic group (Category 15), this category was documented as "there is no standard measure of professional competence…", and in the Designer group (Category 20): "a measure of professional standard by certification would be good …" All these categories shared the same concept that a professional competence measure should exist. Therefore, this category is written as *"Certified competence measure for professional standard should be formed for the graphic design industry".*

The fifth category has conceptualized that all classes of respondent (Academic – Category 12; Employer – Category 14; Designer – Category 19) agreed that continuous professional learning should be provided to graduate designers. Overall, it is a common view of all groups that designers are expected to participate in further training in the workplace whether it is short- term or long-term. For the scope of this study, the category is written as *"Continuing professional learning is needed for graduate designers in the workplace".*

In the sixth category, all three groups (Academic – Category 13; Employer – Category 7; Designer – Category 14) share similar views that graduate designers have to take self-initiative to acquire additional knowledge. The information received implied that graduate designers in the workplace have to rely on their own strength, as there is no body responsible for providing them with support in this aspect. Thus, the category is written as "*Design graduates have to take self-initiative to expand their professional knowledge".*

Categories with similar concepts found in TWO groups

There are seven categories where similar views were found in two groups:
In the first category**,** the Employers (Category 4) and Designers (Category 1) both commented that the scope of graphic design practice is wide, covering many aspects in the design process, most of which graduate designers would attempt to work on. The employers said they would allow entry-level designers to try out most aspects, and the Designers admitted that the scope of their work is wide, ranging

from idea formation to design completion. This category is written as *"Most employers would allow graduate designer to try out most aspects of the design process".*

In the second category, both the Academics (Category 8) and Designers (Category 4) reported that famous graphic designers have projected a mixed image of artist and professional designer. The Academics commented that these famous designers as role-models have influenced graduates to a considerable extent. The Designers commented that the most famous designers have mixed images with distinguished visual style. This category therefore is written as "*Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates*".

In the third category, the Employers (Category 15) and Designers (Category 10) shared a common view on how to judge the competence of designers at the workplace. Although the Employers commented that competence measure was based on business contribution towards the company, and Designers asserted that performance was judged by ability in dealing with workload under a certain timeframe. The Employers' conception of 'Competence' and 'Performance' of the designer are also quite similar, as performance is seen as the ability of designers make explicit. Therefore, this category is formulated as **"***Criteria of assessing a competent designer is based on business contribution driven by his/her ability to work overtime and efficiently*".

In the fourth category, both the Academics (Category 9) and the Designers (Categories 8, 16, 17) found that the learning and *competence criteria* (see Appendix 4: Glossary) of the industry are different than those of academia. The Designers said that students are free to do something of personal interest at college, while at work the idea of the design is bounded by the client's demand. The design course merely equips the design graduate with basic knowledge and skills, but the workplace demanded that designers put this knowledge and these skills into

practice. Based on what the Academics concluded, this concept is formulated as "*Competence criteria in academia are different from practice at workplace"*.

In the fifth category, the Employers (Category 17) commented that graduates could not differentiate art and design concepts in the business world. Graduates thought having a personal style is useful. The Designers (Categories 5 and 18) echoed the comments of the employers that most graduate designers would like to develop their personal style at work. However, their visual style is often rejected by the clients. In such rationale, this category is formulated as "*Most graduates like to develop their own style at work, but owners criticize them for not knowing the business meaning of design*".

In the sixth category, both the Academics (Categories 4 and 10) and Designers (Category 3) commented that employers should have the main responsibility for guiding graduates in professional training, but none of the employers they knew have fulfilled this role. The Designers commented further that not only do the employers not fulfill their training responsibility, they also exploited designers. This category is therefore formulated as "*Employers have the training responsibility but do not fulfill it and mistreat graduates*".

In the seventh Category, the Employers (Category 12) commented that clients do not respect the graphic design profession. The Designers (Category 13) commented that graphic design has an overall lower professional status and pay scale compared to other professions. With such a concept, this category is captioned as *"Graphic design has not been respected and recognized as professional in general".*

Categories found in ONE group

There are 15 standalone categories which are found in only one of the three groups. A likely reason is that either the interviewees have unique knowledge of their positions that other stakeholders do not possess, or that the interviewees described their unique experiences from their perspectives in the transition that other stakeholders do not see and experience.

The combined categories matrix table

Eventually, all categories common to one, two or all three groups were consolidated into one final matrix table below (Table 5.1.7). There are 28 categories in total. Categories 1 to 6 all have similar concepts and there is agreement between all three groups of participants. Categories 7 to 13 have similar concepts but are found in only two of the three groups. Categories 14 to 28 are standalone categories with individual ideas in each of three groups. All categories were arranged in order according to the percentages of agreement and among groups with higher percentages in higher ranked positions.

Category	Academic	Employer	Designer
1) Arduous workplace environment makes it hard to foster competence in designers	**100%**	**86%**	**94%**
2) Graduate designers in the first few working years are not considered competent	**86%**	**86%**	**88%**
3) Design graduates have to take self-initiative to expand their professional knowledge	**71%**	**86%**	**75%**
4) Continuing professional learning is needed for graduate designers in the workplace	**71%**	**71%**	**63%**
5) A competent designer is knowledgeable and performs well in both internal and external environment	**57%**	**100%**	**75%**
6) Certified competence measure for professional standard should be formed for the graphic design industry	**57%**	**57%**	**50%**
7) Most employers would allow graduate designer to try out most aspects of design process		**86%**	**100%**
8) Employers have the training responsibility but do not fulfill it and mistreat graduates	**86%**		**100%**
9) Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates	**71%**		**88%**
10) Criteria of assessing competent designer are based on business contribution driven by his/her ability to work overtime and efficiently		**71%**	**75%**
11) Graphic designer has not been respected and recognized as professional in general		**71%**	**75%**
12) Competence criteria in academia are different from practice at workplace	**71%**		**69%**
13) Most graduates like to develop their own style at work, but owners criticize them for not knowing the business meaning of design		**57%**	**76%**
14) Bureaucratic approval procedure for curriculum design	**100%**		

15) Holistic approach related to professional ,social , cultural, business and personal factors	**100%**		
16) The curriculum equips graduates to become competent designer for the long term	**86%**		
17) Curriculum provides graduates with professional competence at entry-level	**71%**		
18) Responsibility of an educator is to inspire graduate designers, not to assist professional development in design industry	**71%**		
19) No external or internal training programme is offered, mainly on-the-job training		**100%**	
20) In the first 3 years of employment, junior designer may switch jobs three times or more		**86%**	
21) In the first three years, there is no firm promotion scheme and no big jump in salary		**71%**	
22) Many company owners will not train entry-level designers, as they do not want to invest in them		**71%**	
23) The majority of employers think they do not have responsibilities in training graduates for professional practice		**71%**	
24) For entry-level designer, attitude is the most important quality for getting employed		**57%**	
25) Although design students learn to do research at college; in the workplace, the client/employer seldom allows the designers enough time to do it			**75%**
26) The concepts of art and design being together are ambiguous in design institutes			**75%**
27) Non-negotiable long working hours in current graphic design practice need to be restricted			**75%**
28) There is useful professional knowledge which is not well taught at institutes, but which could help us to understand the professional world better			**63%**

Table 5.1.7: Combined categories of all stakeholders

These categories represent only the findings related to the focus of this study. The categories show similarities between stakeholders' perspectives, knowledge and opinions and concepts related to the study, whether they appear in three, two or even one group. These categories are indicated with a black bar with the percentage of similarity (based on agreed numbers of interviewees of each group). However, the 'empty' boxes with no black bars do not indicate that the stakeholders disagree with the categories. Rather, they tend to represent that these categories are not obviously equally important to the interviewees in all groups.

5.1.5 Four main divisions

The purpose of identifying the four main divisions (Agreement, Partial Agreement, Disagreement, Contesting perspectives) is to summarize the qualitative findings. Findings of the main divisions in particular are used to demonstrate the similarities and differences in views and beliefs of the different categories of stakeholders. These beliefs may reflect the diversity of practice in respect to the involvement in training in the transition.

This study has taken a qualitatively-driven mixed method approach (QUAL → quan) as the best way to answer the research questions. All categories of the four divisions from the qualitative findings were able to address the research questions previously designed. Hence, this section also covers the preliminary analysis of how the research questions are answered by the categories.

Agreement

Referring to the Matrix Table 5.1.7, there are six categories (from 1 to 6), where there is agreement between respondents in all three of the stakeholder groups, arising from the similar perceptions among the stakeholders. It means that the stakeholders show similar perspectives, experiences, beliefs, and interests regarding 'the transition' from academia to professional practice. For example, on the basis of actual experiences and perceptions, all stakeholders believed that "*Arduous workplace environment makes it hard to foster competence in designers"* (Category 1), and *"Graduate designers in the first few working years are not considered competent"* (Category 2). In fact, the employers and designers are the ones actually present in the workplace to experience the scenario, not the academics. But academics may believe these ideas based on their perceptions. In Categories 4 and 6, the ideas are about continuous learning and competence criteria for the future. In these categories, all stakeholders agreed with the similar concepts not based on their experiences (because the concepts have not been realized yet in practice), but potentially based on their beliefs and self-interest.

Partial Agreement

Partial agreement means that similar perceptions are found within two stakeholder groups only (see the Table 5.1.8 below). This could also imply that one of the stakeholder groups does not possess certain knowledge or experience in that field, or even that the stakeholders do not hold the same perspective as others, which in turn is grounded in the different beliefs, blind spots or self-interest of the three groups.

Category	Academic	Employer	Designer
7) Most employers would allow graduate designer to try out most aspects of the design process		**86%**	**100%**
8) Employers have the training responsibility but do not fulfill it and mistreat graduates	**86%**		**100%**
9) Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates	**71%**		**88%**
10) Criteria of assessing competent designer are based on business contribution driven by his/her ability to work overtime and efficiently		**71%**	**75%**
11) Graphic designer has not been respected and recognized as professional in general		**71%**	**75%**
12) Competence criteria in academia are different from practice at workplace	**71%**		**69%**
13) Most graduates like to develop their own style at work, but owners criticize them for not knowing the business meaning of design		**57%**	**76%**

Table 5.1.8: Partial agreement

Disagreement

The most controversial categories among the stakeholders are shown in the Table 5.1.9 below. Majorities of Academics and Designers interviewees both believe the Employers have the main responsibility for training graduate designers, but that Employers do not fulfill this responsibility. The Employers on the other hand do not believe they have this responsibility.

Category 8	Employers have the training responsibility but do not fulfill it and mistreat graduates	**Academics & Designers**	**Category 22** **Category 23**	Many company owners will not train entry-level designers, as they do not want to invest in them The majority of employers think they do not have responsibilities in training graduates for professional practice	**Employers**

Table 5.1.9: Disagreement

Academic interviewees (Category 10 of Academic individual group) reckoned that there is a 'learning gap' between academia and the industry, that graduates have no practical knowledge that enables them to survive in the workplace, and that graduates should grow and learn rapidly relying on the training provided by the Employers. Furthermore, Designers (Categories 3 and 7 of Designer individual group) believed that most employers have not taken responsibility for training designers, and instead the designers are being exploited. On the contrary, the Employers (Categories 11 and 13 of Owner individual group) indicated that most employers (especially SMEs) have not thought of their involvement in training, because they are in a purely business relationship with the graduates and there is no real business benefit to the company from training.

Contesting perspectives

On the basis of the analysis of the perceptions generated from the stakeholders, the Table 5.1.10 below shows various categories which seem to be in dispute among different stakeholder groups, as stakeholders from the different groups held different perspectives on their role, some specific knowledge from their job positions, or various experiences and beliefs.

Category 9	Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates	**Academic & Designer**		**Category 5**	A competent designer is knowledgeable and performs well in both internal and external environment	**Employer, Academic & Designer**
Category 26	The concepts of art and design being together are ambiguous in design institutes	**Designer**		**Category 10**	Criteria of assessing competent designer are based on business contribution driven by his/her ability to work overtime and efficiently	**Employer & Designer**

Category 17	Curriculum provides graduates with professional competence at entry-level	**Academic**		**Category 22**	Many company owners will not train entry-level designers, as they do not want to invest in them	**Employer**
Category 16	The curriculum equips graduates to become competent designer for the long term			**Category 23**	The majority of employers think they do not have responsibilities in training graduates for professional practice	
Category 18	Responsibility of an educator is to inspire graduate designers, not to assist professional development in design industry					

Category 15	Holistic approach related to professional ,social , cultural, business and personal factors	**Academic**		**Category 10**	Criteria of assessing competent designer are based on business contribution driven by his/her ability to work overtime and efficiently	**Employer & Designer**
Category 13	Most graduates like to develop their own style at work, but owners criticize them for not knowing the business meaning of design	**Employer & Designer**				
Category 12	Competence criteria in academia are different from practice at workplace	**Academic & Designer**				
Category 8	Employers have the training responsibility but do not fulfill it and mistreat graduates	**Academic & Designer**		**Category 20**	In the first 3 years of employment, junior designer may switch jobs three times or more	**Employer**

Table 5.1.10: Contesting perspectives

For example, in Categories 9 and 26, Academics and Designers believe that the combined image of artist and designer of the most famous designers may have been influencing the graduates, and Designers expressed the opinion that mixed ambiguous concepts of art and design may also be taught in education institutes. These qualities could be incompatible with Category 5, in which all three stakeholder groups agreed that the competence of a designer should be judged on the basis of business values. Category 10, which states that a competent designer is required to be open-minded, have business knowledge, be a team player, and work efficiently for the team and client is also potentially at odds with Categories 9 and 26.

There seems to be an obvious 'training gap' caused by the conflicting opinions and values of Academics reflected in Categories 16, 17 and 18 as contrasted with the Employers' opinions in Categories 22 and 23. The gap shows that no stakeholders take up the immediate responsibility for the training of graduates during the transition when they first arrive at the workplace. Graduates have to rely on themselves. As illustrated by the points raised by Academics, curriculum design could enhance long-term competence, but in practical terms the curriculum is designed to prepare designers for the point of entry to the industry only. On the contrary, the Employers do not agree that it is their responsibility to take up the training role because they consider their relationship with graduate designers as purely business related.

Another disagreement seems to appear in relation to the discrepancies in criteria for judging competence of graduates by respective stakeholders. Both the Employers and the Designers (Category 10) commented that competence is judged purely in terms of business values, working attitude (willingness to work overtime) and sense of urgency. In other words, the company would receive design business fees promptly if designers could finish projects with a quick turnaround against tight deadlines. The competence measure is very narrow, short term and utilitarian. In contrast, in Category 15 of Academia, students' learning is based on many aspects which relate to professional, social, cultural, business and personal factors. The

Academics asserted that the objective of the curriculum is to cover broad areas, to prepare the students for short and long term professional development. Hence, Academics view graduates' competence as a broader and longer term personal development, which involves a continual process to learn how to adapt to future changes, not simply for short term utility objective as viewed by the Employer.

Another conflicting view is on the basis of the individual stakeholders' perspectives, self-interest and working attitudes. Academics and Designers share the same view (Category 8) that the Employers mainly exploit the graduate designers with heavy workloads and long working hours, not willing to fulfill the role in training. However, in the Employers' perspective (Category 20), training is a waste of the company's resources, since the graduate designers do not stay in a company for very long. The majority of interviewees of employers asserted that a junior designer will have switched jobs between 3 to 4 companies in the first three years. Some fresh graduates might only stay in a company for 3 to 6 months, or one year at most. The employers would probably choose to utilize them to the fullest extent within such a short business relationship.

Conclusion

Having gone through the Final Level of Analysis, 28 categories were filtered and formed. The function of the analysis was to combine all categories of three cases in order to identify and combine those with similar perceptions and left others standalone. Overall, there were six categories with similar perceptions found in three groups, seven categories found in two groups, and fifteen found in one group. Consequently, these 28 categories formed the backbone for the analysis of Four Main Divisions (Agreement, Partial Agreement, Disagreement and Contesting Perspectives). The purpose of identifying these categories was to summarize the similarities and differences in stakeholders' perspectives and beliefs regarding the transition in which the learning and training gaps arise.

5.1.6 Summary

In this section, the framework for analyzing the qualitative findings consists of three levels of analysis:

1) 1st Level of analysis – many sets of tentative categories (within-group analysis)

2) 2nd Level of analysis – three major lists of categories (within-group analysis)

3) 3rd (Final) Level of analysis – one combined category (cross-group analysis)

The Academics' list generated 15 categories of perceptions and opinions, the Employers' list has 18 categories and the Designers' list has 20 categories. In the third cross-group analysis, all categories of stakeholders were combined into one big matrix table of categories in order to identify the similar and standalone categories. Eventually, all similar and different categories were divided into Four Main Divisions.

As mentioned before, qualitative interview method was the 'core component' which was proposed to answer all research questions. Therefore, on the basis of the research questions which were developed in the Methodology chapter, 25 out of the 28 categories are relevant to answer the four main research questions. This means that the structure of the semi-structured interviews was valid and effective.

These 25 categories were input into the matrix table of research questions below (see Table 5.1.11. The meaning of the number of categories refers back to Table 5.1.7. The numbers in 'Red' colour indicated the divisions in 'agreement' among stakeholders). The table gives a preliminary overview of qualitative findings in answering the main research questions. The bottom matrix table also includes the categories with new insights.

Research question & new insight	Academic category	Employer category	Designer category
RQ.1. What do Hong Kong graduate designers, design academics, and design firm employers understand by 'competence' and 'professional training' of graduate graphic designers undergoing the transition from tertiary education to professional practice?	2, 5, 12, 14, 15, 16, 17	2, 5, 7,19	2, 5, 7, 12, 28
RQ.2. What do academics and design firm employers perceive as their role and responsibility in the professional training of graphic design graduates?	8, 18	19, 21, 22, 23	8
RQ.3.What are the learning and working experiences of graduate designers in the transition?	1, 3, 8	1, 3, 10, 11, 20, 21	1, 3, 8, 10, 11
RQ.4. What potential changes in design academia and professional practice may encourage the improvement of the learning and working conditions in the transition of the graphic design graduates?	4,6	4,6,	4,6,27
New Insight developed through interviews	9	13	9, 13, 26

Table 5.1.11: Qualitative findings categories relevant to answering the main research questions

All these qualitative findings were ready to be taken to the next stage of quantitative survey to test validity. The detailed discussion of the quantitative findings is illustrated in the next sub chapter 5.2.

5.2 Quantitative findings

This sub chapter consists of four sections which explain the quantitative research process from start to finish. The first section describes the development of the quantitative research statements based on the qualitative findings (i.e. the 'categories' mentioned in the previous sub chapter). The second section discusses the data collection instrument and method, especially the '5-point Likert scale'. The scale was integrated with the research statements to form the questionnaire survey for the respondents to express their opinions. The third section explains the statistical and background information gathered from the 100 respondents who were graduate designers with up to 3 years' working experience after graduation from various academic levels and institutes . The fourth section outlines the data analysis and interpretation of the results. The results are in the form of bar charts, using statistical measures such as Mean and Standard Deviation to enhance the analysis. The fifth section analyzes, by using MANOVA (one of the statistical tools of SPSS), the overall statistical findings to check if there are any significant statistical differences among these respective academic groups which made up the overall 100 respondents (Higher Diploma, Degree, Top-up Degree). Finally, the findings lead to the conclusion that the distribution of viewpoints is significant and can be classified into six major groups. These serve to support findings relevant to the major research questions of this study, supporting the main qualitative findings developed in the previous chapter.

5.2.1 From qualitative categories to quantitative research statements

The purpose of the quantitative research conducted for this thesis is to test the validity of the qualitative categories developed from the previous chapter. In order to test the categories, research statements have to be developed from the categories into the format of questionnaire survey. As explained in section 4.6.1 of Chapter 4 and Fig.5.1 in the beginning of Chapter 5 'Mixed Method Findings', this second phase of quantitative research only involved one stakeholder group – graduate Designers. Having said that, this survey questionnaire could validate some of the categories from the Academic and Employer groups, as the survey

questionnaires were developed with the highest range of categories *agreed by either two or all* of the groups (see Table 5.1.7), while cross-checking is also feasible for some standalone categories of employers and academics.

The design of the research statements

Referring back to Section 5.1.6 (Summary) Tables 5.1.11 (Qualitative findings categories relevant to answering the main research questions), the significance of categories has emerged based on their contribution to answering the four research questions. In the first research question, certain significant trends have emerged: Employers, Graduate designers and Academics agree on the definition of competence. The objective of curriculum design is to provide a wide scope for learning, in order to prepare students for professional training. However, there are differences in the criteria of competence employed by academia and the graphic design industry. Overall, graduate designers are considered not competent in the first three years of the transition by firm employers and academics.

For the second research question, the categories indicate a lack of agreement on the respective responsibilities of the Employers and Academia for training, and a lack of opportunities for training and promotion offered by the Employers. The findings in regard to the third question revealed that some adverse outcomes are caused by the employers' not taking responsibility for training, the arduous working environment thus created, and trainee designers having to rely on themselves and believing that there were limited chances to nurture designers' development in the workplace. With regard to the fourth question, some strategies were suggested by the stakeholders for improving the current situation, such as continuing professional training in the transition and establishment of a competence measure. In addition, new insights have emerged, i.e. the significance of famous graphic designers' professional practice and their influence over graduates.

The abovementioned significant findings have informed the design of the questionnaire used for the quantitative component. Based on the trend in the findings above, and the need for statements in the questionnaire to which

respondents would find it easy to respond, the statements were designed to pass from the general to the specific. Thus, the list of questionnaire statements was ordered into three main sections: 1) The concept of competence; 2) The opinion on Hong Kong famous graphic designers' practice and their influence; 3) The general view of academic training; of the sharing of responsibilities between the employer and academic; of working conditions and how practice might be improved. The statements were simplified and specific: the intention was to test reactions of the respondents, whether they agree or disagree with these propositions. Table 5.2.1 below shows 29 research statements which were developed on the basis of the rationale mentioned above and grouped into three main focuses.

Part 1. Your opinion of competence	
1.	A competent graphic designer is knowledgeable about the client's needs
2.	A competent graphic designer is capable of project management
3.	A competent graphic designer is capable of design execution
4.	A competent graphic designer should understand various marketing strategies
5.	A competent graphic designer should possess a personal visual style
6.	Aesthetic appearance is the most important part of graphic design
7.	A graduate designer with 1 to 3 years' working experience is NOT a competent designer
Part 2. Your general opinion about graphic design and practice	
8.	Hong Kong's famous graphic designers have a distinctive artistic style and image like an artist
9.	Hong Kong's famous graphic designers have projected a professional designer image
10.	Hong Kong's famous graphic designers have influenced the design education in Hong Kong
11.	Whether graphic design is an art or a business function tool is confusing
12	I would like to develop my personal style at work but clients/employers often reject my work
13	Design institutes do not judge 'competence' in the same way as employers and clients in the design industry.
Part 3. Your opinion about some of these questions are general working experience in the design industry after graduation	
14	Employers demand that you work long hours (approx. 10-13 hours per day) with no overtime payment
15	Employers are concerned about your health condition from long working hours
16	Employers judge the competence level of graphic designers on the basis of the client's acceptance of the design options
17	Employers judge the competence level of graphic designers on the basis of the latter's willingness to work overtime, efficiency in producing quality and the quantity of design options
18	Employers have the main responsibility for training design graduates in the design industry
19	Your employer has arranged senior staff and time to train you at work
20	Your employer has taken up the responsibility of training design graduates in your company
21	Designers have to rely on their own initiative to find opportunities for further study, no actual help is offered by employers
22	You have no time to attend any training course related to design after work
23	Design course of your institute has prepared you with abilities to find the first design job only
24	Academic design programmes have equipped you with enough knowledge and skills for the first three working years in the industry
25	Lecturers have fulfilled their responsibility to teach you real design practice in the industry
26	The design course of your institute has equipped you to become a competent designer for a long-term career
27	Graphic design has NOT gained respectable professional status in Hong Kong
28	Professional qualification needs to be introduced in the design industry to qualify competence of graphic designers
29	Professional design training courses in the form of part-time study need be offered to design graduates in the first three years after graduation

Table 5.2.1: Research questionnaire of survey design for designers

5.2.2 Data collection and instrument

The respondents were asked to express their degree of agreement or disagreement with a series of statements on a scale from 1 to 5, where 1 means strong disagreement and 5 means strong agreement with the statement.

The 29 research statements of Table 5.2.1 are integrated with the Likert scale to form the questionnaire survey which is shown in Appendices 2 and 3. The survey has two versions: English and Chinese. In order to avoid ambiguity and make it easier to understand by the respondents, all of whom were Chinese, the survey was translated into Chinese from the original English version (see appendix 3). Pilot tests were then conducted prior to the actual research. Two graduate designers with working experience of a length similar to that of the target sample were asked to complete the questionnaire, and amendments were made on the basis of the respondents' recommendations.

5.2.3 Sampling

As mentioned in the Methodology chapter**,** the chosen sampling approach is the 'purposive sampling' with 'maximum variation' for both qualitative and quantitative research. It means that researchers use their previous research experience and judgment to decide which respondents should be included in the sample, in an attempt to select respondents who represent a typical sample of the population of the study. On the other hand, since various private, independent and government subsidized design institutes all produce 'entry-level' graduate designers, the general opinions from the design firm employers, academics and graduate designers were that the most competent graduate designers at entry level came from the institutes' programmes certified at Level 4 (L4) (higher diploma) and Level 5 (L5) (degree & top-up degree). Rationale of this selection has already been explained in Sections 4.5.2 & 4.6. Thus in this study, the 100 respondents invited to take part in the survey questionnaire were graduate designers with one to three years of working experience with L4 and L5 qualifications.

Years of experience of the respondents

In order to keep a good balance of years of experience of respondents, an approximation of percentages of respondents of different years' experience was settled on, with a view to keep the majority of respondents in the 1 and 2 year category. Less than one-quarter were from the under 6 months and 3 years categories respectively. Because the former are too inexperienced, and the latter are too mature to remember the working experience of the 'transition'. With this rationale, the pie chart below (Fig. 5.2.1) shows the spread of working experience of the respondents. 23% of respondents had less than six months' experience, 23% 1 year's experience, 36% 2 years' experience, and 18% 3 year of experience.

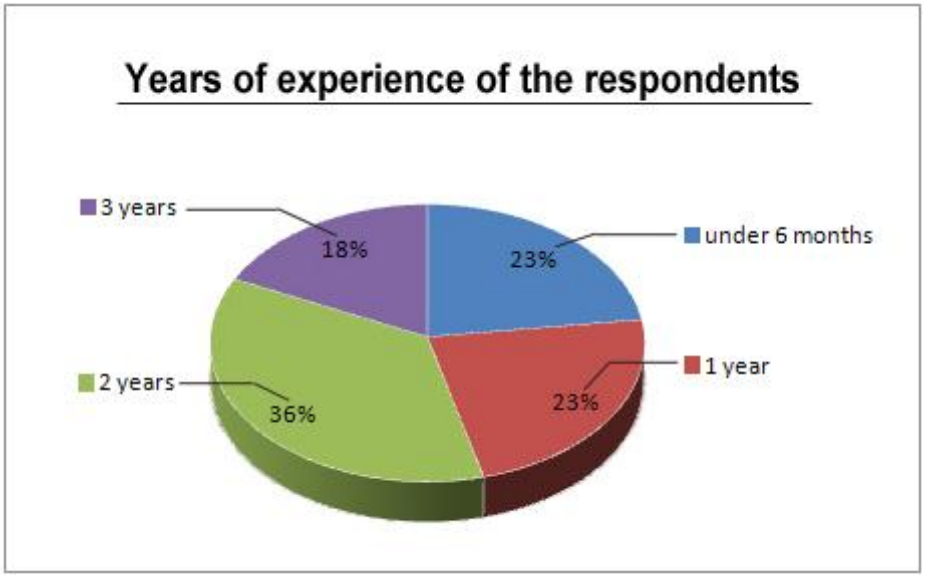


Fig. 5.2.1: Pie chart of years of experience of the respondents

Education of the respondents

In order to keep a good balance of percentage of 100 representative samplings, the estimated proportion of percentages of Level 4 and 5 graduates was determined beforehand. L5 degree level of the Hong Kong Polytechnic University (PolyU) is generally considered as the highest level of competence, and the Institute of Vocational Education (IVE)(now HKDI)(L4) represents the biggest population of graduate designers, who are also regarded as highly competent graduates. Thus the two institutes' graduates were selected to represent the largest proportion of the 100 representative samplings. As indicated in the pie chart below (Fig. 5.2.2.), 40% of the surveyed designers (the largest section) came from the PolyU, 28% (the second largest section) came from IVE (HKDI). The pie chart also shows the diversity of other institutes from which the L4 and L5, designers were selected. There were 17% that came from HKU SPACE which is the Community College of the Hong Kong University, and 6% came from SCOPE which is the Community College of the City University of Hong Kong. The remaining 9% were from various higher diploma and top-up degree courses offered by community colleges of other Hong Kong universities and design institutes.

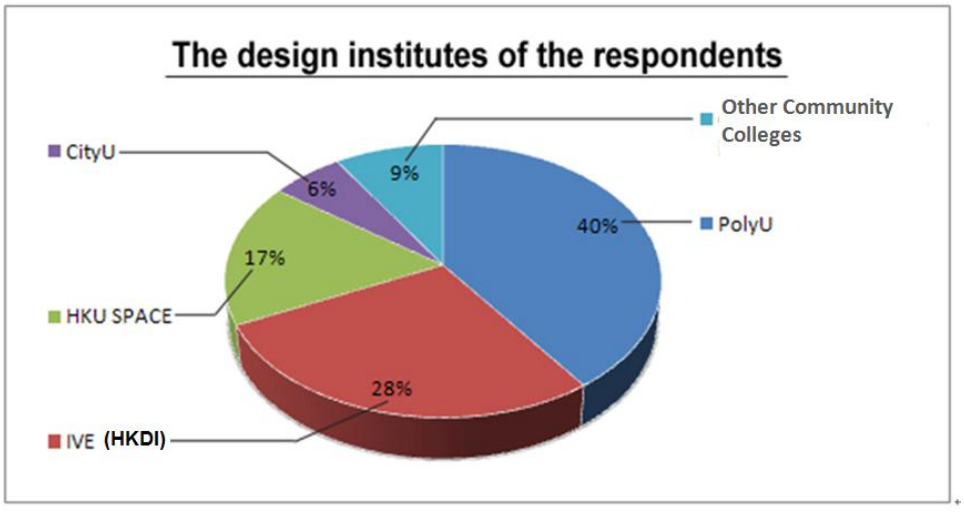


Fig. 5.2.2 Pie chart of the proportion of the design institutes

Qualifications of the respondents

The pie chart below (Fig. 5.2.3.) shows the balance of L4 to L5 qualification from Higher Diploma, Degree and Top-up Degree levels. As shown, 31% of respondents had obtained a higher diploma (L4) level qualification (majority from IVE), 32% with a degree (L5) (from the PolyU), 37% with a top-up degree awarded by PolyU or other top-up degree providers (i.e. community colleges of local universities and IVE) in collaboration with overseas universities.

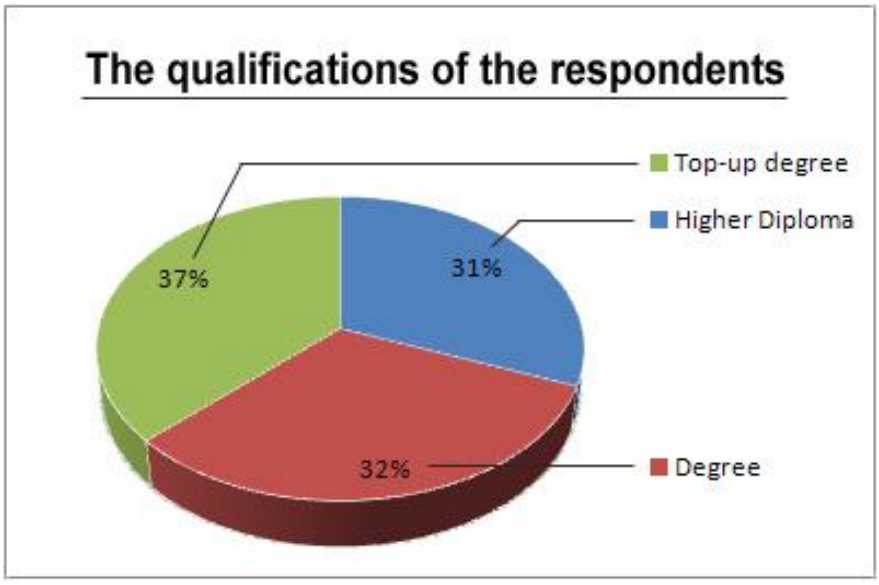


Fig. 5.2.3: Pie chart of the proportion of the respondents by qualifications

Nature of the respondents' company

The chart below (Fig. 5.2.4) shows the diverse distribution of the 100 respondents who worked in graphic design companies of various kinds (The selection of 100 respondents came from the telephone contacts of the graduation show booklets of various institutes between years of 2009-11. The respondents were filtered through phone confirmation, ensuring that they still worked in graphic design field in diverse capacity) . 28% of respondents worked for general graphic design companies, 21% in advertising design, 5% in brand design, 16% in multi-media design, and 30% in other types of companies with graphic design related work (such as in-house graphic designers of trading companies, printing and production firms).

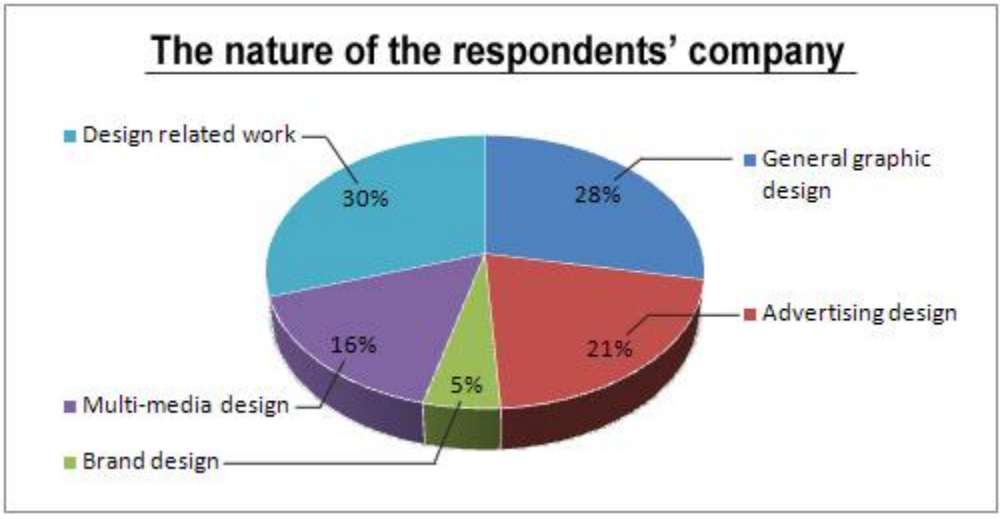


Fig.5.2.4: Pie chart of the proportion of the nature of the respondents' company

5.2.4 Data analysis and interpretation

When the 100 respondents' questionnaires were returned, the data were input and calculated through the Excel software. Eventually, individual bar charts, tables of percentage spread, mean and standard derivations were generated. Based on the analysis of these tables and charts, the significant trends of the findings were found, including: 1) Charts with strong trends of Agreement and Disagreement and 2) Charts of those with higher numbers of standard deviations, which indicated the spread of opinions was wide; or that two groups of respondents had very diverse opinions. In contrast, there were also charts indicating high numbers of No Opinion (NO) responses compared to Agreement and Disagreement. These charts indicated

no significant tendency. Consequently, the significant statistical charts were grouped into 6 categories as follows:

1) The meaning of competence
2) Employer's training responsibility
3) Academia's training responsibility
4) Working and learning situation
5) Professional development in future
6) Famous designers' professional practice

The meaning of competence

The following 4 charts are the results of the research statements (Fig.Q.1, Fig.Q.2, Fig.Q.3, Fig.Q.4) in which the majority of respondents showed a strong tendency to agree in their answers to the statements about a particular characteristic of a competent designer.

A large majority of designers (78%) strongly agreed with the statement in Fig.Q.1, and the mean score is 3.78. An equally large majority of designers (77%) gave a score of SA and A. in Fig.Q.2, with a mean of 3.86. In Fig.Q.3, a very large majority of designers (91%) gave a score of SA and A, the mean is 4.31. In Fig.Q.4, more than half of designers (57%) gave a score of SA and A, only 17% of designers scored SD and D. As shown in the Fig.Q.1 to Fig.Q.4 diagrams, the Standard Deviation for all questions is below 1, indicating a narrow spread of opinions. A majority of designers agreed to a proposition that a competent graphic designer has to be knowledgeable about a client's needs and capable in project management and design execution. In addition, he/she should have some knowledge of marketing strategies (more than half of designers (57%) agreed that this was important).

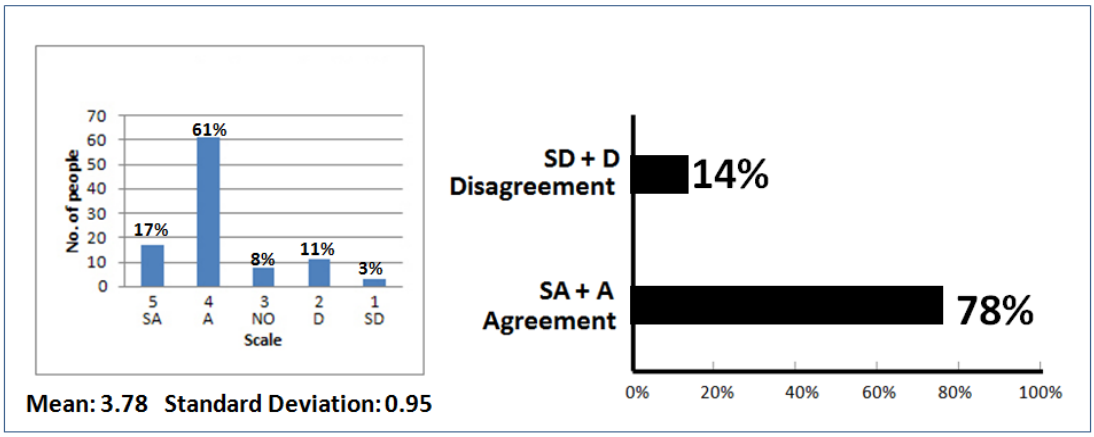


Fig.Q.1 A competent graphic designer is knowledgeable about the client's need

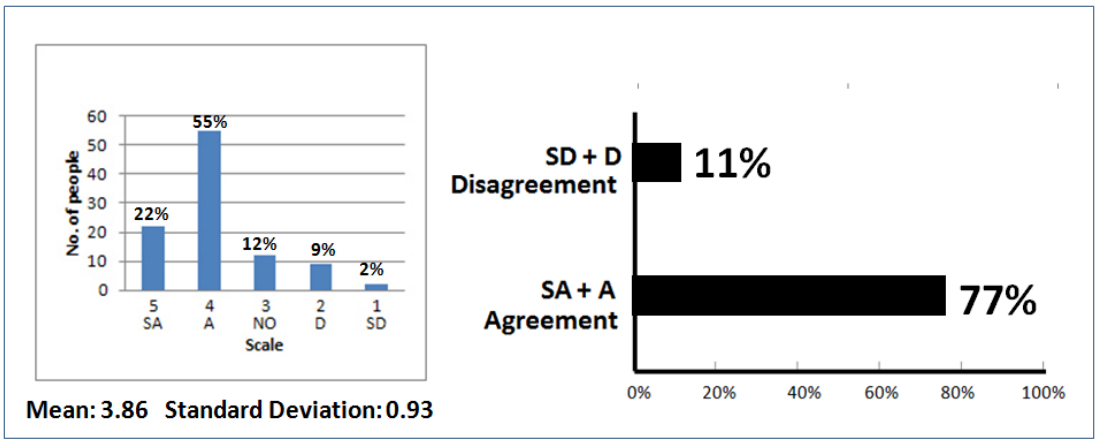


Fig.Q.2 A competent graphic designer is capable of project management

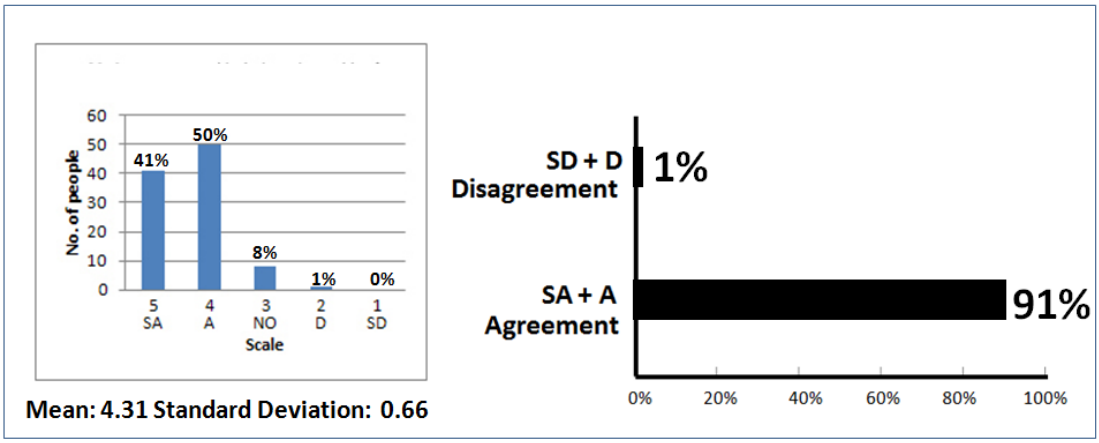


Fig.Q.3 A competent graphic designer is capable of design execution

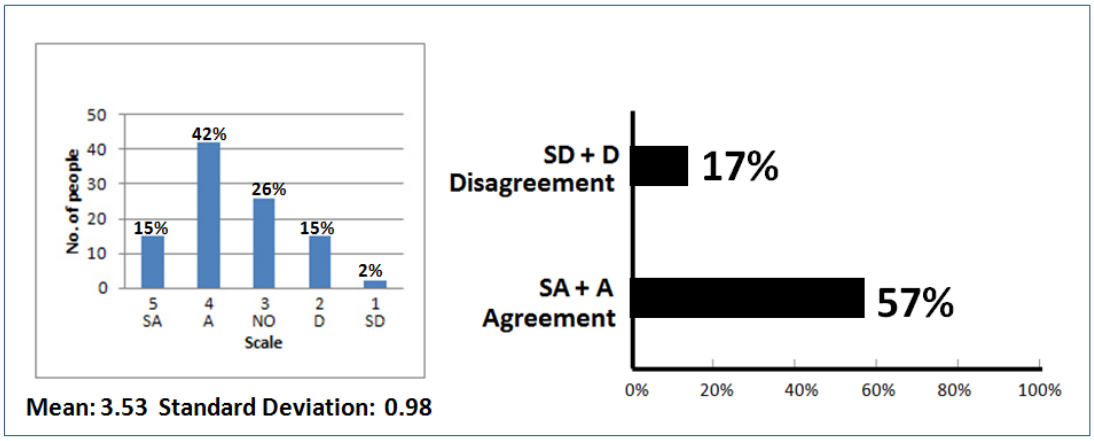


Fig.Q.4 A competent graphic designer should understand various marketing strategies

Apart from knowledge and skills, there are additional elements such as artistic style and aesthetic appearance of work which a majority of designers regarded as important qualities of a competent designer as shown in the diagrams of Fig.Q.5 and Fig.Q.6 below. A majority of designers (62%) gave a score of SA and A versus 13% of disagreement SD and D combined. The mean score is 3.60, indicating a rather common viewpoint that competent graphic designers should possess a personal style. In Fig.Q.6, a majority of designers (70%) gave a score of SA and A. The mean is 3.77. The standard deviation is 1.08 which indicates a somewhat wider spread of opinion than Fig.Q.5 (standard deviation: 0.92). However, a majority of designers indicated for Fig.Q.6 that aesthetic appearance is the most important aspect of graphic design.

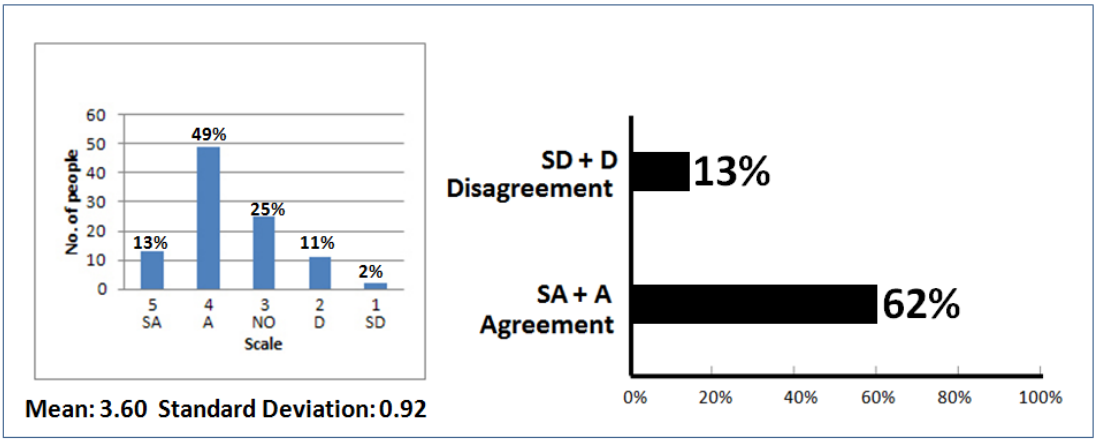


Fig.Q.5 A competent graphic designer should possess a personal visual style

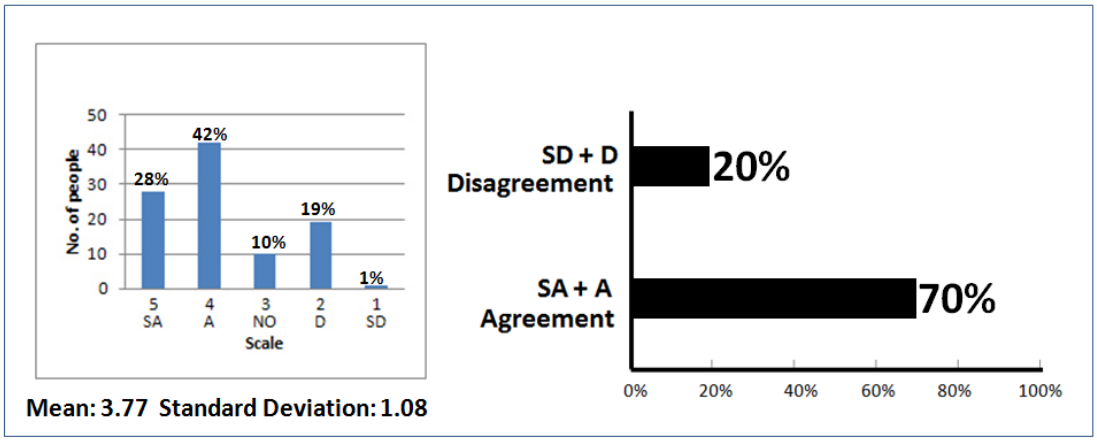


Fig.Q.6 Aesthetic appearance is the most important part of graphic design

In Fig.Q.7 below, more designers (59%) scored SD and D, and only 26% scored SA and A. The mean is 2.59. The standard deviation is 1.21 showing a wide distribution of opinions. Most designers disagreed with the proposition that graduate designers with 1 to 3 years' working experiences are NOT considered competent (Designer interviewees had the opposite view); they believed graduate designers with short working experience could still be competent.

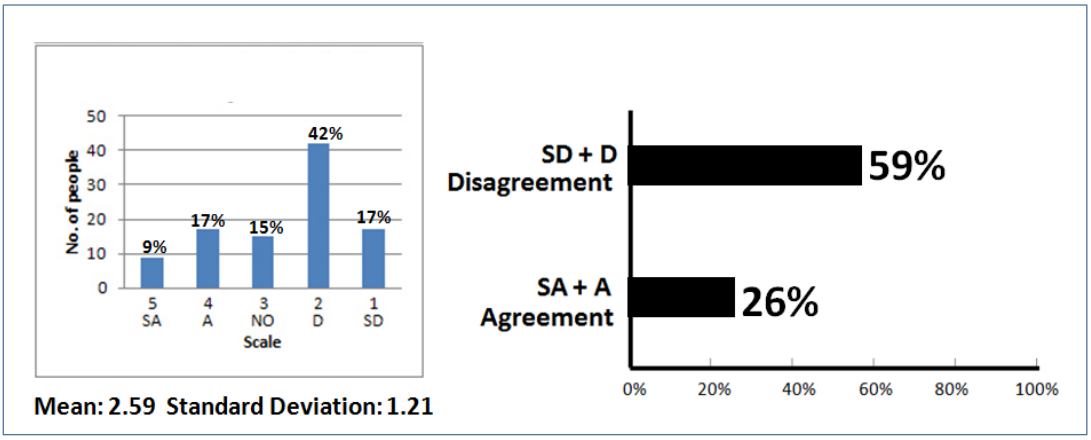


Fig.Q.7 A graduate designer with 1 to 3 years' working experience is NOT a competent designer

On the other hand, a majority of designers indicated that design academia and the design industry have different perspectives on the measure of competence. In the evidence shown in the Fig.Q.13 diagram below, 84% of scores are SA and A combined. The mean is 4.19 and the standard deviation is 0.82 so the spread of opinion is narrow. There is strong belief that criteria of competence used by employers and clients are different from those of the academia.

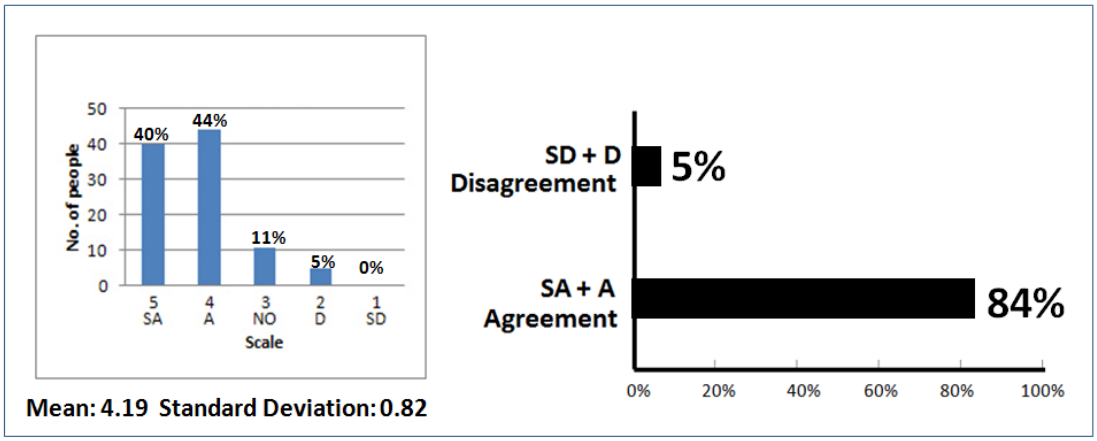


Fig.Q.13 Design institutes do not judge 'competence' in the same way as employers and clients in the design industry

In Fig.Q.16, designers were asked their opinion about whether employers judge the competence of a designer on the basis of the clients' acceptance of options the designer proposes. The SA and A scores aggregated are nearly half (49%) of respondents as compared to disagreement, with SD and D scores of 23% combined. The mean is 3.31 and the standard deviation is 1.04, a slightly wider spread of opinions. The data might suggest a possible argument that a client's acceptance could be only one of the factors employers use to judge the competence level of designer.

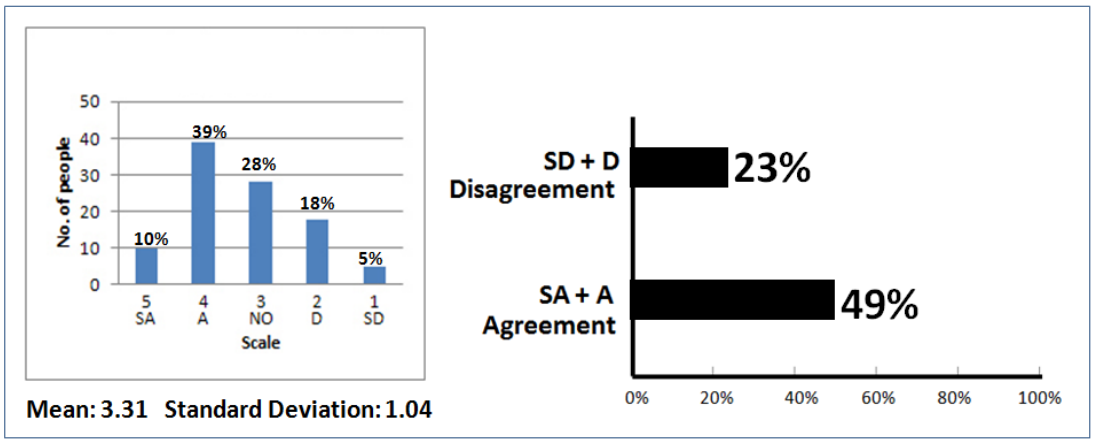


Fig.Q.16 Employers judge the competence level of graphic designers on the basis of the client's acceptance of the design options

In Fig.Q.17, the designers were asked their opinion of whether employers and clients judged the competence level of designers in terms of their willingness to work overtime and their efficiency in producing quality and quantity of designs. More than half of the designers (55%) agreed with the statement, versus 20% who disagreed. However, 25% of designers gave no Opinion (NO) as their answer to this statement. The mean is 3.50 and the standard deviation is 1.09 which is regarded

as a slightly wider spread of opinions among the designers. The statement could therefore be deemed as relatively uncontroversial based on the tendency where majority lean towards agreement.

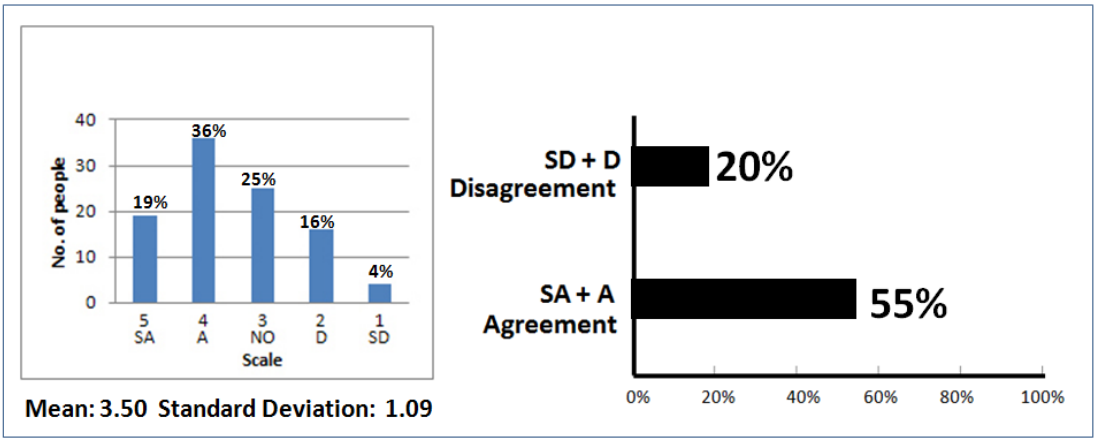


Fig.Q.17 Employers judge the competent level of graphic designers on the basis of the latter's willingness to work overtime, efficiency in producing quality and the quantity of design options

Training responsibility of employer

Another significant characteristic is the opinion on the employer's responsibility to train the graduate designers at the workplace. As shown in Fig.Q.18, a majority of designers (75%) gave a score of SA and A, with only 9% disagreeing. The mean is 3.92 and the standard deviation is 0.91, not a broad spread of opinions. Thus, the result indicates that a majority of designers believed employers have the main responsibility of training graduate designer at the workplace.

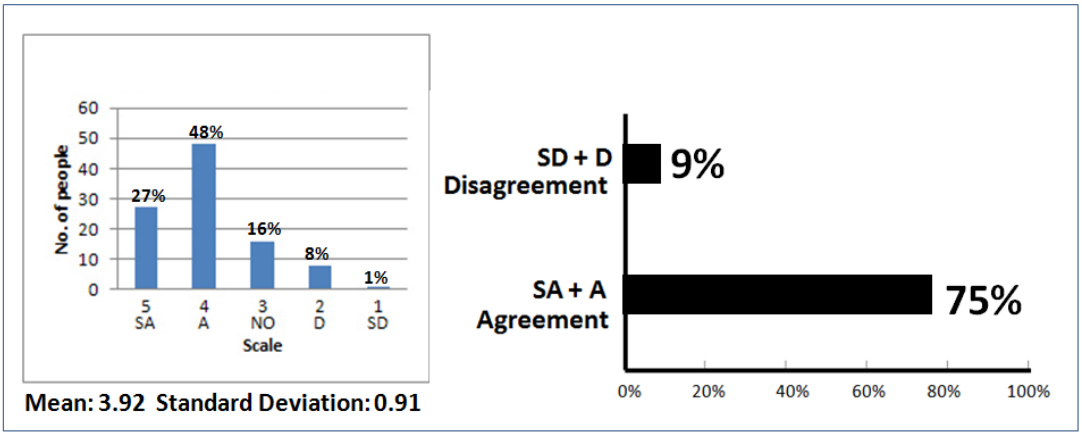


Fig.Q.18 Employer has the main responsibility for training design graduates in the design industry

However, there are divided opinions among designers on whether their employers have arranged senior colleagues to train them, or whether the employers have taken their training responsibility in the workplace seriously. The evidence as shown in Fig.Q.19 is that less than half of the designers (43%) gave a score of SA and A, whereas 32% answered SD and D. The mean is 3.17 and standard deviation is 1.10 which is regarded as a wide distribution of opinions. The percentage of those disagreeing or agreeing is higher than the 25% who gave no opinion. Overall, the statement gave rise to split opinions between two groups of designers.

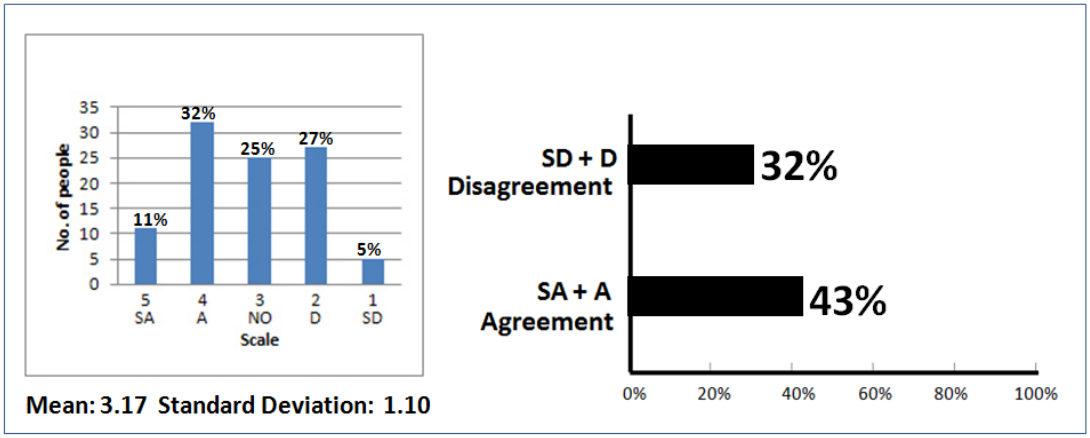


Fig.Q.19 Your employer has arranged senior staff and time to train you at work

In Fig.Q.20, a similar phenomenon occurs as mentioned above. Less than half of the designers (41%) replied SA and A, whereas 33% replied SD and D. The mean is 3.09 and the standard deviation is 1.03 indicating a modest spread of opinions. 26% of designers answered NO. However, a higher percentage agreed or disagreed than the percentage giving no opinion. Although the percentage of agreement is higher than disagreement, the results indicated divided opinions.

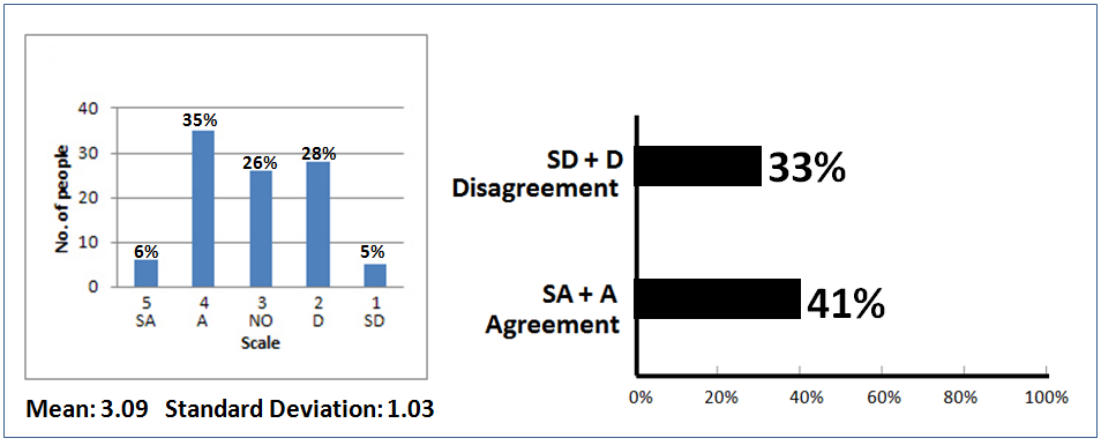


Fig.Q.20 Your Employer has taken up the responsibility of training design graduates in your company

Training responsibility of Academics

In the results of the following questions (Fig.Q.23, Fig.Q.24 and Fig.Q.25) on academia's training involvement, instead of a uniform opinion, there was a diversity of responses. For example, in Fig.Q.23, design graduates were asked if the design course had prepared them with only the basic abilities to find the first job. 37% of designers gave a score of SD and D, and 35% designers gave a score of SA and A, with only 2% difference between the two groups. The mean is 2.89, the standard deviation is 1.16 which is considered as a rather wide spread of opinions. The rest at 28% gave NO. Based on the analysis, the respondents' views are diverse.

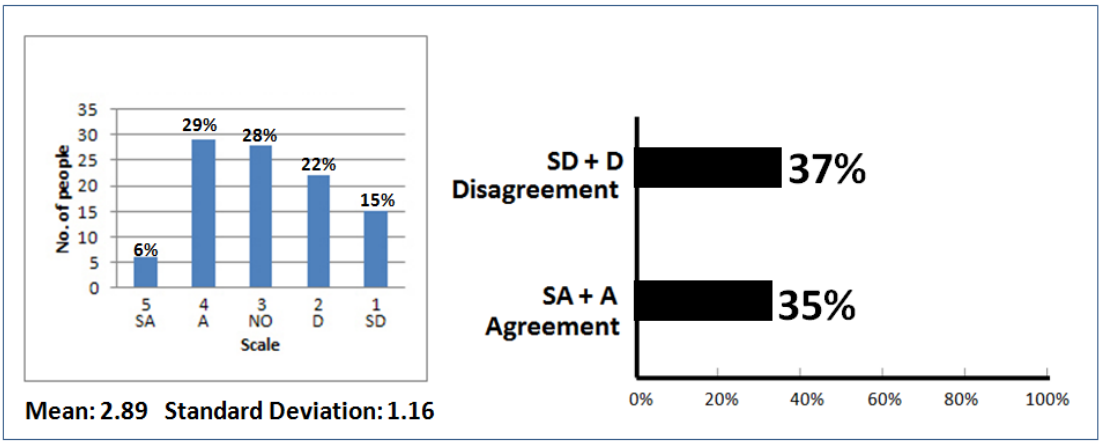


Fig.Q.23 Design course of your institute has prepared you with abilities to find the first design job only

On the contrary, in Fig.Q.24, when designers were asked to response to the statement that their design programme has prepared them with enough knowledge and skills for the first three years after they graduated, almost half of the designers (49%) replied SD and D as opposed to 33% who replied SA and A. 18% of designers chose NO. The mean is 2.69. The standard deviation is 1.11 which is deemed as a wide spread of opinion. However, there is a considerable number of respondents who, it seems, think the design programmes have not provided enough training to sustain their competence in the first three years in the industry.

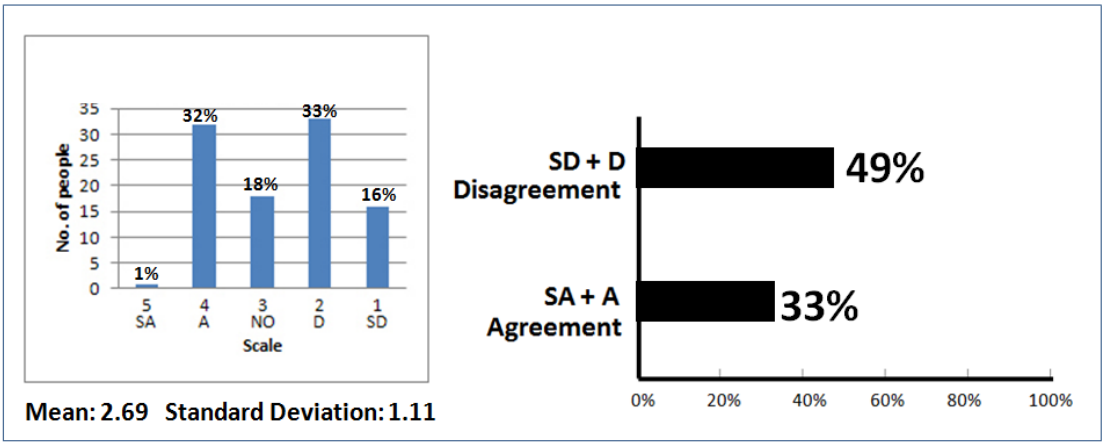


Fig.Q.24 Academic design programmes have equipped you with enough knowledge and skills for the first three working years in industry

In Fig.Q.25, designers were asked to respond to whether lecturers had fulfilled their teaching responsibility as regards professional practice. Only 40% gave a score of SA and A, as opposed to 30% replying SD and D, and 30% NO. The mean is 3.05 and standard deviation 1.01 which shows a slightly wide spread of opinions. Although no specific groups of opinion scored more than 50%, nevertheless there is a tendency toward agreement. In this case, the views of the designers are diverse.

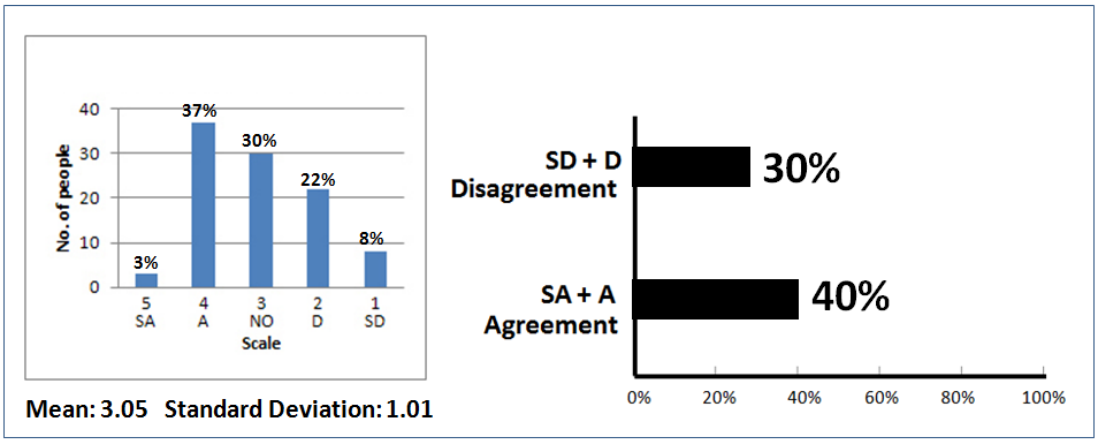


Fig.Q.25 Lecturers have fulfilled their responsibility to teach you real design practice in the industry

In Fig.Q.26, designers were asked to respond to whether the design course has equipped them to become competent designers for a long-term career. The percentage of designers who agreed (35%), disagreed (33%) and no opinion (32%) are rather similar. The mean is 2.95. The standard deviation is 0.97 which is not considered as a wide distribution of opinions. However, the percentages are quite equally spread among all divisions with no strong tendency concluded on any one opinion.

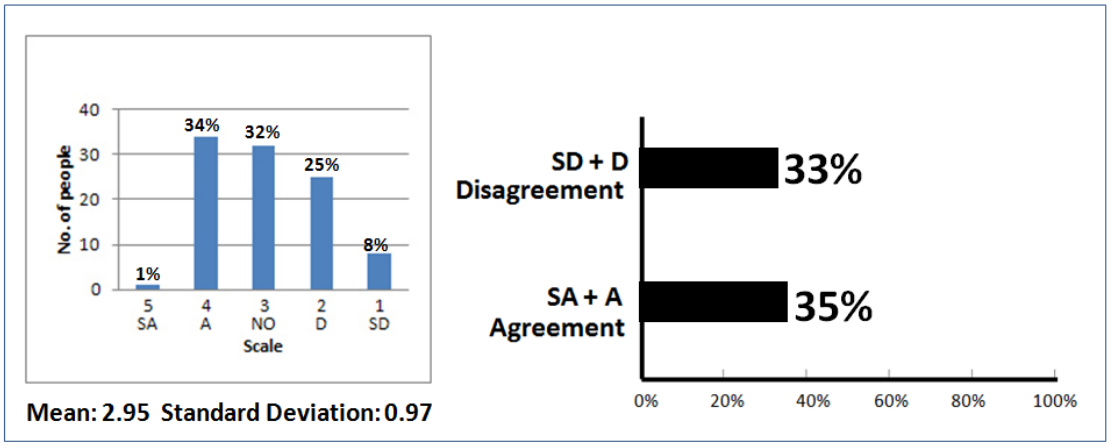


Fig.Q.26 The design course of your institute has equipped you to become a competent designer for a long-term career

Working and learning situation

For the next set of questions (Fig.Q.14, Fig.Q.22, Fig.Q.21), the responses from a majority of designers identified certain significant characteristics of the working and learning situation in the workplace. For example, in Fig.Q.14, they were asked whether the employers had demanded them to work long hours with no overtime payment, the majority (69%) gave a response of SA and A, as opposed to the 17% who gave a score of SD and D. Remarkably, 41% selected SA (see bar chart below). The mean is 3.87 and standard deviation is 1.16, so the spread of opinions is wide. The result indicated the majority of them admitted that their employers had demanded that they work long hours with no extra payment.

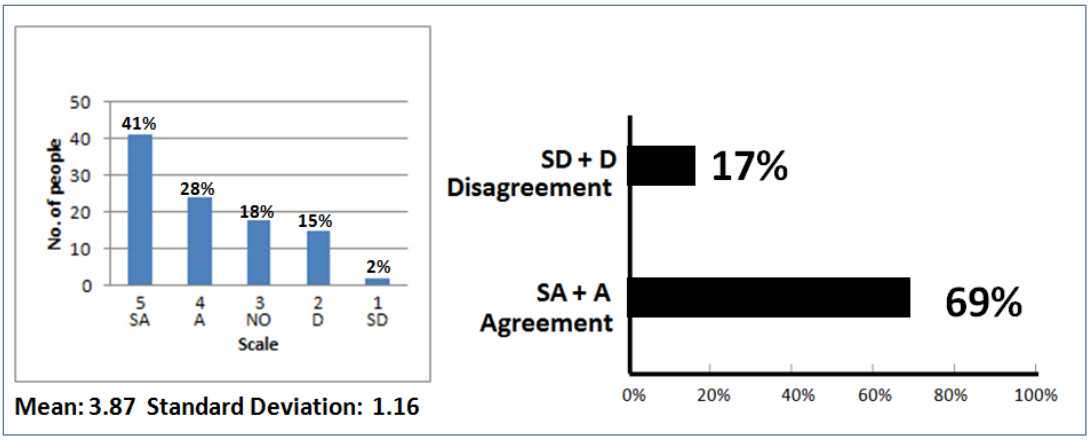


Fig.Q.14 Employers demand that you work long hours (approx. 10-13 hours per day) with no overtime payment

In Fig.Q.22 the results indicate that a majority of designers have no time to attend any training courses after work. 63% scored SA and A in the opposite to 23% choosing SD and D. Significantly, 32% selected SA, the highest bar on the chart. The

mean is 3.69 and the standard deviation is 1.20 which is considered as a very wide distribution. However, even with a wide distribution of opinions, the results have shown that the majority of designers had no time to attend training courses after work, probably due to average long working hours, the evidence of which shown in previous Fig.Q.14.

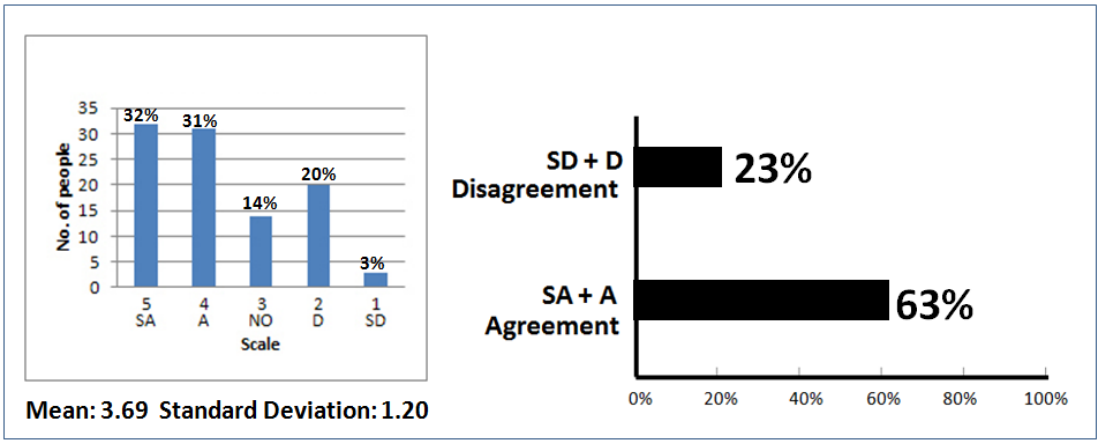


Fig.Q.22 You have no time to attend any training course related to design after work

In Fig.Q.21, designers were asked whether they have to rely on their own initiative to find further opportunities for study, without any help offered by the employer. 56% responded SA and A as opposed to 23% who responded SD and D. Particularly, 35% selected A which is the highest bar on the chart. The mean is 3.49 and the standard deviation is 1.15 which is considered a wide spread of opinions. As the results indicate, most designers are probably relying on their own initiative to seek further study as there is no substantial help offered by the employers.

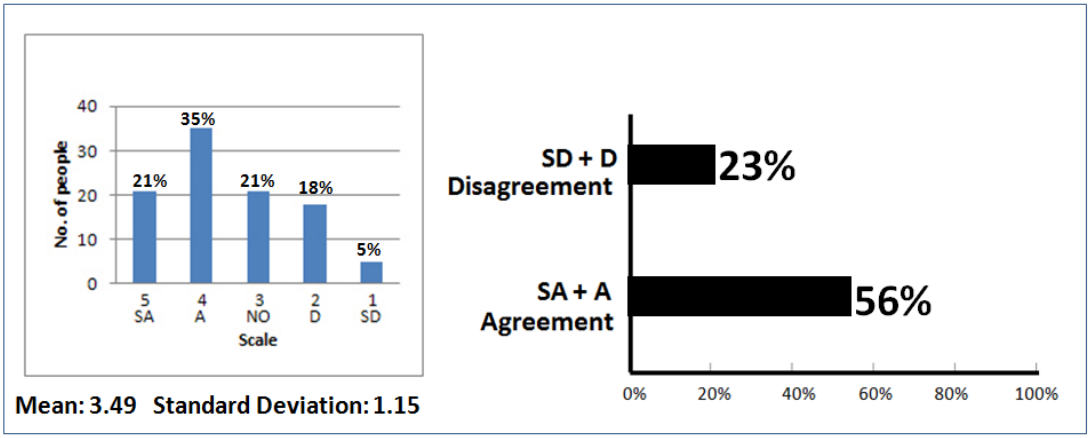


Fig.Q.21 Designers have to rely on their own initiative to find opportunities for further study, no actual help is offered by employer

Professional development in the future

The majority responded particularly strongly to the three questions on professional status and future professional learning in Fig.Q.27, Fig.Q.28 and Fig.Q.29. In Fig.Q.27, they were asked to respond to the proposition that graphic design has not gained respectable professional status in Hong Kong. The overwhelming majority (81%) answered SA and A, as opposed to 4% who scored D and SD. Significantly, almost half (48%) marked SA which is the highest bar among all, and none of the designers marked SD. The result indicates most designers believed that the graphic design field has not gained respectable professional status in Hong Kong.

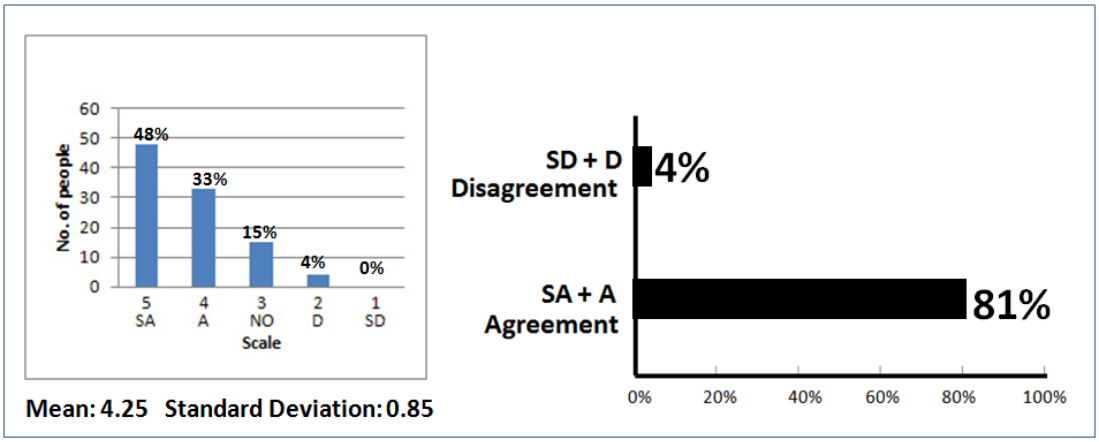


Fig.Q.27 Graphic design has NOT gained respectable professional status in Hong Kong

In Fig.Q.28, designers were asked whether professional qualification needs to be introduced in the design industry to certify the competence of graphic designer. A majority (77%) scored SA and A as opposed to 3% who scored D, while none scored SD. 47% scored A, which is the highest bar among all. The result reflects that the majority of designers believed there is a need for professional qualification to certify the competence of graphic designers. In general, the standard deviations for Fig.Q.27 & Fig.Q.28 do not show a wide spread of opinions, more towards one sided.

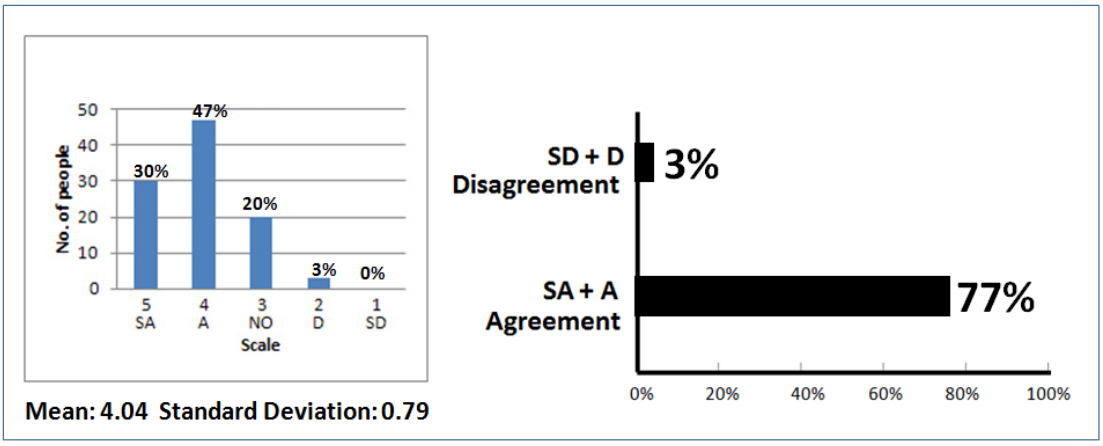


Fig.Q.28 Professional qualification needs to be introduced in the design industry to quality competence of graphic designers

In Fig.Q.29, designers were asked their opinion about the need for professional training courses (see Appendix 4: Glossary) to be offered to the design graduates in the first three years in form of part-time study. A majority (69%) scored SA and A as opposed to 12% who scored SD and D. Notably, almost half (45%) scored A. The standard deviation is 1.05 meaning a slightly wide spread exists in opinions. The results indicate that a substantial majority believed that there is a need to introduce professional learning courses within the first three working years.

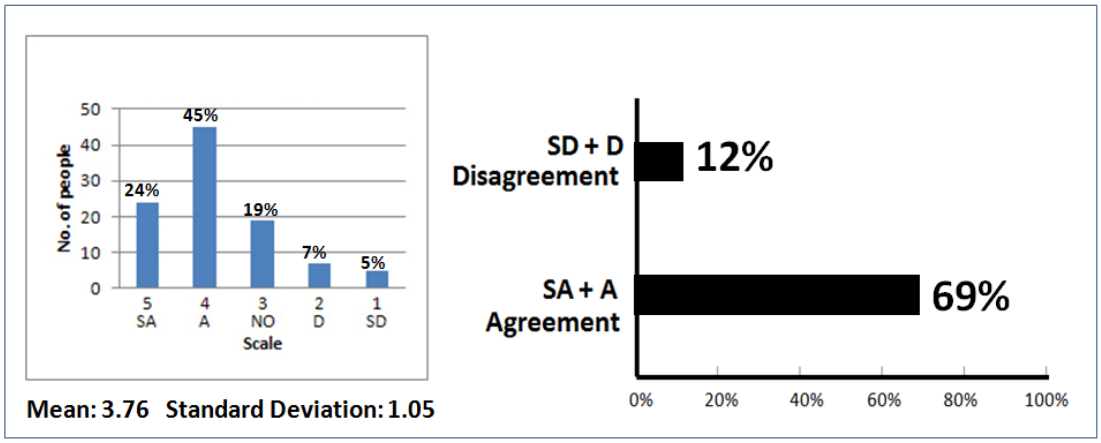


Fig.Q.29 Professional design training courses in the form of part-time study need be offered to design graduates in the first three years after graduation

Professional practice of famous designers

There were some interesting and conflicting responses to the statement about professional practice and influence of the famous graphic designers in Hong Kong. In Fig.Q.8 and Fig.Q.9, the results show that famous designers seem to have dual roles in their professional practice. In Fig.Q.8, when respondents were asked

whether famous graphic designers have a distinctive style like an artist, a majority (64%) scored SA and A, as opposed to 14% who scored SD and D. 51% chose A which has the highest bar. The result indicated that a majority of designers believe these famous designers have characteristics of artists. Similarly, half of them also indicated in Fig.Q.9 their belief that famous designers have projected a professional designer image. Half of them (51%) gave a score of SA and A, in contrast to 16% scoring SD and D. However, 33% gave a score of NO (the second highest score bar on the chart). The results seem to suggest that the statements are at least contested. Comparing results for Fig.Q.8 with Fig.Q.9, the majority (64%) believed famous designers are like artists, whereas in a separate question 51% considered them as professional designers.

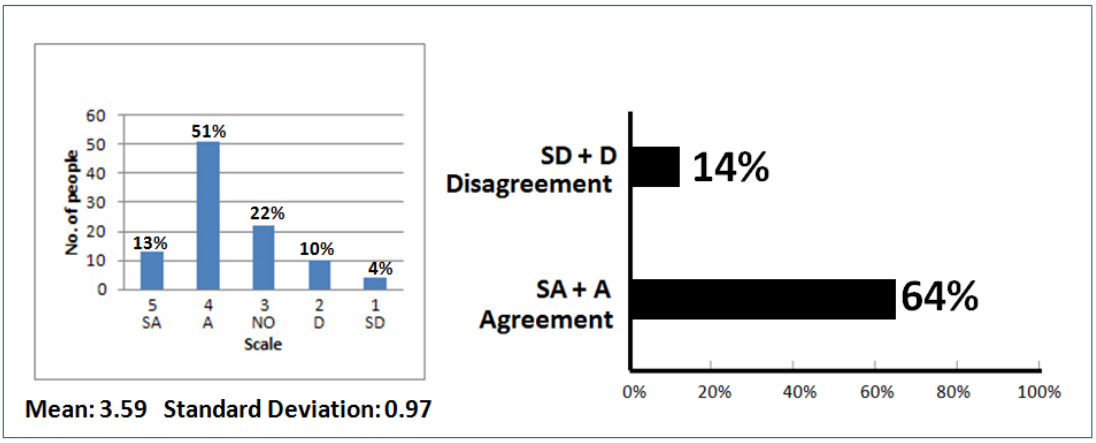


Fig.Q.8 Hong Kong's famous graphic designers have a distinctive artistic style and image like an artist

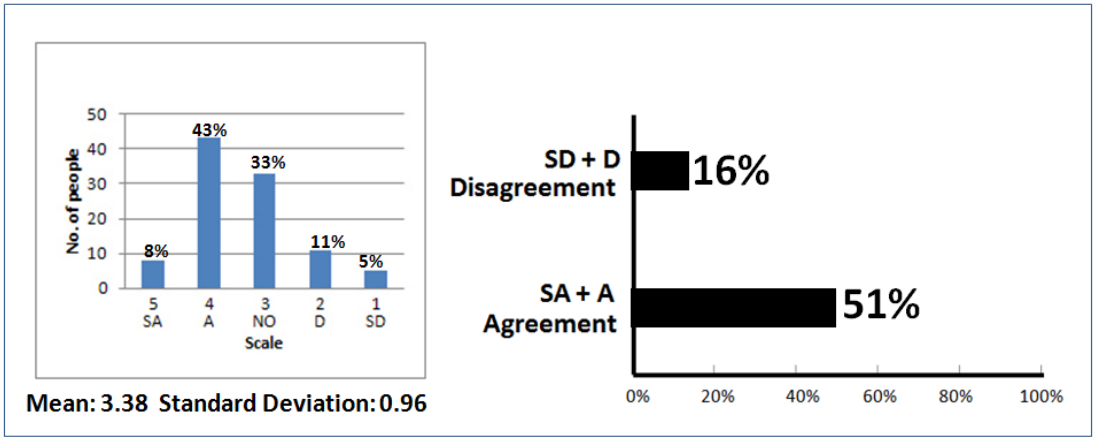


Fig.Q.9 Hong Kong's famous graphic designers have projected a professional designer image

The question of whether famous graphic designers have influenced design education in Hong Kong seemed rather debatable to the respondents. Less than half of them (40%) responded with SA and A to Fig.Q.10 in contrast to 35% who responded SD and D. The mean is 3.05 and the standard deviation is 1.13 which is

considered a wide distribution of opinion. The results show that two groups with diverse opinions exist, though slightly more designers believed that famous designers do have influence over Hong Kong design education.

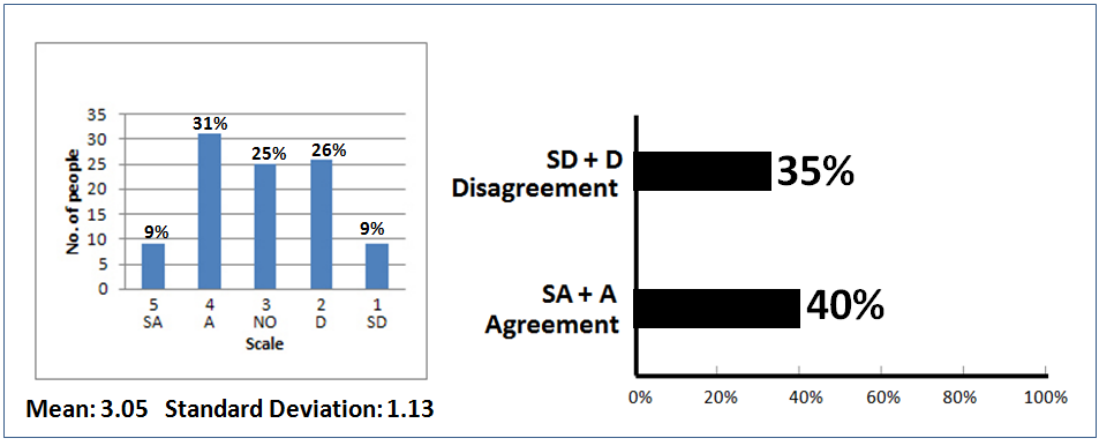


Fig.Q.10 Hong Kong's famous graphic designers have influenced the design education in Hong Kong

When asked whether they felt confused when considering whether graphic design is an art or a business function tool, opinions were rather diverse. In the responses to Fig.Q.11, the results show equal percentages, i.e. 37% of designers gave a score of SD and D, the same percentage as those who marked SA and A. The standard deviation is 1.03, indicating a slightly wide spread of opinions. The concentration within the groups was mainly on A and D. The members of the group that did not feel ambivalent may have already decided that graphic design is either an art or a functional too or it can be both. The other group was unsure.

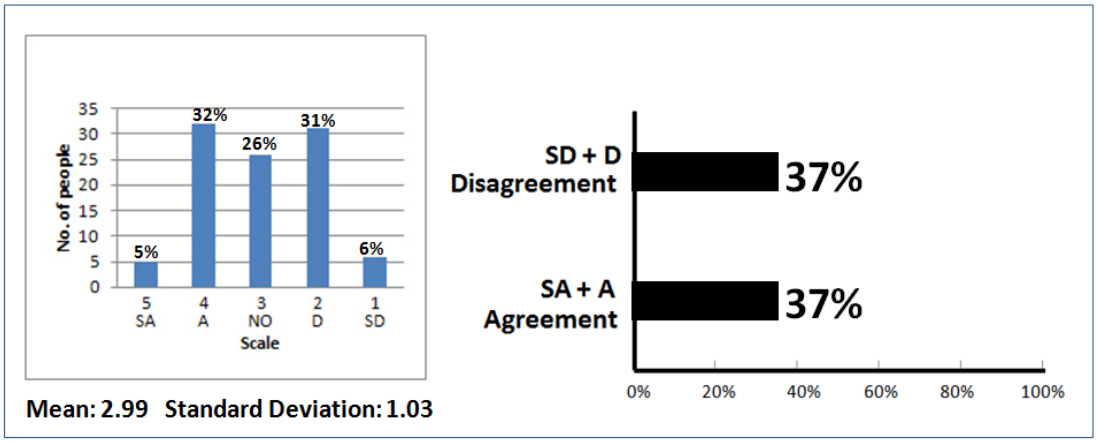


Fig.Q.11 Whether graphic design is an art or a business function tool is confusing

5.2.5 The comparative statistical results by different groups of academic levels

The quantitative results presented in the previous section (5.2) have *only* given a general combined statistical overview of 100 graphic design graduates, representing three division groups: Higher Diploma, Degree and Top-up Degree groups, at two academic levels (Level 4 and 5). Further quantitative analysis was conducted to investigate if there was any significant statistical difference among these respective groups.

The pie chart in Fig. 5.2.3 shows the percentages of Higher Diploma, Degree and Top-up Degree students. As shown, **31%** of respondents had obtained a higher diploma (L4) level qualification (majority from IVE [HKDI]), and **32%** had a degree (L5) (from the PolyU only), **37%** had a top-up degree offered by other top-up degree providers (i.e. community colleges of local universities [majority] in collaboration with overseas universities, a few participants came from IVE[HKDI].).

A multivariate analysis of variance (MANOVA) was used to test whether there are significant differences concerning questionnaire items based on the different education levels achieved by the participants. According to Cohen, 30 participants per group in MANOVA should be considered as legitimate for the test (Cohen, 1988).

The process - Levene's test (**assumption test) before MANOVA**

The dependent variables (DVs) are the 29 questionnaire items based on a 5-point Likert scale while the independent nominal variable (IV) is the different level of education achieved (Higher Diploma, Degree, Top-up Degree). The Levene's test of Homogeneity of Variances does not show any violations except for the questionnaire item Q15 ($p < .05$) which has similar Means and Standard Deviations (SD) among two groups, thus it was taken out for the MANOVA test.

The following is the matrix table of 28 questionnaire items with 3 different groups at two academic levels, using the Means (M) and Standard Deviations (SD) of each questionnaire item for calculation.

Highest education level achieved (N) \ questionnaire item (M, SD)	Higher Diploma (31)	Degree (32)	Top-up Degree (37)	Total (100)
Q1	3.84 (M) 0.90 (SD)	3.69 (M) 1.03 (SD)	3.81 (M) 0.97 (SD)	3.78 (M) 0.96 (SD)
Q2	3.97 (M) 0.84(SD)	3.75 (M) 1.07 (SD)	3.86 (M) 0.88 (SD)	3.86 (M) 0.93(SD)
Q3	4.26(M) 0.58 (SD)	4.50(M) 0.51(SD)	4.19(M) 0.81(SD)	4.31(M) 0.66(SD)
Q4	3.52(M) 0.96 (SD)	3.38(M) 1.04(SD)	3.68(M) 0.97(SD)	3.53(M) 0.99(SD)
Q5	3.77(M) 0.96(SD)	3.72(M) 0.81(SD)	3.35(M) 0.94(SD)	3.60(M) 0.92(SD)
Q6	3.68(M) 1.10(SD)	4.09(M) 0.93(SD)	3.57(M) 1.17(SD)	3.77(M) 1.09(SD)
Q7	2.74(M) 1.39(SD)	2.41(M) 1.10(SD)	2.62(M) 1.16(SD)	2.59(M) 1.22(SD)
Q8	3.52(M) 1.03(SD)	3.56(M) 1.08(SD)	3.68(M) 0.85(SD)	3.59(M) 0.98(SD)
Q9	3.26(M) 1.06(SD)	3.44(M) 0.88(SD)	3.43(M) 0.96(SD)	3.38(M) 0.96(SD)
Q10	2.87(M) 1.06 (SD)	2.75(M) 1.02(SD)	3.46(M) 1.22(SD)	3.05(M) 1.14(SD)
Q11	3.00(M) 1.00(SD)	2.81(M) 1.03(SD)	3.14(M) 1.08(SD)	2.99(M) 1.04(SD)
Q12	3.48(M) 1.06(SD)	3.00(M) 1.10(SD)	3.03(M) 1.04(SD)	3.16(M) 1.08(SD)
Q13	4.23(M) 0.92(SD)	4.09(M) 0.96(SD)	4.24(M) 0.60(SD)	4.19(M) 0.83(SD)
Q14	3.84(M) 1.32(SD)	3.94(M) 1.19(SD)	3.84(M) 1.04(SD)	3.87(M) 1.16(SD)
Q15	2.74(M) 1.13(SD)	2.84(M) 1.22(SD)	3.05(M) 0.94(SD)	2.89(M) 1.09(SD)
Q16	3.35(M) 1.08(SD)	3.34(M) 0.97(SD)	3.24(M) 1.09(SD)	3.31(M) 1.04(SD)
Q17	3.52(M) 1.26(SD)	3.34(M) 1.10(SD)	3.62(M) 0.95(SD)	3.50(M) 1.10(SD)
Q18	4.16(M) 0.70(SD)	3.69(M) 0.90(SD)	3.92(M) 1.06(SD)	3.92(M) 0.91(SD)
Q19	2.84(M) 1.21(SD)	3.13(M) 1.04(SD)	3.49(M) 0.99(SD)	3.17(M) 1.10(SD)
Q20	2.74(M) 1.03(SD)	3.03(M) 0.99(SD)	3.43(M) 0.99(SD)	3.09(M) 1.04(SD)
Q21	3.77(M) 1.15(SD)	3.34(M) 1.29(SD)	3.38(M) 1.04(SD)	3.49(M) 1.16(SD)
Q22	3.81(M) 1.11(SD)	3.75(M) 1.34(SD)	3.54(M) 1.17(SD)	3.69(M) 1.20(SD)
Q23	2.84(M) 1.13(SD)	3.00(M) 1.32(SD)	2.84(M) 1.07(SD)	2.89(M) 1.16(SD)
Q24	2.74(M) 1.18(SD)	2.72(M) 1.05(SD)	2.62(M) 1.14(SD)	2.69(M) 1.12(SD)
Q25	3.03(M) 1.17(SD)	2.88(M) 1.00(SD)	3.22(M) 0.87(SD)	3.05(M) 1.02(SD)
Q26	2.87(M) 1.02(SD)	3.06(M) 0.91(SD)	2.92(M) 1.01(SD)	2.95(M) 0.98(SD)
Q27	4.26(M) 0.82(SD)	4.47(M) 0.72(SD)	4.05(M) 0.97(SD)	4.25(M) 0.86(SD)
Q28	3.94(M) 0.89(SD)	4.00(M) 0.76(SD)	4.16(M) 0.73(SD)	4.04(M) 0.790(SD)
Q29	3.77(M) 1.18(SD)	3.53(M) 1.05(SD)	3.95(M) 1.00(SD)	3.76(M) 1.06(SD)

Table 5.2.2: Descriptive statistics of the questionnaire items organized by different levels of education

5.2.6 MANOVA test results

The multivariate results show no significance for the level of education achieved with different groups indicating that participants do not differ in their overall perceptions concerning professional practices after graduation. Nevertheless, there are several inconsistent results (the shaded area in Table 5.2.2) based on individual questionnaire items. The univariate *F* tests (individual questionnaire item check) showed significant differences for Q10 ($F(2, 97) = 4.12$, $p = .019$, partial $\eta^2 = .078$) between Degree and Top-up Degree graduates and Q20 ($F(2, 97) = 4.06$, $p = .020$, partial $\eta^2 = .077$) between Higher Diploma and Top-up Degree graduates. The response difference between Higher Diploma and Top-up Degree graduates on Q19 ($F(2, 97) = 3.08$, $p = .05$, partial $\eta^2 = .060$) is very close to the .05 significance level.

Partial η^2 (eta squared) is a measure of the effect size. Cohen (1988) suggests that values of 0.0099, 0.0588 and 0.1379 would represent small, medium, and large effect sizes respectively. Thus, all significant differences have reached 'medium effect' sizes.

The interpretation of these significant differences

A post-hoc Bonferroni test (multiple comparison test to show the amount of significance, but also a test for controlling data from incorrectly showing statistical significance) for each item was performed and the results are shown in Figures 5.2.5, 5.2.6, 5.2.7 below. The significant differences are circled. For Q10, Degree graduate responses (M=2.75, SD=1.02) are significantly different from those of Top-up Degree graduates (M=3.46, SD=1.22). For Q19, Higher Diploma graduate responses (M=2.84, SD=1.21) and Top-up Degree graduate responses (M=3.49, SD=0.99) are significantly different. Again for Q20, Higher Diploma graduate responses (M=2.74, SD=1.03) are significantly different from those of Top-up Degree graduates (M=3.43, SD=0.99).

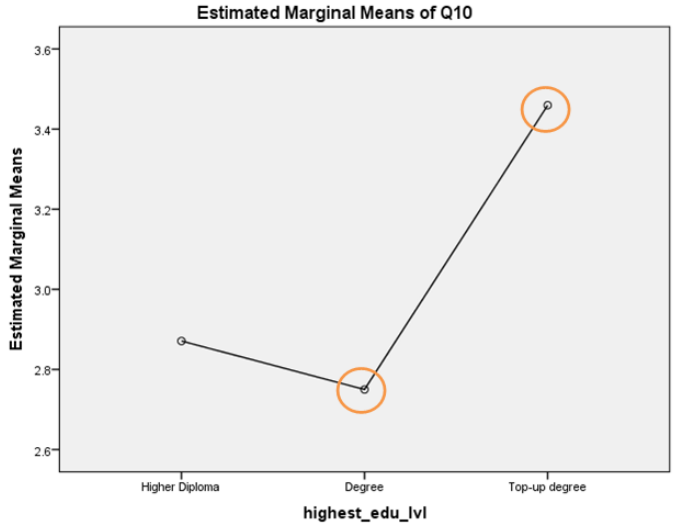


Fig. 5.2.5: Q10 Hong Kong's famous graphic designers have influenced the design education in Hong Kong

These results show that the group comprising Degree graduates does not generally agree with Top-up Degree participants regarding the statement that "Hong Kong's famous graphic designers have influenced the design education in Hong Kong" (Q10). This could be explained by the different nature of staff and the different

philosophies underlying Degree and Top-up Degree courses as the 32 participants of the Degree courses came from Graphic Design courses of the School of Design (SD) of the Hong Kong Polytechnic University (HKPU), while the Top-up Degree participants primarily came from community colleges of local universities collaborating with various overseas universities. In general, all Top-up Degree programmes are conducted in Hong Kong. All lectures are taught by a few academic staff from overseas universities and local lecturers (most of the graphic design programmes mainly are taught by local graphic designers on part-time basis). All top-up degree programmes can be completed within 2 years full-time of study. In terms of graphic design Top-Up degree programmes, they provide an articulation route for graduates of Higher Diploma of graphic design or related disciplines from different institutions who cannot enter HKPU. The philosophy of the Top-up programme design is depended on the individual overseas university, which can be based on visual arts; art and design; communication design or design management.

According to the Website of SD of HKPU (2014), many full-time staff members actually come from different countries. Most staff members do not represent the 'local Hong Kong' practicing graphic designers. In the aspect of design education philosophy, SD is a school to train designers who deal with the function of design in wider and more global perspectives, dealing with the future changes and challenges stimulated by cultural, economic, social, technological and political factors (The School of Design, 2010). In contrast, one interviewee in this study who was the Senior Programme Director of Community College of SPACE of Hong Kong University pointed out that there was only 'one' full-time staff in Visual Communication for the Top-up Degree programmes, the rest of the modules were taught by some practicing and famous Hong Kong designers on a part-time basis. With this interpretation of the Top-up Degree programme and teaching model, the graduates might tend to agree that Hong Kong's famous graphic designers have influenced the design education in Hong Kong.

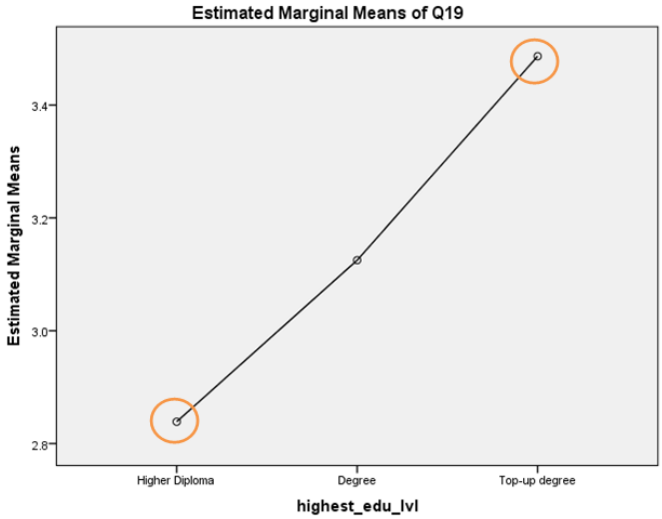


Fig. 5.2.6: Q19 Your employer has arranged senior staff and time to train you at work

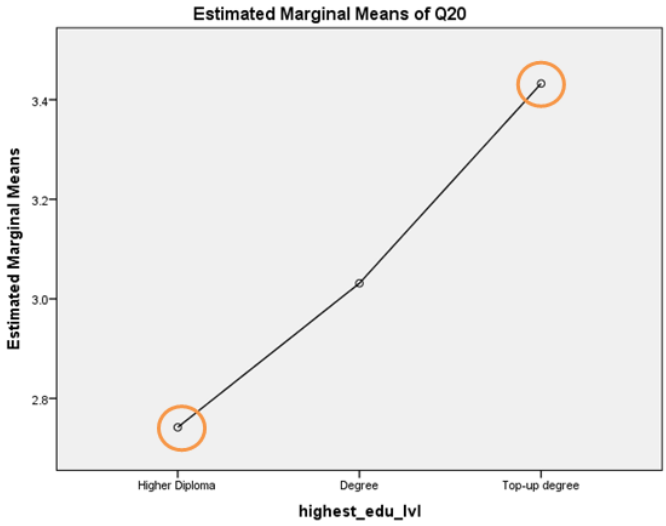


Fig. 5.2.7: Q20 Your employer has taken up the responsibility of training design graduates in your company

The answers to Fig.Q19 & Fig.Q20 showed split opinions between two groups of designers (see section 5.2.4 (Data analysis and interpretation). The Bonferroni test helps to further understand these differences (see the Fig. 5.2.6 & Fig. 5.2.7).The Higher Diploma group gave a negative response and the Top-up Degree group gave a positive response to both statements. These two statements focus on the same issue of whether the training responsibility was taken up by employers.

The significant differences may come from two main groups of factors: personal and external. For personal factors, generally speaking, Higher Diploma is at level 4 of the

Hong Kong Government Qualification Framework, which is a more skill based level, and Top-up Degrees are more theory based and may require stronger analytical thinking from the graduates. As a result, Top-up Degree graduates may have a stronger ability to deal with projects independently compared to Higher Diploma graduates. In a sense, Higher Diploma graduates may demand more assistance and closer support in the workplace from senior staff and employers than Degree and Top-up Degree graduates. For the external factors, the support provided by design companies in which the Top-up Degree graduates have worked could have been better than the support offered by the Higher Diploma graduates' employers. In fact, Top-up Degree graduates may choose their job more selectively because of their qualification, and they may request higher payment and better working conditions. On the other hand, as mentioned above in the section on the teaching staff in community colleges, such as SPACE, most modules were taught by practicing Hong Kong designers on a part-time basis. It is possible that the apprenticeship went beyond just classroom tutorials, and the graduates had opportunities to work as employees in these part-time lecturers' own companies after they graduated. If so, employees and employers may have had closer working relationships. I have seen this phenomenon often as I have worked in SPACE as a part-time lecturer for 10 years. This could also explain why the group of Top-up Degree graduates rated the aspect of responsibility of training of the employers higher than the Higher Diploma group.

The results and conclusion

The MANOVA test results show that for most questions there is *no* major significance for the different academic levels achieved by different groups, indicating that participants do not differ in their overall perceptions or core experiences concerning professional practices after graduation. Whether they are at Higher Diploma, Degree or Top-up degree level, some programmes could probably be more theoretical than the others at the same academic level, i.e. Degree vs. Top-up Degree; or some programmes could be more technical or skills-based such as Higher diploma level. Although 3 questionnaire items (Q.10, Q.19 &

Q.20) show significant differences of perceptions among the different groups, these support the findings previously described in section 5.2. In other words, overall there are no additional findings that affect the results and interpretations of section 5.2 Quantitative Findings of 100 respondents. In fact, the MANOVA test has strengthened the validity of both quantitative and qualitative results, because the survey items were developed based on the initial conjectures (categories) that were generated from the qualitative interview findings from the graduate designers with the same different academic levels and groups.

5.2.6 Summary

This chapter has discussed the general issues of the transition from academia to professional practice by means of a questionnaire survey data collection instrument, sampling and result analysis and interpretation. The results indicate some significant distributions of opinion. The questions that concerned what proved to be related issues for the respondents were grouped together, and the replies were analyzed, presented in six categories that summarize the responses in statistical form, and interpreted. The statistics below summarize the findings. There was agreement about criteria of competence in the workplace. Graduate designers agreed that design institutes use different criteria for competence from design firms. The most drastic disagreement was provoked by the statement in Q.7, namely that graduate designers with 1 to 3 years' working experience are NOT considered as competent designers by design firm employers and academics.

Aspect	Questionnaire statement	Disagreement (%)	Agreement (%)	Mean	Standard Deviation
The meaning of competence	Q.1 A competent graphic designer is knowledgeable to client's need.	14%	78%	3.78	0.95
	Q.2 A competent graphic designer is capable of project management.	11%	77%	3.86	0.93
	Q.3 A competent graphic designer is capable of design execution.	1%	91%	4.31	0.66
	Q.4 A competent graphic designer should understand various marketing strategies.	17%	57%	3.53	0.98
	Q.5 A competent graphic designer should possess a personal visual style.	13%	62%	3.60	0.92
	Q.6 Aesthetic appearance is the most important part of graphic design.	20%	70%	3.77	1.08
	Q.7 A graduate designer with 1 to 3 years' working experience is NOT considered as a competent designer	59%	26%	2.59	1.21
	Q.13 Design institutes do not judge 'competence' in the same way as employers and clients in the design industry.	5%	84%	4.19	0.82
	Q.16 Employers judge the competence level of graphic designers on the basis of the client's acceptance of the design options.	23%	49%	3.31	1.04
	Q.17 Employers judge the competence level of graphic designers on the basis of the latter's willingness to work overtime, efficiency in producing quality and the quantity of design options.	20%	55%	3.50	1.09

Table5.2.3: The meaning of competence

The statistical findings below show that respondents strongly agree that the employer has the main responsibility for training graduate designers at their workplace. However, whether employers actually take this responsibility is debatable among groups.

Aspect	Questionnaire statement	Disagreement (%)	Agreement (%)	Mean	Standard Deviation
Employer's training responsibility	Q.18 Employers have the main responsibility for training design graduates in the design industry.	9%	75%	3.92	0.91
	Q.19 Your employer has arranged senior staff and time to train you at work.	32%	43%	3.17	1.10
	Q.20 Your employer has taken up the responsibility of training design graduates in your company.	33%	41%	3.09	1.03

Table 5.2.4: Employer's training responsibility

The table below indicates that all statements related to academia's training responsibility are contested among the agreed and disagreed groupings. There is no strong tendency to agree with the proposition that the academic programmes have equipped respondents with short and/or long-term competence. However, there is a higher percentage of disagreement with the statement that their design programme has equipped them with enough knowledge and skills to see them through the first three working years.

Aspect	Questionnaire statement	Disagreement (%)	Agreement (%)	Mean	Standard Deviation
Academia's training responsibility	Q.23 Design course of your institute has prepared you with abilities to find the first design job only.	37%	35%	2.89	1.16
	Q.24 Academic design programmes have equipped you with enough knowledge and skills for the first three working years in the industry.	49%	33%	2.69	1.11
	Q.25 Lecturers have fulfilled their responsibility to teach you real design practice in the industry.	30%	40%	3.05	1.01
	Q.26 The design course of your institute has equipped you to become a competent designer for a long-term career.	33%	35%	2.95	0.97

Table 5.2.5: Academia's training responsibility

The statistical findings indicate below that the respondents tend to agree strongly with the statements about harsh working conditions: they have to rely on themselves in professional learning and have not enough spare time to study after work, especially the statement (Q.14) shows that the employers demand them to work overtime.

Aspect	Questionnaire statement	Disagreement (%)	Agreement (%)	Mean	Standard Deviation
Working and learning situation	Q.14 Employers demand that you work long hours (approx. 10-13 hours per day) with no overtime payment.	17%	69%	3.87	1.16
	Q.21 Designers have to rely on their own initiative to find opportunities for further study, no actual help is offered by employers.	23%	56%	3.49	1.15
	Q.22 You have no time to attend any training course related to design after work.	23%	63%	3.69	1.20

Table 5.2.6: Working and learning situation

In the aspect of professional development in the future, the statistics demonstrate a very strong positive response to all the statements, i.e. the need for extra provision of training courses and professional qualification. The respondents agreed particularly strongly to the statement (Q.27) that graphic design has not gained respectable professional status.

Aspect	Questionnaire statement	Disagreement (%)	Agreement (%)	Mean	Standard Deviation
Professional development in future	Q.27 Graphic design has NOT gained respectable professional status in Hong Kong.	4%	81%	4.25	0.85
	Q.28 Professional qualification needs to be introduced in the design industry to qualify competence of graphic designer.	3%	77%	4.04	0.79
	Q.29 Professional design training courses in the form of part-time study need be offered to design graduates in the first three years after graduation	12%	69%	3.76	1.05

Table 5.2.7: Professional development in future

In the aspect of the famous designers' professional practice and influence, the respondents generally agreed that the leading graphic designers have projected dual role images. However, whether or not they have influenced design education in Hong Kong remains debatable among groups. Diverse opinions between two groups also occurred for the statement that it is unclear whether graphic design is an art or a business function tool.

Aspect	Questionnaire statement	Disagreement (%)	Agreement (%)	Mean	Standard Deviation
Famous designers' professional practice	Q.8 Hong Kong's famous graphic designers have a distinctive artistic style and image like an artist	14%	64%	3.59	0.97
	Q.9 Hong Kong's famous graphic designers have projected a professional designer image.	16%	51%	3.38	0.96
	Q.10 Hong Kong's famous graphic designers have influenced the design education in Hong Kong	35%	40%	3.05	1.13
	Q.11 Whether graphic design is an art or a business function tool is confusing.	37%	37%	2.99	1.03

Table 5.2.8: Famous designers' professional practice

Overall, the statistical findings of all aspects show both positively (agreement) and negatively (disagreement) skewed distributions. There was a tendency of respondents to agree on: 1) The concept of competence in the workplace (with only one statement [Q.7] provoking disagreement), 2) The working and learning situation, and 3) Professional development in the future. In contrast, there are three aspects considered as having no consensus, showing rather similar percentages of both positive and negative skewed distributions: 1) Employer's training responsibility, 2) Academia's training responsibility, 3) Famous designers' professional practice (agreement tended to be more on the statements [Q.8 and Q.9] that famous designers have dual images).

The quantitative results of this chapter have shown the value of the questionnaire statements which were developed from the previous qualitative findings of sub chapter 5.1. More than half of the statistical responses tended to be positive, some are deemed as no consensus, and only one is negative. As a result, most categories

of the qualitative findings seem to be valid. However, more in-depth commentary will be carried out on the results of both qualitative and quantitative enquiries, specifically in terms of their bearing on the four main research questions. This will be done in the next sub-chapter 5.3.

5.3 Mixed method findings

This is the final sub-chapter of the 'mixed method findings' chapter, which marks the 'point of interface' of joint analysis and discussion of qualitative and quantitative findings. The quantitative data and relevant analysis are incorporated into the qualitative findings in order to discuss the hypotheses, either accepting or rejecting each hypothesis, or classifying it as a subject of debate among the respondents.

This sub-chapter consists of three sections. The first section is the 'point of interface', involving joint analysis and discussion of qualitative and quantitative results. The second section is the examination of the bearing of the mixed findings in relation to the research questions. The third section is the triangulation of the final mixed findings by means of external sources such as websites, and other related documents. The final section is the summary which gives an overview of the conclusion of this sub-chapter.

5.3.1 The point of interface

This section discusses results that were generated from both the qualitative and quantitative approaches, and were eventually brought together at the 'point of interface' (see section 4.3.3). The findings of the three groups (academics, employers and graduate designers) were mainly triangulated from the statistical results of the questionnaire survey, involving 100 graduate designers. These statistical findings were designed not only to cross-check the category of designer, but also triangulated with the findings from employers and academics (the survey questionnaire were developed from the highest range of categories *agreed by either two or all stakeholders*, while cross-checking is feasible also for some standalone categories from employers and academics. See Table 5.1.7 for reference). However, there are a few categories of employers and academics in which designers' statistical findings were unable to be cross-checked due to the lack of unique knowledge from a designer's position. These categories are identified as the 'non-shaded areas' as shown in Tables 5.3.1- 5.3.5 below, whereas the 'grey shaded areas' involved those that are cross-checked. Moreover, the qualitative

categories have been quantified with percentages in order to show the ranking in terms of importance.

The tables (5.3.1-5.3.5) below show the joint matrix tables of the qualitative findings, with the quantitative findings for answering the research questions. The purpose is to compare both findings to identify the significances

RQ.1. What do Hong Kong graduate designers, design academics, and design firm employers understand by 'competence' and 'professional training' of graduate graphic designers undergoing the transition from tertiary education to professional practice?

Qualitative findings (interviews)				**Quantitative analysis in percentage (Survey)**	
Category	**Academic**	**Employer**	**Designer**	**Questionnaire proposition**	**Disagreement / Agreement (%)**
2) Graduate designers in the first few working years are not considered competent	**86%**	**86%**	**88%**	**Q.7 Graduate designers with 1 to 3 years' working experiences are Not considered as competent designer**	**D.59% A. 26%**
5) A competent designer is knowledgeable and performs well in both internal and external environment	**57%**	**100%**	**75%**	**Q.1. A Competent graphic designer is knowledgable about the client's need Q.2. A Competent graphic designer is capable of project management Q.3 A Competent designer is capable of design execution Q.4 ACompetent graphic desingers should uunderstand various marketing strategies Q.5 A Competent graphic designer should possess a personal visual style Q.6 Aestehtic appearance is the most important part of graphic design**	**D.14% A.78% D. 11% A. 77% D.1% A.91% D.17% A.57% D.13% A.62% D.20% A.70%**
7) Most employers would allow graduate designer to try out most aspects of design process		**86%**			
10) Criteria of assessing competent designer is based on business contribution driven by his/her ability to work overtime and efficiently		**71%**	**75%**	**Q.17 Employers judge the competence of graphic designer on the basis of the latter's willingness to work overtime, efficiency in producing quality and quantity of design options.**	**D.20% A.55%**
12) Competence criteria in academia are different from practice at workplace	**71%**		**69%**	**Q.13 Design institutes do not judge 'competence' in the same way as employers and clients in the design industry Q.16 Employers judge the competence level of graphic designer on the basis of the client's acceptance of design options Q.17 Employers judge the competence level of graphic designers on the basis of the latter's willingness to work overtime, efficiency in producing quality and the quantity of design options**	**D.5% A.84% D.23% A.49% D.20% A.55%**

14) Bureaucratic approval procedure for curriculum design	100%				
15) Holistic approach related to professional ,social , cultural, business and personal factors	100%				
16) The curriculum equips graduates to become competent designer for the long term	**86%**			**Q.24 Academic design programmes have equipped you with enough knowledge and skills for the first three working years in the industry** **Q.26 Design course of your institute has equipped you to become a competent designer for a long term career**	**D.49%** **A.33%** **D.33%** **A.35%**
17) Curriculum provides graduates with professional competence at entry-level	**71%**			**Q.23 Design course of your institute has prepared you with abilities to find the first job only**	**D.37%** **A.35%**

Table 5.3.1: Qualitative category versus quantitative finding

In 5.3.1, Category 2 is the category with the highest percentage: it attracts the greatest degree of agreement from respondents. According to the academics, design academia only aims to train students to entry-level. The employers agreed that the entry-level designers are not competent to run a project from start to finish. Almost all designers agreed that in the first few years, they had to follow rules and working patterns because they were not competent in all aspects of professional practice. Consequently, the ability at entry-level is not considered as competent by most stakeholders. In contrast, the statistical data for Q.7 of the survey shows disagreement to this Category 2. Most designers (59%) disagreed that graduate designers with 1 to 3 years' working are not considered competent.

In Category 5, most stakeholders agreed that competent designers are capable of dealing with matters in both the internal and the external environment. The internal and external environments were further elaborated in the questionnaire statements under Q.1, 2, 3, 4. 'Internal' means project management and design execution. 'External' represents client's needs and marketing strategies. Statistical results of the proposition 1 to 4 show a positively skewed distribution, and support the views in response to Category 5. However, Q.5 indicates a specific view that competent graphic designers should also possess a personal visual style, with a majority of designers (62%) in agreement. Also, in Q.6, a majority of designers (70%)

agreed with the statement that aesthetic appearance is the most important part of graphic design. These two results might add support to the previous Category 2 and Q.7 findings for the lack of consensus between graduate designers and stakeholders on competence.

In Category 12**,** most Academics and Designers agreed that the criteria for judging competence differ between academia and professional practice. Most academic interviewees emphasized that academia has broader and more objective criteria for competence of students, whereas the industry has narrower and more subjective criteria on graduates. Most designer interviewees asserted that in the workplace, which is client driven and sales-oriented, they have to consider many factors from the clients' perspectives. Statistical data of Q.13 shows strong agreement (84%) with this Category 12.

For Q.16, almost half of the designers (49%) gave the opinion that a designer's competence is judged on the basis of the client's acceptance of his/her design work. 23% disagreed. The statistical findings might suggest that the client's acceptance is one of the major factors to judge designers' competence. In Q.17, more than half of the designers (55%) agreed and only 20% disagreed with the statement about competence being judged upon efficiency in producing quality and quantity of design options. The statement is considered positive based on the tendency. Therefore, Q.13, Q.16 and Q.17 generally support the proposition of Category 12.

In response to Category 16, most academics stated that curriculum can equip graduates to become competent designers for the long term. However, for Q.26, 35% of designers agreed, 33% disagreed, and 32% had no opinion. The percentages are quite equally spread, with no strong tendency towards a single opinion on the long-term competence enhancement. For Q.24, designers were asked whether the design programme had equipped them for the first three working years after graduation. Almost half of the designers (49%) expressed disagreement, while 33% gave agreement. These findings seem to indicate that both positive and negative skewed distributions exist, i.e. two groups of different opinions exist. However, it

seems that relatively more designers disagreed (49%) that the design programmes equip graduate designers for the first three working years. Therefore, Category 16 could be considered as debatable with reference to statistical findings of Q.24 and Q.26.

For Category 17, most academics stated that graduates are trained in a holistic way, and that academia provides professional knowledge and technical skills in design practice at entry-level. However, For Q.23, statistical findings show that designers' views are diverse. Only 35% scored agreement, 37% gave disagreement and 28% gave no opinion (Refer to Fig.Q.23 in 5.2.4). The statistical findings show that Category 17 is contested between two groups, and there is also a high percentage of respondents indicating no opinion. The statistical results show no definite support for Category 17.

Summary of findings for research question 1

In this research question, three types of distinction with statistical findings testing all appear in the qualitative findings, i.e. acceptence, rejection and lack of consensus. For example, Category 5 (a competent designer is knowledgeable and performs well in both internal and external environment) and Category 12 (competence criteria in academia are different from practice at workplace) received positive statistical support. They are considered as having been supported. Category 16 (the academic curriculum equips graduates to become competent designers in the long run) and Category 17 (curriculum provides graduates with professional competence at entry-level) received split decisions, and so are considered disputed. Lastly, only one category (Category 2: graduate designers in the first few working years are not considered competent) was statistically contradicted by the respondents. This category is deemed as rejected.

RQ.2. What do academics and design firm employers perceive as their role and responsibility in the professional training of graphic design graduates?

The joint matrix table below shows the qualitative findings integrated with the quantitative findings in answering research question 2.

Qualitative findings (interviews)				**Quantitative analysis in percentage (Survey)**	
Category	**Academic**	**Employer**	**Designer**	**Questionnaire Statement**	**Disagreement / Agreement (%)**
8) Employers have the training responsibility but do not fulfill it and mistreat graduates	**86%**		**100%**	**Q.18 Employers have the main responsbility to train up design graduate in the design industry**	**D.9% A.75%**
18) Responsibility of an educator is to inspire graduate designers, not to assist professional development in design industry	**71%**			**Q.25 Lecturers have fulfilled their responsibility to teach you real design practice in actual industry**	**D.30% A.40%**
19) No external or internal training program is offered, mainly on-the-job training		**100%**			
21) In the first three years, there is no firm promotion scheme and no big jump in salary		**71%**			
22) Many company owners will not train entry-level designers, as they do not want to invest in them		**71%**			
23) The majority of Employers think they do not have responsibilities in training graduates for professional practice		**71%**		**Q.20 Your employer has taken the responsbility of training design graduate in your company Q.19 YourEmployer has arranged senior staff and time to train you at work**	**D.33% A.41% D.32% A.43%**

Table 5.3.2: Qualitative category versus quantitative finding

For Category 8, most academics commented that there is a knowledge gap in competence between graduation and the early stage of professional practice. All designers stated that designers are not familiar with professional practice at the workplace at the start. Interviewees of both categories asserted that the employers should provide graduates with training as it should be their responsibility. As per statistical findings shown in Q.18, a majority of designers (75%) gave agreement, and only 9% disagreed. The statistical result indicates that a majority of designer respondents believed employers have the main responsibility for providing them with training.

For Category 18, most academics reckoned that the responsibility of an educator is to inspire graduate designers, and to enable them to find their first design job

thanks to the comprehensive knowledge and basic skills they had acquired from the courses. After graduating, educators have no actual role or duty in professional learning when the designers are in the industry. However, Q.25 asked designers to agree or disagree with the proposition that their lecturers have fulfilled the task of teaching them knowledge and skills for professional practice, and their views were diverse. 40% of designers agreed or strongly agreed, 30% disagreed or strongly disagreed, and 30% gave no opinion (Refer to Fig.Q.25 in 5.2.4). Although those agreeing were the highest percentage, the overall result is rather evenly distributed. This seems to indicate that graduates think that the academics have provided them with general knowledge and skills, but there is no particular focus on professional practice. Nevertheless, the statistical result shows general support to Category 18.

For Category 23, most employers commented that they did not believe they have a responsibility to train graduates, especially as there were no well-defined regulations in this regard that the employers have to observe. As shown in Q.20, less than half the designers (41%) agreed that employers have taken the responsibility of training design graduates, and 33% of designers disagreed, 26% gave no opinion (Refer to Fig.Q.20 in 5.2.4). Although the percentage agreeing is slightly higher than those disagreeing, the findings tend towards a split opinion. Thus, these findings neither support nor reject the conjectures found in Category 23. This result also leads to the analysis of Q.19, whether employers have arranged staff and time to provide training to entry-level designers. The evidence indicates that somewhat less than half of the designers (43%) agreed, whereas 32% of designers disagreed and 25% expressed no opinion (Refer to Fig.Q.19 in 5.2.4). Although the percentage of agreement is the highest, the statistical findings show split views among disagreement and agreement, thus it is debatable to say whether these findings support or reject the claim that owners have denied their training responsibility indicated in Category 23.

Summary of findings for research question 2

In research question 2, three categories were tested by the statistical results of the survey questionnaires. Two categories (Category 8 and Category 18) have been

shown positive support by the questionnaire statements. One category is considered as indicating lack of consensus which is Category 23 (The majority of employers think they do not have responsibilities in training graduates for professional practice).

RQ.3. What are the learning and working experiences of graduate designers in the transition?

The joint matrix table below shows the answers to research question 3, with the qualitative findings integrated with the quantitative findings

Qualitative finding (interviews)				**Quantitative analysis in percentage (Survey)**	
Category	**Academic**	**Employer**	**Designer**	**Questionnaire Statement**	**Disagreement / Agreement (%)**
1) Arduous workplace environment makes it hard to foster competence in designers	**100%**	**86%**	**94%**	**Q.14 Employers demand you work long hours (approx.10-13 hours) with no extra overtime payment** **Q.17 Employers judge the competence of graphic designers on the basis of the latter's willingness to work overtime, efficiency in producing quality and quantitative of design options**	**D.17% A.69%** **D.20% A.55%**
3) Design graduates have to take self-initiative to expand their professional knowledge	**71%**	**86%**	**75%**	**Q.21 Designers have to rely on their own initiative to seek further study opportunities, with no actual help offered by employer** **Q.22 You have no time to attend any training course related to design after work**	**D.23% A.56%** **D. 23% A. 63%**
8) Employers have the training responsibility but do not fulfill it and mistreat graduates	**86%**		**100%**	**Q.18 Employers have the main responsbility to train up design graduate in the design industry**	**D.9% A.75%**
10) Criteria of assessing competent designer is based on business contribution driven by his/her ability to work overtime and efficiently		**71%**	**75%**	**Q.17 Employers judge the competence of graphic designer on the basis of the latter's willingness to work overtime, efficiency in producing quality and quantity of design options.**	**D.20% A.55%**
11) Graphic design has not been respected and recognized as professional in general		**71%**	**75%**	**Q.27 Graphic design has not gained respectable profesiional status in Hong Kong**	**D.4% A. 81%**
20) In the first 3 years of employment, junior designer may switch jobs three times or more		**86%**			
21) In the first three years, there is no firm promotion scheme and no big jump in salary		**71%**			

Table 5.3.3: Qualitative category versus quantitative finding

Category 1 - Arduous working environment has the highest percentage of agreement among all categories. Most interviewees expressed the view that the working culture and environment was not healthy, due to long working hours (10 to 13 hours a day, sometimes overnight and weekend), and tight deadlines with no extra payment for overtime work. This has become the working norm of the industry. Most employers asserted that it was hard to nurture competent designers under these conditions. Designers felt that the working situation might even affect the designers' physical and mental health. Comparing the statistical findings of Q.14, it emerges that a majority of the designers (69%) agreed (41% scored SA, refer to Fig.Q.14 in 5.2.4), and only 17% disagreed. Thus a majority of the respondents agreed that their employers had demanded they work long hours with no extra pay. For Q.17, more than half of the designers (55%) agreed with the statement that a designers' competence was judged by their willingness to work overtime and ability to produce quality and quantitative design options with efficiency, while only 20% of designers disagreed. Therefore, the statistical results of Q.14 and Q.17 have indicated positive support to Category 1.

Pertaining to Category 3, most interviewees agreed that graduates have to rely on their own initiative to expand their professional knowledge. Most academics and employers commented that the majority of graduates work in small and medium sized companies, which offer minimal training. Hence, they have to be proactive in equipping themselves to be competitive in the job market. Under Q.21, more than half of the designers (56%) agreed while others (23%) disagreed. Therefore, Q.21 seems to support Category 3 that all three sample groups regard designers as having to rely on their own initiative to learn, and there is no actual help offered by the employers. As shown in the results for Q.22, the designers say they have no time to attend training courses after work: a majority of the designers (63%) agreed as opposed to others (23%) who disagreed. Significantly, 32% selected SA and 31% A, the two highest bars on the chart (refer to Fig.Q.22 in 5.2.4). The statistical results strongly support the view that there is a lack of professional support and learning for graduate designers; the time factor is also an obstacle to designers gaining professional development, even if they take the initiative to do so.

For Category 10, most owners perceived that assessments of designers' competence or performance were best based on their business contribution towards the company, i.e. feedback from the clients and financial return to the business. To the designers, achieving such a goal inevitably demands commitment to overtime work. Most designers agreed that they are expected by the employers to work long hours within tight deadlines. Although Q.17 has already been used to enhance the analysis for Category 1, the findings could also support Category 10. More than half of the designers (55%) agreed that their competence was judged by overtime hours, quality and quantity of design solutions with time efficiency**,** and only 20% disagreed. The statistical result tends to support the conjecture developed from Category 10.

For Category 11, most employers and designers asserted that graphic design is not a recognized and well regarded profession. As the owner interviewees commented, there is difficulty for the general public to classify a 'professional graphic designer' as there is no official competence measurement or regulations available. Most designers also commented that their professional status is perceived as low because of their lower salaries as compared with other professions. The statistical findings for Q.27 on whether graphic design had gained respectable professional status show a very high percentage of agreement (81%), with only 4% disagreeing. The result shows firm positive support for Category 11

Summary of findings for research question 3

For this research question, the categories received support from the statistical findings. They are Category 1 (arduous workplace environment…), Category 3 (Design graduates have to take self-initiative to expand their professional knowledge), Category 10 (Criteria of assessing competent designer is based on business contribution…) and Category 11 (graphic design has not been respected and recognized as professional in general). One category (Category 11) has an almost one-sided statistical result (81% Agreement Vs. 4% Disagreement).

RQ.4. What potential changes in design academia and professional practice may encourage the improvement of the learning and working conditions in the transition of the graphic design graduates?

The joint matrix table below shows the results for research question 4 when the qualitative and quantitative findings of the interviews are integrated.

Qualitative finding (interviews)				**Quantitative analysis in percentage (Survey)**	
Category	**Academic**	**Employer**	**Designer**	**Questionnaire Statement**	**Disagreement / Agreement (%)**
4) Continuing professional learning is needed for graduate designers in the workplace	**71%**	**71%**	**63%**	**Q. 29 Professional design training courses in form of part-time study need be offered to design graduates in the first three years after graduation**	**D.12% A.69%**
6) Certified competence measure for professional standard should be formed for the graphic design industry	**57%**	**57%**	**50%**	**Q.28 Professional qualifications need to be introduced in the design industry to qualify competence of graphic designers**	**D.3% A.77%**
27) Non-negotiable long working hours in current graphic design practice need to be restricted			**75%**		

Table 5.3.4: Qualitative category versus quantitative finding

Category 4 is the fourth highest percentage category in agreement from all three groups of interviewees. Most agreed that continuing professional learning is needed for graduate designers. Most academics interviewees regarded design as a profession that changes rapidly; therefore designers should never stop learning after graduation. Most designers asserted that continuing learning programmes should be introduced in the first few years of their career. The employers pointed to lack of business knowledge as one of the designers' shortcomings, so they believed additional training is necessary. Comparing the statistical findings for Q.29, a majority of designers (69%) agreed as opposed to 12% who disagreed. The respondents believed that there is a need to introduce professional learning courses in the first few working years in form of part-time study. Overall, the statistical result of Q.29 has given positive support to the conjecture developed in Category 4.

In Category 6, more than half of the stakeholders expressed the view that there should be some formal certification of professional competence measures. Academics commented that existing professional membership offered by The Hong Kong Designer Association does not count as a professional qualification. Although

the stakeholders tended to support the idea of establishing criteria of competence, the employers and designers found the qualifying criteria hard to define and difficult to implement. Notwithstanding, the statistical result for Q.28 tends to be more supportive of the idea. A majority of the designers (77%) agreed to the idea of the establishment of professional qualification on competence, whereas only a very few designers (3%) disagreed. Q.28 result shows a positive support to the Category 6 conjecture. There appears to be a generally perceived need among the respondents for a professional qualification.

Summary of findings for research question 4

For this research question, the categories have been given strong support from the statistical results, they are regarded as substantiated. Category 4, received 69% agreement and only 12% disgreement. For Category 6, the statistical result is even more one-sided, 77% agreement vs. 3% disagreement.

The new insights from the findings

The joint matrix table below shows new insights developed when the qualitative and quantitative findings are integrated. These insights are beyond those specifically addressed by the research questions, but they provide context that helps elucidate some of these questions.

Qualitative finding (interviews)				Quantitative analysis in percentage (Survey)	
Category	Academic	Employer	Designer	Questionnaire Statement	Disagreement / Agreement (%)
9) Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates	71%		88%	Q.8 Hong Kong famous graphic designers have a distrinctive artistic style and image like an artists Q.9 Hong Kong famous graphic designers have projected a professional designer image Q.10 Hong Kong famous graphic designers have influenced the design education in Hong Kong	D.14% A.64% D.16% A.51% D.35% A.40%
13) Most graduates like to develop their own style at work, but owners criticize them for not knowing the business meaning of design		57%	76%	Q.5 A competent graphic designer should posssess a personal visual style	D.13% A.62%
26) The concepts of art and design being together are ambiguous in design institutes			75%	Q.11 Whether graphic design is an art or a business function tool is confusing	D.37% A.37%

Table 5.3.5: Qualitative category versus quantitative finding

Category 9 indicates that most interviewees agree that Hong Kong's famous graphic designers have projected a mixed image (as artist and professional designer). Most academics agreed that these famous designers' success at achieving a reputation as both artists and designers may have influenced students. Most designer interviewees also believed that the ways the famous designers presented themselves have been successful in business and popular in the design community. For Q.8 and Q.9, the statistical findings tend to show positive support for the conjecture developed in Category 9. A majority of designers (64%) agreed under Q.8 in opposite to a minority of them (14%) who disagreed. The results lean towards an agreement that Hong Kong's famous graphic designers generally project a distinctive artistic style. On the other hand, for Q.9, half of the designers (51%) also agreed that these designers also project a professional designer image, versus 16% who disagreed. However, comparing Q.8 to Q.9, more designers (64%) agreed on the famous designers projecting an artist image than those 51% who agreed that

they project a more professional designer image. These also mean that the famous designers are perceived to have dual images in professional practice. As to whether the famous designers have influenced the graduates during their study in design institutes, the statistics for Q.10 indicates a split decision. Less than half of the designers (40%) agreed, while 35% designers disagreed. Slightly more designers believed these famous designers have influence over design students and institutes. The result does not totally support or reject the conjecture developed from Category 9, as the questionnaire statement shows debate between the two groups.

For Category 13, half of the owners and most designer interviewees believed that most graduates like to develop their own style. The employers commented that graduate designers would like to experiment with a personal style of work for their own interest. However, they might not have enough experience to be able to identify the business factors that are embedded in the clients' briefs and design solutions. Their personal interest might overshadow the requirements of the design demanded of them. This is what the employers generally believed, and hence argued that the graduates might not have the ability to distinguish art from design in the workplace. The employers might mainly look at graphic design as a business tool due to what is their role and position, but the designers might treat it as an opportunity to make cultural and personal statements. Significantly, most designers also commented that personal style is valuable and something they should strive to develop. However, they argued that clients often do not appreciate it because of their lack of aesthetic appreciation. For Q.5, a majority of the designers (62%) agreed in opposite to those (13%) who disagreed that a competent designer should possess a personal style. The result tends to support the idea that a competent designer should posses his/her own personal visual style believed by the majority of designers. It might also imply that some graduates would see it as one of main elements of competence. The result tends to support the part of the conjecture developed for Category 13 that graduates would like to develop their style at work.

For Category 26, most designer interviewees reckoned that the art and design are ambiguous concepts in design institutes. The confusion is caused by the fact that the boundary between the concepts of art and design is porous contested, and not well-defined. On Q.11, an identical percentage (37%) agreed and disagreed. The agreed group may believe that there is confusion on whether graphic design is an art or a business tool, or both. The disagreed group might have already decided that graphic design is either an art, or a functional tool for business, or it is both. Although the statistics do not support the conjecture pointed out in Category 26, the result seems to indicate a debatable topic for further exploration. However, there is lack of consensus even within the two different groups, as decisions have fallen into three sub-categories: 1) art; 2) business function tool; and 3) both.

Summary of findings for new insight

In this section, most categories are supported by the statistical findings. However, one category (Category 9 [Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates]) received positive support for the first part of the category but received split decisions in the second part such as 'Have influenced the graduates'. For Category 13 (Most graduates like to develop their own style at work…), there is positive support. For Category 26 (The concepts of art and design being together are ambiguous in design institutes), but this category is already considered as a debatable issue, and the statistics also reflected the same contested result.

5.3.2 The mixed findings result validation

This section concludes the overall results of the mixed findings. This process involves validating the positive, negative and inconclusive findings in order to answer the research questions. The below table illustrates significant categories with the numbers of the research questions, but not all the categories could be cross-checked with the statistical findings from the survey of the graduate designers due to the absence of distinctive knowledge and perspectives on their part (see section 5.3.1). However, the table shows the relevance of all the categories; the responses to the categories that could be cross-checked statistically are listed in **bold and bigger** type.

Research question & new insight	**Academics**		**Employers**		**Designers**	
RQ.1.	**Support** **5,** **12**, 14 15	**Debate /Rejection** **2,** **16,** **17**	**Support** **5,** 7 19	**Rejection** **2**	**Support** **5,** **12** 7 28	**Rejection** **2**
RQ. 2.	**Support** **8** **18**		**Support** 19 21 22	**Debate** **23**	**Support** **8**	
RQ.3.	**Support** **1,** **3,** **8**		**Support** **1,** **3,** **10** **11,** 20		**Support** **1** **3** **8** **10** **11**	
RQ.4.	**Support** **4,** **6**		**Support** **4** **6**		**Support** **4,** **6,** 27	
New Insight	**Debate** **9**		**Support** **13**		**Support** **13**	**Debate** **9,** **26**

Table 5.3.6: Validation of the categories in answer to main research questions and insight

Most quantitative findings support the qualitative findings. However, a few are inconclusive. The clarification of meanings for the numbers of the categories refers back to Table 5.1.7 (Combined categories of all stakeholders) of sub-chapter 5.1.

Values of motivation of the mixed findings

On the basis of the elaboration of the categories' content and statistical results, the employers, academics and designers seem to hold distinct beliefs and values about the competence of graphic designers in the transition, although some of their beliefs are rather similar. For example, academics tended to look at competence development in a longer term and broader perspective (evidence derived from the content shown in Categories 5, 14, 15, 16, 17, 18), which reflect the values relating to building the graduates' professional awareness in personal, social, cultural, educational, professional, business, marketing, and user perspectives. In contrast, the employer seemed to hold fewer perspectives (business, marketing, user) as reflected in Categories 5, 10, 13. On the other hand, similar responses to the categories (5, 10, 13 [marketing, business, user, personal, aesthetic]) were expressed by designers, but they also embraced personal and aesthetic values. Eventually, the values that are derived by the stakeholders' categories are analyzed and shown below in Table 5.3.7.

Despite all stakeholders holding some similar values (shown in grey shading in the table), some values may be relatively more important to one stakeholder group than to the others. For example, business values are more important to the employers than the academics and designers. Furthermore, despite 'aesthetic value' having a place generally in the academic and company settings, the employers and academics did not state explicitly in the findings, whereas graduate designers tended to express it more explicitly. Nevertheless, the empty boxes in Table 5.3.7 do not necessary indicate that the stakeholders were not concerned with those values. The answers may have been influenced by the objectives and the interview questions for this study.

Values of the stakeholders	Evidence from the findings	Academic	Employer	Graduate designer
Personal	Category 15, 18 (Academic) Category 13 (Designer)	●		●
Professional	Category 15, 17, 18 (Academic)	●		
Social	Category 15 (Academic)	●		
Cultural	Category 15 (Academic)	●		
Educational	Category 14, 16 (Academic)	●		
Business	Category 5, 15 (Academic) Category 5, 10, 13 (Employer) Category 5, 10, 13 (Designer)	●	●	●
Marketing	Category 5, 15 (Academic) Category 5, 10, 13 (Employer) Category 5, 10, 13 (Designer)	●	●	●
User	Category 5, 15 (Academic) Category 5, 13 (Employer) Category 5, (Designer)	●	●	●
Aesthetic	Category 13 (Designer)			●

Table 5.3.7: Stakeholders' values derived from the findings

Due to limit of space, for clarification of the meaning of the categories in table above, please refer to the Table 5.1.7 of sub-chapter 5.1

5.3.3 Triangulation with external sources (the value system)

As has already been discussed in Chapter 4.4.2, 'method triangulation' and 'data triangulation' are used in this study to reinforce the validity of individual findings. For the data triangulation for external validity, there are different sources of evidence (see Chapter 5 Fig. 5.1): the representative courses' curriculums, documents, websites of the design insititutes, and the company websites of the employers.

For data triangulation, content analysis was conducted on the material provided by the official website and documents of two types of organizations: 1) design institutes, 2) large and small sized graphic design and advertising firms. Various values were identified through the relevant official materials by two methods: manifest content analysis (number of times a word appears in the content) and latent content analysis (the embedded meaning). The design institutes were the School of Design (SD) of the Hong Kong Polytechnic University (HKPU), and the Hong Kong Design Institute (HKDI). These account for the largest proportion of design graduate workforce entering the Hong Kong graphic design industry, and the majority of the interviewees and survey respondents were also selected from these two institutes. For the large and small sized graphic design and advertising firms, the majority of the respondents in interviews and survey were selected from the local small sized general graphic design firms and larger sized advertising companies. Hence I regard these official documents and websites as appropriate external sources.

Design Institutes: Hong Kong Design Institute (HKDI) and Hong Kong Polytechnic University's (HKPU) School of Design

According Chapter 2 Literature Review, section 2.4.9, various values were identified through the relevant official materials of HKDI and POLYU (details see the Table 5.3.8 below). Consequently, by comparison, the tables of value system of the two institutes are in fact rather similar.

Value	Source
1.Academic	**HKDI**
2.Aesthetic	● HKDI's Website (2012) (Mission)
3.Business	● HKDI's Prospectus 2011-12 (Advertising) (Higher Diploma)
4.Creativity	● HKDI's Prospectus 2011-12 (Visual Communication) (Higher Diploma)
5.Cultural	● HKDI's Prospectus 2011-12 (Creative Media Design) (Higher Diploma)
6.Economic	● HKDI's The Course Validation Document of the Higher Diploma in Visual Communication (2010) (Aims and Intended Learning Outcome of the Course)
7 Global	
8,Market	**POLYU**
9.Social	● PolyU's Website (2012) (Vision)
10.Personal	● The School of Design, PolyU's Prospectus 2010-11 (Visual Communication) (Degree)
11.Professional	● The School of Design, PolyU's Prospectus 2010-11 (Advertising) (Degree)
12.Technological	● The School of Design, PolyU's Prospectus 2010-11 (Digital Media)(Degree)
13.User	● The School of Design, PolyU's BA(Hons) in Design Programme Document 2010/11 (Designing an Education for Humanistic Designers) (Programme Aims and Outcome)

Table 5.3.8: Values specified in graphic design programmes of design institutes (the external sources)

Large and small sized graphic design and advertising firms

The firms chosen for this study as representative of large sized advertising firms in Hong Kong are mainly branches of international advertising agencies, and almost all of the major ones are associated with the Association of Accredited Advertising Agencies of Hong Kong (4A's), each of the members of which has its own business mission and objectives. The 4A's website (2009) has statements from each individual firm (member). One member firm, DRAFTFCB, states that "In delivering its clients a high Return on Ideas^{SM}, the agency is driven by 'The 6.5 Seconds That Matter^{SM}', an operating system that recognizes the brief period of time marketers have to capture consumers' attention and motivate them to act." Analyzing the content of the 4A's websites strongly suggests that, nowadays, the various international agencies in Hong Kong claim to be providing a broad range of creative services, ranging from traditional advertising, direct marketing, event promotion, graphic design and brand management to interactive media with digital technology.

A review of the websites of two well-known HK graphic design and branding firms reveals that their services normally include brand solutions, packaging, and general printed graphics. Three major pieces of information on these design firms appear on the home pages ('About' section) of the websites: Profile, Awards and Client List. These items are being used as a strategic marketing tool to promote the image of competence and therefore the appeal to potential customers of each company.

Each successful graphic design or branding project for an individual client is set out in such a way as to demonstrate the aesthetic design solution (photos) and a short description, along with brief summaries of the client and project background, the artistic development, the design process and execution, in terms of the inspiration of the concept, art direction, cultural elements and artistic touches. The design solution is also illustrated on the website with emphasis on brand positioning, revamping or promotional purposes. In other words, the design solutions are promoted as providing clients with the business tools to stimulate existing and future business for customers and potential target users. Overall, the values that advertising agency and graphic design firms endorse are summarized in Table 5.3.9 below.

Value / Source	**Two Small sized graphic design companies**		**Advertising firms (agency)**	
1.Aesthetic	•	• Websites section contents: 1) Profile, 2) Awards and 3) Client list (website) • Works Description (website)		• The Association of Accredited Advertising Agencies of Hong Kong (4A's), member's mission and objectives. (website) • 4A's website of its members (websites)
2. Business	•		•	
3. Brand	•		•	
4.Consumer			•	
5.Culture	•			
6.Market	•		•	
7.Organization	•			
8.Sales	•		•	
9. User	•		•	

Table 5.3.9: Values of advertising firms and graphic design companies (the external sources)

The combined tables of stakeholders' findings with external sources

Table 5.3.10 is the consolidation of Table 5.3.7 (stakeholders' values derived from the findings) and the values found in external sources. There are similarities between the sets of values, such as user, market and business values (shown in grey shading). Moreover, there is a value that is emphasized by the design firms and agency of external source, but not mentioned by the design institutes and stakeholders, namely sales values. However, the design institutes lay claim to enhancing students' learning by teaching a broad range of knowledge and objectives, whereas the employers of design firms and advertising agencies seem to focus on narrower objectives for their companies. Thus, this table only shows the general analysis from the external source. It cannot be inferred from the empty

boxes of Table that the institutes, firms, agency and stakeholders are not concerned about those values in their organization, but rather that these values are not the priorities to be expressed explicitly on the websites and documents. Overall, Table 5.3.10 gives some general analysis from the external sources for triangulating the main findings of this study.

By comparison, more values were identified from the external sources than from the stakeholders. This is probably because the analysis of the external sources was looked at holistically in terms of the core values, missions, aims, and objectives explicitly mentioned in the websites and documents, whereas the values expressed explicitly by stakeholders in response to my research were intended to describe the specific situation of the professional practice. Despite the table showing that all of the stakeholders and organizations endorsed the 'Business, Market and User values', in view of the broader focus and objectives presented by the academic and institutes, these values might not have been heavily stressed. By contrast, they are the main focus of employers and the design companies.

Value / Source	HKPU	HKDI	Graphic Design Firm	Advertising Agency	Values of the Stakeholders	Evidence from the Findings	Academic	Employer	Graduate Designer
1.Academic	●	●			Academic	Category 14, 16 (Academic)	●		
2.Aesthetic	●	●	●		Aesthetic	Category 13 (Designer)			●
3.Brand			●	●					
4.Business	●	●	●	●	Business	Category 5, 15 (Academic) Category 5, 10, 13 (Employer) Category 5, 10, 13 (Designer)	●	●	●
5.Creativity	●	●							
6.Culture	●	●	●		Culture	Category 15 (Academic)	●		
7.Consumer				●					
8.Economic	●	●							
9 Global	●	●							
10.Market	●	●	●	●	Market	Category 5, 15 (Academic) Category 5, 10, 13 (Employer) Category 5, 10, 13 (Designer)	●	●	●
11.Organization			●						
12.Personal	●	●			Personal	Category 15, 18 (Academic) Category 13 (Designer)	●		●
13.Professional	●	●			Professional	Category 15, 17, 18 (Academic)	●		
14.Sales			●	●					
15.Social	●	●			Social	Category 15 (Academic)	●		
16.Technological	●	●							
17.User	●	●	●	●	User	Category 5, 15 (Academic) Category 5, 13 (Employer) Category 5, (Designer)	●	●	●

Table 5.3.10: Table consolidating the values of design institutes, companies and stakeholders interview findings

5.3.4 Summary

As mentioned in the early part of this chapter, the majority of the categories (but not all, 17 of 28) could be validated with the statistical results of the designer respondents (the core group). The analytical results of 'The point of interface' integrating both qualitative and quantitative findings, have led to further discussion of the initial qualitative findings. For example, there was positive statistical support for 12 categories (9 out of 12 categories are the highest ranked). They are listed in order of rank in Table 5.3.11. below:

Highest percentage ranked categories	Academics	Employer	Designers
Category 1: Arduous workplace environment makes it hard to foster competence in designers	**100%**	**86%**	**94%**
Category 3: Design graduates have to take self-initiative to expand their professional knowledge	**71%**	**86%**	**75%**
Category 4 Continuing professional learning is needed for graduate designers in workplace	**71%**	**71%**	**63%**
Category 5: A competent designer is knowledgeable and performs well in both internal and external environment	**57%**	**100%**	**75%**
Category 6: Certified competence measure for professional standard should be formed for the graphic design industry	**57%**	**57%**	**50%**
Category 8: Employers have the training responsibility but do not fulfill it and mistreat graduates	**86%**		**100%**
Category 9: Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer)	**71%**		**88%**
Category 10:Criteria of assessing competent designer are based on business contribution driven by his/her ability to work overtime and efficiently		**71%**	**75%**
Category 11: Graphic design has not been respected and recognized as professional in general		**71%**	**75%**
Category 12: Competence criteria in academia are different from practice at workplace	**71%**		**69%**
Category 13:Most graduates like to develop their own style at work, but owners criticize them for not knowing the business meaning of design		**57%**	**76%**
Category18: Responsibility of an educator is to inspire graduate designers, not to assist professional development in design industry	**71%**		

Table 5.3.11: Highest percentage ranked categories supported by statistical findings

However, one category (Category 2) receiving the highest percentage of endorsements by all the stakeholders in the qualitative findings, namely the 'graduate designers in the first few working years are not considered competent', was rejected by most designer respondents in the statistical results. It seems that

designer respondents might consider some additional components of competence that most stakeholders would not endorse. Having said that, overall, the majority of quantitative findings tended to support most qualitative findings. On the other hand, five categories (table 5.3.12) have similar percentages of agreement and disagreement among the two groups of respondents. They are also listed in rank order:

Debatable categories shown by statistical findings	Academic	Employer	Designer
Category 9: Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates	**71%**		**88%**
Category 16: The curriculum equips graduates to become competent designer for the long term	**86%**		
Category 26: The concepts of art and design being together are ambiguous in design institutes			**75%**
Category 17: Curriculum provides graduates with professional competence at entry-level	**71%**		
Category 23: The majority of employers think they do not have responsibilities in training graduates for professional practice		**71%**	

Table 5.3.12: 5 debatable categories supported by statistical findings

Methodologically speaking, since this study has adopted a qualitative-driven mixed method, understanding the phenomenon is the primary objective. Quantitative statistical findings are used solely to check the conjectures derived from the qualitative result. The statistical findings cannot just discard the validity of the lack of consensus of qualitative categories. In fact, some statistical findings where the respondents disagreed could be defensible. The general disadvantage of statistics is that they can show 'what' the results are, but not 'why' a particular answer has been chosen. Hence, the debatable results have to be judged in the view of the contextual factors. For example, some categories could already be considered as debatable even in the qualitative stage, such as the Categories 9 and 26. Some categories for which the survey respondents might not have sufficient insight and knowledge to judge, such as those about entry-level and long-term competence are provided by the curriculum, i.e. Categories 16, 17. In another example, in Category 23, a majority of employers think they do not have responsibilities in training graduates for professional practice, but the statistical result is lack of consensus.

The result even showed that more respondents (43%) agreed than disagreed (32%) that the employers have taken the training responsibility. The arguable factor is that the entry-level designers might not be in a position to judge what training they require. Another factor is that designers might not able to see the employer's perception in their position. With these degrees of uncertainty, the category should not be considered as conclusively invalidated.

Referring back to the theoretical framework and research question in Chapter 3, the findings have helped to describe the three parties making assertions in greater depth. These findings (content of categories) illuminate the intrinsic values, beliefs, perceptions and experiences of the respondents. The value system of individual stakeholders of the tripartite relationship is summarized in Table 5.3.7. External sources were then introduced to cross-check the findings in order to enhance the validity of the value systems in a holistic way. Eventually, a consolidated matrix table (Table 5.3.10) illustrates the similarities and differences between the various stakeholders' values behind their practice

These Mixed Method findings will be interpreted further in the next chapter (Discussion), which expands upon the major findings in relation to this study's objective and research questions, by comparing the results with the theories and previous research described in the Literature Review.

6. Discussion

This chapter considers the implications of the 'Mixed Method' findings presented in the previous chapter. It examines them in terms of their bearing on the research questions, and gives further consideration to why no consensus emerged on some issues and what might explain the unexpected results. The context for this discussion is the previous studies and theories set out in the literature review chapter, and in particular the themes that emerged there: competence and values; professional learning in the workplace in the transition; levels of professional expertise; design thinking and abilities; professional standards in the local and global contexts.

The chapter is composed of a summary of the main findings that are significant from the point of view of the research questions, an evaluation of how these findings contribute to answering these questions, and a comparison of my findings with those of previous studies.

6.1 Summary of major findings

This section summarizes what the main findings contribute to answering the four research questions this study proposed. The major findings include the categories which had been validated mainly with positively skewed statistical support shown in Chapter 5.3, as well as some standalone categories which came from the specific knowledge and experiences of the stakeholders. The contested findings are also included.

RQ.1. What do Hong Kong graduate designers, design academics, and design firm employers understand by 'competence' and 'professional training' of graduate graphic designers undergoing the transition from tertiary education to professional practice?

One finding from academia was that academics regard curriculum design as a complex and rigorous academic process which involves 'internal' members from academia as well as 'external' members from the design industry. Curriculum design involves many factors in order to instill both short- and long-term competence and vision in students. All academic respondents agreed that curriculum design had to cover a range of areas they regarded as essential for students' professional development, including professional, economic, social, cultural and personal awareness. They saw curriculum design as aiming to present a 'broad vision' to students, training them with knowledge and skills for professional practice applicable to the local graphic design industry at entry level.

However, most academic interviewees admitted that the criteria for judging competence are 'different' between the academy and the workplace. Most were of the opinion that academic criteria for students are broader than industry's criteria for what it expects from designers. Most designers concurred with the academics' view that the design programmes have given them a large extent of freedom, and expanded their creativity and personal interest. By contrast, the employers' criteria for judging competence are business-oriented and client-driven, not least because they have to consider many sales-related factors from the clients' perspectives. However, these perspectives consist of different kinds of knowledge and skills which are new to the graduates, there is inevitably a learning gap between the two settings.

The academics, employers and graduate designers interviewed had similar views about the qualities of competent designers as people with a command of the design process in the business environment, able to interact effectively with clients and co-workers. Apart from that, the academics reckoned that in order to count as

competent, designers must have a good command of design thinking, and be good communicators and problem solvers. Employers asserted that competent designers must be able to provide creative solutions and demonstrate good time management. They should have a good understanding of marketing, business development and user behavior. The opinions of the graduate designers were similar to those of the academics and employers; but most of graduate designers viewed aesthetic development as the most important part of graphic design competence: good designers should possess a personal style. Thus, their perceptions of the primary focus of competence are rather different from either the employers or the academics

Overall, the employers were unfamiliar with the academic training and the programmes of the graduate designers they hired. My findings indicated no particular category that would capture their understanding of this academic and professional training. In addition, the employers never explicitly said that their criteria for judging competence are different than those of academia. The academic and graduate designer interviewees seemed more aware of the differences between their criteria and those of the employers. Although the employers were not familiar with the training the graduates received, the findings indicate that they allowed graduate designers to try most of the aspects of the design process with no specific professional training provided. As the employers represented the situation, job descriptions are not precise in design companies which are small to medium enterprises (SME), and manpower was sometimes insufficient. Therefore, almost all members (whether experienced or not) had to take on a whole range of tasks. Overall, employers were not aware of the existence of a learning gap, so they had never thought of bridging the 'gap' between criteria.

Contested findings of Research Question One

In response to RQ.1 for the proposition that received the most assent, Category 2, most of the interviewees agreed that graduate entrants into the profession could not be considered as competent. Surprisingly, the perceptions of the designer respondents of the survey differed from that of the others. 59% of them rejected

the proposition that graduate designers with 1 to 3 years' working experience are *not* to be considered competent (whereas most of the graduate designers assessed themselves as less than fully competent in interviews). This might suggest either that the various stakeholders have somewhat different perceptions of competence, or that the meaning of the word 'competence' was explored in more depth by the respondents during face-to-face interaction with the interviewer in the interviews than in the survey. These could be contributing factors to the apparent divergence between opinions expressed in designer interviews and those revealed in the survey.

Another standalone finding was mainly drawn from the unique knowledge of the academics (Category 16: The curriculum equips graduates to become competent designer for the long term). According to the academic respondents, the design curriculum aims to equip graduates for a long-term career, by enhancing students' design, analytical and strategic thinking. However, the statistical findings (Q.26: The design course of your institute has equipped you to become a competent designer for a long-term career) show that opinion among designers was fairly evenly spread: agreement (35%), disagreement (33%) and no opinion (32%). There is thus no strong tendency towards any one opinion. The main reason could be that curriculum design involves the expertise of the academics who are familiar with specific objectives of the institutes, and so have insight into rationales and criteria of which students and graduates of the programmes may be less aware.

Yet another standalone finding from the academics was that the academic programme provides graduates with industrial competence at entry-level (Category 17). However, statistical findings show design graduates evenly split on agreement and disagreement. The inference is that the group that agreed found their learning appropriate when they started their first job, whereas the group that disagreed either finds the programme not even up to entry-level ability standard or exceeding this standard. In fact, the statistical findings also indicate that more respondents disagreed that the programme equipped the graduates with adequate skills for their first three working years. Overall, these findings seem to show that the respondents

were not convinced that the programme provided them with competence appropriate to the first few working years, or even for the longer term.

RQ.2. What do academics and design firm employers perceive as their role and responsibility in the professional training of graphic design graduates?
The academics reckoned that their responsibility for training designers ends with their graduation. They emphasized that the curriculum should have covered comprehensive knowledge and skills for graduates' long-term development, while future career development depends on the graduates' own ability. In fact, the academics have no obligation to be involved in *professional training in the workplace* (see Appendix 4: Glossary). Most academics agreed that it is the employers that should improve graduate designers' competence at work. Most employers, however, appear not to have taken on this task. Significantly, all designer interviewees took the same view as the academics.

By contrast, most employers expressed the view that they should not be burdened with the responsibility to train entry-level designers, especially as there are no formal rules or regulations obliging them to do so. Some even expected the designers to start contributing financial value once they were employed, rather than expecting more training. Under such circumstances, employers indicated that their companies had not provided any official training to graduate designers, who should learn on the job. Most employers admitted that they were reluctant to train entry-level designers, because in their experience, most of them would only stay in the company for 1 to 2 years, so there would only be a short-term relationship with no real business return. Tight deadlines and lack of resources are the other reasons they gave for not training their graduate designers. In addition, they also acknowledged that in their view there should not be any significant advancement or salary increases for apprentice graduate designers.

The results indicate a double 'blind spot' of academics and employers about professional learning . Because there are no formal regulations assigning responsibility, both academics and employers maintain their accustomed roles and

provide professional training to the graduate designers based on their own interests and beliefs. In fact, the academics asserted that the employers should have the main responsibility, but the latter mostly denied such responsibility. The denials of both stakeholders might cause adverse consequences which will be explored in the next research question.

Contested findings of Research Question 2

There is one standalone result (Category 23) which is arguably indicated in the overall statistical findings: the majority of employers think they do not have responsibilities in training graduates for professional practice. However, the statistical evidence from the design respondents seems to support the idea that some employers may have taken some responsibility for training, as there is more agreement (41%) than disagreement (33%) on this category. Nevertheless, there is still a substantial difference of opinion between the two groups. I think a plausible explanation is that graduate designers might not be able to give the same clear meaning to the term *'professional training'* (see Appendix 4: Glossary) as members of traditional professions, such as architects, accountants or medics. In the absence of clear criteria, designers lack objective references for what constitutes requisite on-the-job training, and may equate it with indices such as a salary rise, or the ad-hoc operational and production knowledge and skills acquired during problem solving at work. Such training may be technical and job-focused, and this might in some cases give inexperienced graduate designers the impression that employers had fulfilled a training role.

RQ.3. What are the learning and working experiences of graduate designers in the transition?

Some adverse outcomes are identified for RQ.3. Most interviewees, whether graduate designers, employers or academics, concurred that graduate designers work in an arduous environment, with long hours (10 to 13 hours daily), tight deadlines, heavy workloads, and overtime (often until 12 midnight and at weekends) with no extra payment. These collectively have been the 'norm' of the graphic

design industry, as most employers utilize graduate designers merely for the interest of business (i.e. profit maximizing or survival).

Stakeholder interviewees acknowledged that under the working conditions faced by most designers working for SME companies, competence is hard to develop. Most designers considered the situation detrimental to their health and as diminishing their passion in the profession. As a result, the 'criteria for competence' at work under such conditions were seen by most employers and designers as the ability to work long hours to meet tight deadlines and to produce many good quality design options within a short time frame. Notwithstanding, long working hours with harsh working conditions do not always contradict professional learning. In fact, in many professions such as architecture and medicine, graduates have to learn under such conditions in order to gain experience. However, the main point is that in these older disciplines' graduates are working within a systematic and dependable training system provided by stakeholders and professional bodies to achieve the 'goals' specified in professional examinations, whereas graphic design graduates have none of these regulated structures or goals. Thus, there should be a starting point for Hong Kong professional body (i.e. HKDA) to establish a professional 'goal'. For example, establishing a structured professional training programme and system for graduates to accumulate 'credit points' in order to earn the professional qualifications and status.

As was acknowledged by most interviewees from all stakeholder groups, the real life situation is that graduate designers are confined to a lonely, unhealthy and self-help environment, and yet are expected to retain a passion for their work. Some interviewees said that there are not many good jobs or considerate employers in Hong Kong, whereas graduate designers need to have a strong determination to expand their learning horizon, experiencing different types of clients and jobs. In contrast, most of the employers complained that newly employed graduates switch jobs frequently; some might stay in a job for a few months, or a year at most. The employers found it hard to invest resources in them without a longer time commitment. Or perhaps, the lack of loyalty from graduates in general might have discouraged the employers from investing resources to train them.

Overall, most designers and employers commented that graphic design is not properly respected as a profession in Hong Kong, or perhaps more generally. Clients and the general public perhaps stereotype designers as academic under-achievers and low income earners, and people generally do not value design because they think it is an easy job. Such a critical view of graphic design as not really a profession can be traced back to a range of potential social, cultural and educational influences. However, such a discussion is beyond the scope of this study.

RQ.4. What potential changes in design academia and professional practice may encourage the improvement of the learning and working conditions in the transition of the graphic design graduates?

In response to the adverse situation discerned from the findings of RQ.3, most interviewees from all stakeholder groups said that there is an absence of professional competence standards, accountabilities and connections among stakeholders in the graphic design profession. However, most interviewees from all stakeholder groups asserted that there is a need for Continuing Professional Development (CPD) for entry-level designers, both during the transition stage and as life-long learning, as design is a rapidly changing occupation. Some designers believed that CPD would be a good basis for a certification programme for transitional training, which should be run by design professional bodies and academic institutes. In addition, most designers expressed their frustration about very long working hours as the 'norm' in the industry. Government and professional bodies need to cooperate to rein in the practice.

In the long run, academic interviewees explained that HKDA does not provide comprehensive criteria for certifying graphic designers, unlike other professions, which have some authoritative body to certify an applicant as qualified to practice, and thus in effect a 'professional'. As long as there are no authoritative standards of competence, graphic designers would hardly be treated as 'professional'. Although both the employers and designers commented that there is a need for such standards, there are many issues to be resolved prior to implementation:

standards of practice of graphic designers could vary extremely and 'graphic design' is an ill-defined discipline with no preset criteria of competence.

New Insights and contested findings

Some unexpected insights emerged from the findings. One finding (Category 9) relating to the academics and designers was that the most well-known graphic designers in Hong Kong were believed to possess a unique personal style as well as professionalism. They seem to perform dual roles as both artists and professionals. The statistical findings support this conjecture. Most designers claimed that the way they present themselves to the public has brought them success in business and has made them 'celebrities' in the design community, and this 'celebrity' effect has influenced other designers. The academics argued that the students could be confused by such mixed images in which art and design philosophies are merged together in design practice. However, the concepts of art and design also converged in the curriculum, indicating that academics themselves are complicit in perpetuating this image. However, the statistical results indicate the 'celebrity' influence on graduates and education is debatable, as there is a division of opinion between the two groups, with 35% disagreeing and 40% agreeing in their responses to Q.10: Hong Kong's famous graphic designers have influenced the design education in Hong Kong. However, in another finding (Category 26), most designer interviewees stated that they found the art and design concepts learned in the design institutes confusing, as the boundary between them is not clearly defined. The statistical results also indicate the similar confusion.

Although graphic design can always be seen as both a visual artifact and a business tool, the employers and designers seemed to value these two aspects. In response to Category 13 (most graduates like to develop their own style at work, but employers criticize them for not knowing the business meaning of design), the employers said that some graduates might not know how to distinguish between art and design in practice, and they might see 'design' more as a visual artifact than a business tool. On the other hand, the designers argued that the employers see 'design' as merely a business tool. Most designers argued that clients and

employers might not have the sophistication to appreciate attractive visuals and creativity. However, both the employers and designers, despite their different perspectives, seemed to project a rather narrow meaning of art and design.

The main negative outcome of graduate designers fusing art and design concepts in design practice is probably to do with the 'working attitude and approach'. In other words, artists might produce personal works that reflect inspiration and personal artistic expression, whereas designers need to produce work that clients and users will find functional. However, good design requires an artistry and style, as well as taking into account other industrial and business factors. This means that art and functionality need to co-exist in graphic design. Nevertheless, there are endless historical debates about whether graphic design is simply a functional tool for business, or part of fine art (a matter already discussed in the literature review). This study does not resolve this issue one way or the other, especially as it is not central to this study.

6.2 Evaluation of the findings in terms of their bearing on the research questions

This section evaluates the main findings in terms of their significance or deficiency in relation to the research questions. For example, some findings provide unexpected and important insights in relation to the research questions, and could be considered as significant. Others might not be sufficient for answering the current research questions, so they are considered as deficient, indicating possible areas for further research in the future.

In respect of Research Question 1, there is no finding to indicate any specific 'professional training collaboration' between the academia and the workplace or the professional body related to the transition, even though the academic respondents thought that competence criteria employed by academia are different from those in professional practice. The employers, on the other hand, do not seem to realize that there are differences in knowledge, skills, criteria of competence between academia and the workplace, and there is no finding that

indicates that the employers have the knowledge necessary to understand what kinds of professional training they should provide for the graduates. No finding emerged to indicate that either the academics or the employers had concentrated on practical training and communication between both parties to improve the graduates' practical competence. The missing information implies that there is not enough awareness of the importance of professional training in the transition for graduates, or sharing of responsibility for it, on the part of the stakeholders.

For Research Question 2, the most significant finding is a double 'blind spot' of academics and employers about professional training. The findings indicate mutual denial of responsibility rather than involvement: the stakeholders denied their responsibility for improving the graduate designers' competence. According to the interview findings of academics and graduate designers groups, employers may be taking advantage of the graduates and offering working conditions that the latter's lack of professional experience makes extremely difficult to cope with.

For Research Question 3, one of the most significant of all findings is that graduate designers have been working in arduous working environments which are not conducive to professional learning. This is the finding agreed by almost all the interviewees that I regard as the most important. Another finding agreed by most of the interviewees is that graduates have to rely on themselves to acquire professional knowledge, and at the same time have to battle through long working hours and a heavy workload. Another significant finding indicates that graphic designers are not respected by clients, and graphic design is not recognized as a profession by the general public. Significantly, the findings may have revealed some long standing issues embedded in the design discipline in general, and some cultural and social issues that influence how people view and use design in Hong Kong. However, previous research (e.g. Salchow, 1997, McCoy, 1997, Cheung, 2011) suggests that this is the situation of graphic design professional practice not only in Hong Kong, but globally.

For Research Question 4, there are no specific findings to indicate potential changes in the stakeholders' present roles in facilitating the future professional learning of graduates in the transition. However, some obvious and effective strategies to improve the situation have been proposed from the findings by most of the stakeholders. In particular they agree that continuing professional training is needed for graduate designers during the transition. A comprehensive set of competence standards that would result in a professional qualification for apprentice graduate designers should be implemented. All these would require vigorous research, planning and collaboration between academics, professional bodies and employers, and there is no reason to expect any such improvement in the short term. In fact, this research question does not generate any suggestions for the short-term improvement of the existing practice. However, these findings seem to open up a substantial area for further research in professional competence standards and *continuing professional learning* (see Appendix 4: Glossary).

6.3 Comparison of my findings with previous studies

This section discusses my findings in relation to the previous studies of design education and professional practice in Hong Kong dealt with in the literature review chapter. The findings might reveal similarities, differences or even new insights. The concept of graphic design professionalism, theories of design knowing and thinking, ability and professional expertise development, professional competence in the earliest stage - the transition and value system of graphic design are essential for the discussion of what this study has found about graduate designers, as they are among the fundamental components of what could be considered competence in a designer. The findings of existing graphic design practice in terms of fostering graduates' learning are examined by the previous studies applied to the learning in the transition. The recommendations for improvement of practice will have to be brought together with discussions with local and Western graphic design professional bodies, as well as comparisons with other older design disciplines such as architecture. Finally, some findings which relate to debates about art and design concepts in the graphic design discipline will be discussed.

6.3.1 Findings from this study compared with recent official research

In this section, some significant findings are compared with the most recent and representative reports pertaining to design education in Hong Kong, namely the *Design Task Force* edited by Heskett and published in 2003 and the *DesignSmart Research Project* of 2008 which were documented in sections 2.3.5 and 2.3.6 of the literature review.

Shortage of competent designers in higher professional practice

The official design education study by the *Design Task Force* (2003) promoted a view of design as a part of professional business activity, not as a form of art. Its description of many Hong Kong designers' views of design was that "the work is often limited to skills of execution used to establish superficial differentiation that 'add values'… the concept goes no further than the most superficial treatment of surface appearance, usually in imitation of what already exists in the market" (Heskett, p.29). Hong Kong designers in general are receiving low levels of payment, and executing lower ranking jobs. If the low payment reflects the standard of design services, then Hong Kong does not have a high standard of designers in professional practice (Heskett, 2003). Subsequently, the *DesignSmart Research Project* of 2008 identified a serious problem in the workplace: "both the designers and employers in Hong Kong agreed that there was a shortage of experienced and competent designers in the industry" (p.7).

These reports resonate with significant results of this study. Most interviewees asserted that the qualities required in competent graphic designers are hard to find in Hong Kong; they admitted that it is difficult to nurture competent designers in the current stressful working environment (with long working hours, no official training, lack of accountability among the stakeholders, tight deadlines, unpaid overtime) among other factors that hinder professional development and contribute to Hong Kong's shortage of competent designers.

Discrepancies of competence standards between designers and employers

The *DesignSmart Research Project* (2008) describes that there are different perceptions of competence criteria applied by design firm employers and designers in terms of knowledge, skills, capabilities and attitudes. But the designers evaluated their own competence in these areas higher than the employers did. According to the qualitative interview findings of this study, most stakeholders (including the designers themselves) agreed that apprentice graduate designers are *not* competent in all areas of design practice. Surprisingly, the quantitative findings of the survey reveal that most designers denied this point. They seemed to rate their levels of competence in the workplace higher than the employers did. There are certain similarities here with the previous research.

Aesthetic appearance

Heskett (2003) argues that clients' primary expectation of designers is to establish a superficial differentiation through 'cosmetic design', implying that designers' scope for artistic execution levels could be constrained mainly by clients' low level of expectation. Clients might not see design as a strategic business tool, instead expecting a 'cosmetic design' direction as a method of differentiating themselves from their competitors. With such an assumption, designers' potentials are not fully utilized. Alternatively, it could also be argued that currently most designers are competent only in the area of artistic execution, but not in terms of a broader or deeper level of strategic knowledge. However, my interview findings indicated that the designer interviewees believed that competent designers should also possess a personal style, and that aesthetics is the most important part of graphic design. The point is that some designers might regard art as their most important concern, more so than marketing, user experience, or the social and cultural aspects of professional practice.

6.3.2 Professional expertise, design ability and design thinking

In terms of the model of the seven levels of expertise of Dreyfus & Dreyfus (1986, 2003) discussed in section 2.4.5 of the Literature Review, apprentice designers have the characteristics of 'novice' and 'advanced beginners' (interview findings for

Category 2: Graduate designers in the first few working years are not considered competent). They have to follow rules and working patterns. Professionals at these levels need to follow strict rules to deal with problems, mottos are used as guidelines in the workplace, and recent graduate designers' situational awareness is still limited. However, a group of employers commented that some distinctive changes could occur in the third year, when graduates start to handle design briefs and work independently without much supervision. The comment also indicates that those designers with three years' working experience might have entered the 'competent' level of the 'seven levels of expertise' model, the characteristics of which are that the professional would select elements in a situation that are relevant, and choose a plan to achieve the goals independently. However, these findings do not imply that graduate designers would all follow this pattern because many other factors could alter the progress of expertise – internal factors (cognitive ability of the designer), external factors (learning environment), or both. On the other hand, Dreyfus and Dreyfus's theory of seven levels of professional expertise seems relevant and applicable to graphic designers' professional development, not limited to other older disciplines and professions. Further research into expertise and development of graphic designers could be expanded on the basis of this model.

The response to Category 7 (most employers would allow graduate designers to try out most aspects of the design process), indicates that graphic design graduates at novice and advanced beginner levels do possess some distinctive design abilities, such as producing new ideas that could be surprising to the team members and could make a contribution to the company. The finding seems to echo the two major characteristics of design ability mentioned by Cross (1990): the ability to "produce novel and unexpected solutions, [and to] tolerate uncertainty, working with incomplete information" (pp.130-132). While the graduate designers were in junior posts in the workplace, their job nature and ability also reflected some evidence of the other core features of design ability itemized by Cross (1990), namely the ability to:

- “apply imagination and constructive forethought to practical problems
- use drawings and other modeling media as a means of problem solving
- resolve ill-defined problems
- adopt solution-focusing strategies
- employ abductive/productive/appositional thinking
- use non-verbal, graphic/spatial modeling media” (pp.130-132)

Schön (1983) states that designers, like other professionals, are ‘reflective practitioners’, constantly facing disorienting and ill-defined problems in real life situations. Experienced designers, however, continue to apply their previous experience to tackle new situations, and through trial-and-error reveal new solutions through “frame-experiments” (Waks, 2001, p.38). Waks carried out experiments involving the designer’s ‘knowing-in-action’ by applying his or her tacit knowledge, and ‘reflection-in action’. Such knowledge is mainly ‘tacit’, that is to say, learned from previous experience and intertwined into the designer’s professional practice. There are three ways to learn to acquire tacit knowledge in professional practice, according to Waks (2001): 1) Self-instruction; 2) Apprenticeship; 3) The practicum. However, the first two ways are more related to the experience of the graduate designers in this study, as ‘practicum’ mainly refers to short-term training in the workplace.

According to the finding of Category 1 (arduous workplace environment makes it hard to foster competence in designers), almost all interviewees indicated that very long working hours, tight job deadlines and heavy workload have been the ‘norm’ of graphic design practice. Some designers pointed out that the deadlines of the projects were too tight to allow them to *reflect* while working. The designers have to deal with the pressure to produce designs to tight schedules, which is also evident in the statistical findings. The scenario seems to indicate that designers do not have sufficient time to follow Waks’ (2001) first method (self-instruction) for gaining tacit knowledge. As for his second method, apprenticeship, the response to Category 19 shows that most graduates worked in small and medium-sized companies, the employers of which typically do not provide internal or external

training as they reckoned on-the-job-training, i.e. working to tight deadlines, is the best way to train designers. Apprenticeship therefore is an unlikely model with the current attitudes of firm employers, because it requires both the senior staff and the novice to work together to tackle problems and search for solutions. The interview findings in response to Category7 (most employers would allow graduate designers to try out most aspects of the design process) seem to validate this assumption, as small to medium sized companies are often short of manpower, so every staff member is of critical importance to the company. Spare resources for apprenticeship could be non-existent. Furthermore, one of the interview findings (Category 8) was that in the view of all designer interviewees, most employers had not fulfilled their training responsibility, and instead exploited the graduate designers by imposing heavy workloads. In other words, the employers of the small to medium-sized companies might not have realized the importance of 'reflective design thinking', so they might not have allowed sufficient resources for the graduate designers to acquire tacit knowledge through 'self-instruction' and 'apprenticeship'. Graduate designers are not, it seems, working in an environment suitable for growing through experience and building tacit knowledge.

6.3.3 The challenge of professional learning in the transition

According to several of the earlier studies discussed in section 2.4.6, there is a 'learning gap' between academic and professional practice (Schein, 1972; Argyris & Schön, 1989; Eraut, 1994, 2007 ; Boshuizen, 2003; Tuomi-Grohn, Engestrom & Young, 2003; Smeby, 2007; Asian Development Bank, 2012). The shift from 'learning' to 'practicing' can be the most vital and most neglected stage of the training problem (Analoui, 1993). Students learn mostly 'coded' (that is, book-based) knowledge from their academic studies, whereas graduates rely more on tacit knowledge to execute work in the workplace.

The interview findings of this study are entirely in accordance with this contention. In Category 12, most academics and designers asserted that academic competence criteria are different from those in professional practice. As the academics state, academia has broader objectives for measuring the competence of students as

compared to the industry. Learning and competence are related to the students' awareness of knowledge of professional, social, cultural, business and personal aspects in academia as stated by all academics under Category 15. Category 10 (Criteria of assessing competent designers are based on business contribution driven by his/her ability to work overtime and efficiently) was endorsed by most of the employers and graduates. This seems to lend support to the view that the challenge of the transition from the academy to the workplace is that the two involve "different types of discourse and epistemologies" (Eraut, 2007, p.116). In other words, different value focuses are already embedded in the beliefs and practice of the employers and academics.

As discussed in section 6.3.2, my findings indicate that graduate designers in the first two years are still regarded as having attained only a modest level of professional competence, since they still need to follow rules given by their seniors at work. According to the seven levels of expertise of Dreyfus & Dreyfus (1986, 2003), they are classified as being at the 'novice level' of competence. From his longitudinal research, Eraut (2007) concluded that there are three factors that affect novice learning at work: 1) challenge, 2) support, and 3) confidence. To this he added three contextual features that affect novices' learning in the workplace: 1) allocation of work, 2) relationship with people 3), and feedback on performance. For novice professionals to progress well, the quality of work needs to be sufficiently new to *challenge* them but without being too harsh or intimidating that it might eventually affect their *confidence*. The *allocation of work* needs to be reasonable to allow them to have time to reflect on the challenging situation, provided that there are colleagues working alongside them to form working relationships that will provide *feedback* and *support*. Inadequate feedback might cause them concern as to whether their performance meets the employers' and their own expectation, and that might eventually weaken their personal commitment to the company (Eraut,2007).

However, my interview findings in the highest ranked Category 1 point to the stressful workplace environment as an obstacle to improving competence. Most of

the graduate designers are probably working under such conditions (very long working hours, tight job deadlines and heavy workload) according to the evidence of the interview and survey findings. These findings point to working conditions incompatible with Eraut's (2007) theories of circumstances beneficial to professional learning.

In terms of Eraut's contextual factors, shortage of manpower and the employers' reluctance to take on training responsibility might also imply that the employers and co-workers do not provide sufficient *support* and *feedback* to graduates when the latter face obstacles at work. Inadequate feedback might weaken the young professional's *personal commitment* to the company. Remarkably, the interview findings of Category 20 show that most of the employers indicated that junior designers may switch jobs three times or more within the first 3 years, i.e. junior designers do not show commitment to the company. Overall, this so-called graphic design professional 'norm' pointed out by most interviewees points to damaging elements which affect the growth of competence of graduate designers, and which correspond with concepts of the transitional learning theory cited earlier. In conclusion, the findings verify that there is a learning gap between the two settings, but the gap probably has never been made explicit or bridged due to existing learning and contextual factors at the workplace.

6.3.4 Value differences in notions of competence

The last section showed that academic competence criteria are different from those of workplace practice. This means that different kinds of criteria of knowledge, skills and attitude are expected in these two different environments. Differences in criteria between academia and the workplace also imply that academics and employers hold different sets of values by which to judge the performance of students and graduate designers. The table below extracted from findings Table 5.3.7 summarizes the various values that characterize the three categories of stakeholder involved in this study.

Values of the stakeholders	Evidence from the findings	Academic	Owner	Graduate designer
Personal	Category 15, 18 (Academic) Category 13 (Designer)	●		●
Professional	Category 15, 17, 18 (Academic)	●		
Social	Category 15 (Academic)	●		
Cultural	Category 15 (Academic)	●		
Educational	Category 14, 16 (Academic)	●		
Business	Category 5, 15 (Academic) Category 5, 10, 13 (Owner) Category 5, 10, 13 (Designer)	●	●	●
Marketing	Category 5, 15 (Academic) Category 5, 10, 13 (Owner) Category 5, 10, 13 (Designer)	●	●	●
User	Category 5, 15 (Academic) Category 5, 13 (Owner) Category 5, (Designer)	●	●	●
Aesthetic	Category 13 (Designer)			●

Table 5.3.7. Stakeholders' values derived from the findings

Similar values in the categories of business, marketing and user

The table shows some similar values shared among all stakeholders, but also some values that are embraced by only one or two of the individual stakeholder groups. The differences in values could enhance or conflict with each other. From table 5.3.7, it is clear that three value types – Business, Marketing and User values are shared by all the three stakeholder groups. As unveiled in the literature review, "marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large" (American Marketing Association official website, 2007). Cavanagh (2010) states that 'freedom' underpins the growth of the economy, which depends on the free market, free entry and departure of the market by players, and freedom to create new businesses. Business values of the firms mostly point to profit-making. As regards 'user value', Boztepe (2007) identifies four main types in her study of design – "1) utility value, 2) social significance value, 3) emotional value, and 4) spiritual value" (P. 61-62). Many academics think that designers should not simply focus on form and aesthetic

appearance, but also pay attention to user experience, in terms of the context of social, cultural and emotional factors (Heskett, 2002; Boztepe, 2007).

According to Section of 2.4.9, which discusses the value system between academic institutes and professional practice; despite institutes and professional practice sharing similar values, these values are not at the same level of priority. With the education institutes, the students are still at the 'learning' level. Within the professional practice, the designers are at the 'practicing' level. Although three values: Business, Marketing and User values are shared by all the three stakeholder groups shown in table 5.3.7, it might be expected that these values should be given higher priority by the professional practice than by the academic institutes.

Broader vs. narrower value systems

Significantly, as well as the three types of values, the academics saw competence in a broader perspective than the employers. In response to Category 15, the academics stated that the objective of the curriculum is to cover essential (i.e. professional, social, cultural, economic, and personal) areas needed to prepare the students for short and long-term professional development. They viewed graduates' competence in terms of sustained personal development, which should involve a continual process of learning how to adapt to future changes. By contrast, in Category 10 the employers commented that competence for novice designers is measured purely in terms of business return. The companies' objectives are to fulfill the business purpose and to meet the clients' marketing requirements and users' needs. The employers' standards for judging competence tend to be narrow. In other words, the essential disagreement is that academia seeks to imbue design students with a broad education, whereas the workplace utilizes the graduate designers' ability to fulfill business and marketing purposes - a contrast between 'giving' vs. 'taking' concepts.

Personal and aesthetic values

Additionally, graduate designers embrace two more types of value: personal and aesthetic values. Although aesthetic values seem to be an essential criterion generally required by both academics and employers, they did not say so explicitly, whereas graduate designers did. According to the findings (Categories 5 and 13), with positive statistical support, most of the designers asserted that a competent designer should possess a personal style (62%). Most of the designers reckoned that aesthetic development is the most important aspect of graphic design (70%). According to my findings, therefore, personal and aesthetic values are very important to designers.

Schwartz (2005) listed ten basic distinct personal/ human values; they could also be described as basic motivations or drives: "1. Self-Direction; 2. Stimulation; 3. Hedonism; 4. Achievement; 5. Power; 6. Security; 7. Conformity; 8. Tradition; 9. Benevolence; 10. Universalism" (p.1-2). Four of Schwartz's 'values' matched with the findings (Categories 13 and 15) on personal identity and aesthetic values of designers:

1. Self-Direction – Independent thought and action, choosing, creating, exploring
2. Stimulation – Excitement, novelty, and challenge in life
3. Achievement – Personal success through demonstrating competence according to social standards
4. Power – Social status and prestige, control or dominance over people and resources

'Aesthetic' is a general term to describe the appearance and uniqueness of a designed object (Pham, 1999, p.365). The designers interviewed for this research felt that personal style in graphic design work might refer to the unique appearance of the artifact they desire to create, which projects some kind of characteristics, recognizable by the general public that would identify the designer as the artifact's creator. However, this aesthetic value of the designers conflicted with the values of the employers: according to the replies to Categories 10 and 13, most of the designers and employers agreed that graduates would like to develop their

distinctive artistic style. But employers criticized them for not knowing the business meaning of design, since the graduates' view that commercial jobs are lacking in artistic value and place too many restrictions on their creativity might lead them to neglect the objectives of the company and the clients. However, the designers argued that the clients rejected their design work because of the clients' lack of aesthetic culture and appreciation. From the employers' perspective, the value of design is based on its business contribution, with designers producing effective solutions in a timely manner. Perhaps this does not allow enough room for artistic and creative development of the graduate designers.

Conflicts in values

These conflicts in values emerging from my findings are also quite similar to the findings of the *DesignSmart Research Project* of 2008, which reported that practical competence tended to be interpreted differently by designers and employers. Some potential reasons for the mismatch were:

Designers' Views

1) "It is due to lack of encouragement of creativity in the workplace (87.7%)
2) It is due to employers' misunderstanding of the value of design services (84%)

Employers' Views

1) Courses taught in design institutions are not pragmatic enough to match market needs (73%) "(p.18)

The findings of the values of the stakeholders (see Table 5.3.7 above) seem to demand qualifications of the opinions of *DesignSmart Research Project*. This may be due to the fact that the report did not identify the various values and beliefs regarding competence held by different stakeholders, or the conflict of values which is arguably responsible for the generally disharmonious relationship between employers and designers in the Hong Kong design industry.

6.3.5 Graphic designer standards in local and global perspectives

According to the responses to Categories 4 and 6, most stakeholders reckoned that a continuing professional learning programme should be introduced in the first few years of early career development, in order to increase designers' competitiveness. Most academics agreed that design is a profession that changes rapidly, and concluded that the only way to keep up with these changes is through continuing professional training, especially since most graduate designers are working in SME companies which do not provide training. The academics commented that the existing membership of the Hong Kong Designer Association (HKDA) has not provided a comprehensive professional standard for graphic designers, while the panel to interview qualified potential members was thought to be too 'subjective'. Although some designers gave positive response to the idea, they queried the implementation and validation of the standards, since graphic design remains an ill-defined discipline, especially because there are difficulties in agreeing on 'objective' criteria by which to judge 'creativity and aesthetic appearance'. Nevertheless, they still reckoned that certain standards should be implemented by the official design bodies or institutes.

Subjective Vs. Objective standards

Unfortunately, previous studies on continuing professional learning and the comprehensive standards issued by the Hong Kong Designers Association (HKDA) are rather disappointing. According to HKDA's membership examination study (see Section 2.4.8), the work presented to the examination panel are to be judged mainly on their aesthetic treatment, execution technique and technological capabilities, whereas the full range of what practical design activity involves, such as design knowledge, process, research and code of practice, receive scant attention. Furthermore, there is no regulated continuing professional development (CPD) programme offered to designers to keep up-to-date with the rapid development of the graphic design profession.

All the same, there are some models from which HKDA could learn, such as overseas design bodies like the AIGA, the professional association for design and

the Chartered Society of Designers (CSD) of the U.K. Basing themselves on joint research and collaborative efforts, these two associations have developed a set of main categories and sub-categories to define graphic designers' competences (see the Chartered membership criteria of CSD Genetic Matrix™, with 4 core criteria and 16 competencies, and the 13 competencies of AIGA's *The Designer 2015* in Section 2.4.8.). AIGA ranks competencies according to their importance. CSD also offers CPD training to professional members. There is also an older design-related professional discipline that could be drawn on in improving the competence standards of HKDA, CSD and AIGA, namely architecture. According to Section 2.4.7 of the Literature Review, the examination criteria for architects' registration of the Hong Kong Institute of Architects (HKIA) do not include 'subjective' aspects of architecture such as aesthetics, but rather focus on the directly practical aspects, such as the knowledge of functional building design, contracts, professional conduct, building structures, materials, technology and legal aspects. If this model were followed, HKDA should start focusing on the more 'objective aspects' of graphic design practice such as target user study, marketing, business strategies, legal matters, project management, production and technology, instead of relying primarily on the 'subjective standards' of aesthetic appearance and quality of execution.

Accountability among stakeholders

For architects, passing the examination is just one step towards certification to practice legally. The employer, the professional body, the graduate architect and the education institutions are all stakeholders in the transitional learning period before the examination. Each has its individual responsibility and role. From an interview with a Hong Kong Registered Architect and firm owner, I found that the Hong Kong Institute of Architects (HKIA) requires the candidates to have a supervisor and an advisor in the workplace who are usually the firm owner and the candidate's immediate superior. Another part of the Registered Architect examination is that the graduate has to keep a log book to record the projects done during the years of apprenticeship, and both the supervisor and advisor have to sign the log book to validate the working experiences. There is thus a much closer

working relationship between the stakeholders in architecture than in graphic design. Graphic design could learn much from the rigor of architectural training and practice. It is true that the architectural design of, say, a building could have obvious implications for the life and death of the users or third parties. However, Frascara (2006) emphasizes the impact of graphic design on knowledge, values, beliefs, culture, social norms, behaviour, social and personal securities, people safety, experience, preference in the society.

Overall, both previous studies and my research confirm that current professional bodies like HKDA have neither objective and comprehensive professional standards nor CPD programmes. One key factor is the lack of a 'body of knowledge' which is relevant to professional standards, which can go beyond the subjective criterion of aesthetic value which is currently the principal measure of competence. The professional competence models of CSD and AIGA provide examples of objective criteria put into practice. However, since certification by the overseas professional bodies is not necessary for professional practice, it means Hong Kong designers without 'formal' graphic design training, or who do not belong to any professional bodies, are still legally allowed to practice in the industry. This issue has opened a bigger debate in the Western world as well as in Hong Kong on professionalism: is a graphic designer a professional? Some leading academics argue that it is worth noting how clients distinguish between professional and non-professional designers. It seems that there is no difference between them in the eyes of the lay public. The responses to Category 11 (agreeing 81%, disagreeing 4%) show strongly that designers and employers wholly agreed that graphic design has not been generally respected and recognized as a professional discipline. Hong Kong society in general has stereotyped design professionals as academic under-achievers, and designers' tasks are seen as unimportant. However, most of the design firm employers interviewed asserted that the large number of low quality practicing designers produced by quite a few substandard private schools has had a detrimental effect overall on the standards, and hence by implication on the professional standing of the occupation.

It might, however, not be the professional bodies of Hong Kong or the West that are to blame for the current situation. These are also global, historical, social, cultural, and technological issues relating to aspects of present professional practice in graphic design. Nevertheless, what has been said about professional standards of graphic designers opens the way for a broader approach to issues of graphic design within the local and global context.

6.3.6 General graphic design issue

Two of the categories I put to my interviewees touch upon issues that are under debate in the graphic design industry in the West and the East. These are Category 9: Hong Kong's famous graphic designers project a mixed image (an artist with style and a professional designer) and have influenced the graduates; and Category 26: The distinction between art and design is ambiguous in design institutes. Basically, what is at issue is the co-existence of art and design concepts in graphic design of Hong Kong.

One much-debated question in the academic literature is whether graphic design is part of fine art or a functional social tool (Aynsley, 2000; McCoy, 2001; Frascara, 2006; Drucker & McVarish, 2009). One academic criticism is that graphic design history has overemphasized art history, and that the applied function of graphic design as a communication tool for economic, social, cultural and political development has been overshadowed**.** Contributions to the literature by design scholars have generally not gone beyond the concept that graphic design is about visual artifacts, styling and paradigms established by famous designers (McCoys, 1998; Twemlow, 2005; Frascara, 2006)**.** It is however worth noting that design originally started with an art school tradition, and that it was not until the information-driven economic era that design began developing itself into an independent discipline in universities, establishing a body of knowledge building on user behavior, business and market factors, social and cultural changes, and gradually breaking away from the art school tradition.

The previous studies have asserted that the overemphasis on styles still influences present graphic design practice and graphic design education in the West, China and Hong Kong. For example, in Hong Kong, leading academics have documented graphic design historical development, artifacts development and significant designers from early styles such as the 'Shanghai style' in the 20's (Clarks, 2009), to the American graphic-influenced 'cross-cultural design' in the 60s (Steiner, 1995). From the 80s until the present, Hong Kong's major graphic designers have tended to choose 'Chinese cultural elements' in graphic design to identify their personal style or 'signature' (Wong, 2001). These previous studies generally support my own finding that the graphic design profession in Hong Kong seems to take its lead from the stylistic beliefs of the leading Hong Kong graphic designers. As an academic interviewee (A5) commented: "the older generation of famous graphic designers measure their competence by pointing to their artistic talent, style and skills". As reflected in Category 9, most designers asserted that the way the leading designers present themselves has been successful in the design business as well as in the design community, and that 'personal style' could be a successful brand identity. On the other hand, most of the academics explained that because art and design functional concepts co-exist in the design curriculum, students could be influenced by both concepts as well as by the aesthetic style of leading designers. This is not a problem in and of itself, unless graduate designers focus merely on the 'aesthetic style of the artifact', without regard to what their clients want from their designs and the objectives behind the design works.

The critical question is therefore whether apprentice graduate designers could see the 'full meaning' of graphic design (the achievement of aesthetic appearance as well as communication function for the users in the graphic artifact), or whether, in the worst case scenario, they ignore the contextual requirements and just go for the aesthetic appearance. This issue seems to be highlighted by the responses to Category 13: Most graduates like to develop their own style at work, but employers criticize them for not knowing the business meaning of design. One designer (D2) said: "clients would hinder the development of success of a designer, as success comes from being passionate, skillful and talented in designing aesthetic works".

This art or function antithesis seems to raise real issues about professional design practice.

6.4 Summary

This section has attempted to develop the conclusions and insights bearing on the research questions that can be derived from the findings of this study. Among these, the most significant for the research questions were the importance of the stressful workplace environment for the graduates; design graduates having to take the initiative in acquiring professional knowledge; and the double blind spot of the employers and academics about who has responsibility for the professional training of graduates in the transition.

Some of the findings of this study raised still broader issues about graphic design: fine art versus functional design in graphic design practice; the public esteem in which graphic design is held, and the fact that it is not generally recognized as a profession. Both issues relate to the local as well as the global arena. Also, some of my findings point to fundamental disagreements between all the stakeholders in the interpretation of the transitional learning. The employers' understanding of the academic objectives and prior training of the graduates is arguably very narrow and shallow. The recommendations suggested by the stakeholders are likely to be ineffective in the short run, due to the absence of authoritative continuing learning programmes and comprehensive competence standards established by the HKDA, and because there is no involvement or supervision from the professional body to facilitate collaboration between academia and professional practice. Nevertheless, there are some regulations, learning programmes and competence standards that HKDA could learn from overseas professional bodies and related professions in Hong Kong such as architects.

As regards to how my findings relate to previous studies and theories, they largely corroborated the contention of the reports of *Design Task Force* edited by Heskett (2003) and *the DesignSmart Research Project* of 2008 that Hong Kong lacks competent designers. However, my study's findings about the value differences

between the competence expectations of the three stakeholders arguably provide a better understanding of the reasons for the 'mismatch' identified by the DesignSmart Research Project (2008). This mismatch of values also reflected a 'learning gap' between the two settings of academia and workplace, but the gap seemed never to have been bridged which caused a disharmonious working relationship between the designers and employers. A similar phenomenon was also found in the newly qualified graduate designers and the employers in this study.

The findings show that graduate designers in Hong Kong possess to a certain degree some of the characteristics of expertise in design developed in previous models, i.e. Design Ability, Design Thinking and Levels of Professional Expertise. More specifically, they show that design graduates are only at the initial stage of professional development. In terms of learning theory of transition, Hong Kong's graduate designers confront an 'unfavorable working environment' for professional learning in terms of all the factors that the literature regards as decisive: *workload and time for reflection*; *colleague support*; *feedback on performance from superiors*; *challenge and confidence*.

In conclusion, the findings of this study have indicated that graphic design has yet to establish itself as a discipline and profession in Hong Kong, the body of knowledge and technique that should be regarded as decisive to its status as a profession still needs to be formulated by the academic institutions and the practitioners. The professional body that any profession needs to supervise and identify the admission of new members into the profession should arguably take a more active lead in collaborating with the academic institutions in determining appropriate and publicly acceptable standards of professional knowledge and competence, and in providing effective professional learning programmes as well as assigning responsibilities among the stakeholders

7. Conclusion

7.1 Problem statement and objectives

This study has researched the initial stage of professional learning by Hong Kong graduate graphic designers making the transition from academic education to professional practice. Previous studies by Heskett (2003) and DesignSmart Research Project (2008) of the Hong Kong Polytechnic University commented on Hong Kong's lack of competent designers in general. The DesignSmart Research Project (2008) also revealed a serious mismatch between the needs of the workplace and the actual knowledge and skills of the workforce in all design disciplines in Hong Kong. According to this project's findings, design firm employers and designers tend to point to academics as having the main training responsibility for such skills. Though useful in many regards, the DesignSmart Research Project (2008) directed its focus and criticism on the more mature stages of designers' ability (i.e. higher levels of competence, such as ability to work independently and ability to deal with individual projects employing managerial skills), while the initial stage of professional learning received no attention. Those researchers who have investigated the earlier stages of professional development point to the existence of a learning gap between academic and workplace settings that graduates have to face (Schein, 1972; Argyris & Schön, 1989; Eraut, 1994, 2007; Boshuizen, 2003; Tuomi-Grohn, Engestrom & Young, 2003; Asian Development Bank, 2012).

The typical view in the academic literature has been that the first two or three years after receiving academic qualification are likely to be the most critical and influential stage in developing one's professional knowledge and practice. In most other professional fields such as architecture and accountancy, there is specific training in the transitional or initial working years of the practitioner that would qualify them as 'professionals'. In other words, the learning gap can be bridged during the transition. However, 'graphic design' has no such official training period, and little research has ever shed light on the graphic design community in Hong Kong .

Based on the above, the aim of this study was to address the gap in our understanding of the learning and working conditions and experiences of novice graphic designers in their first three years of professional practice. The following specific objectives guided the study:

1. to investigate whether graphic design graduates experience a learning gap when transitioning from tertiary education to workplace settings;
2. to understand the nature and degree of involvement of different stakeholders (i.e., academics, employers, and design graduates themselves) in bridging the learning gap;
3. to reveal the general learning and working conditions of graphic design graduates in the transition; and
4. based on the findings, to recommend ways of improving professional working and learning conditions of graduate graphic designers in the future.

Since this study aimed to gain more insights into the learning gap experienced by graduate designers, the professional training offered to them, competences expected of them and their overall transitional experiences, graduate graphic designers were the core group under study. The academics, i.e. members of the tertiary institutions that teach graphic design and are assumed to prepare graduates for their professional careers, composed the second group. The last group involved in the study consisted of employers, i.e. directors or owners of graphic design firms who hire, supervise and evaluate the performance and working experiences of the graduates. Academics and employers were considered as the supplement-groups in this study. In other words, even though the terms 'stakeholders', 'academics', 'employers', 'graduate designers' all appear throughout this thesis, the key group of stakeholders for this study is graduate graphic designers.

7.2. Significance and contribution

The results of this study are arguably significant for design education and professional practice in Hong Kong, for the following reasons:

1. No research has previously been done specifically on the first stage of the graphic design profession in Hong Kong, when graduates make the transition from college to the industry. Leading academics refer to this initial stage as a critical learning period as regards professional competence. This study has addressed this research gap.
2. The learning gap and lack of training raise a set of issues for graphic design academics and profession bodies that have not been adequately dealt with previously.
3. Graphic design is a relatively young occupation. In order to establish itself as a profession, graphic design could learn from comparable but better established professional occupations with professional bodies such as architecture. These occupations can offer insight into such aspects of professional development as the establishment of criteria of what is required 'professional' knowledge, structures and regulation of training, and clearly-articulated responsibilities of employers, academics and professional bodies.
4. There is a serious double 'blind spot' which was identified from the responses of academics and design firm employers about their respective responsibilities for the training of graduate apprentice designers, and the absence of any structured and regulated training established by the body claiming to represent the design 'profession'.
5. The current criteria that are used inside the profession to demonstrate professional graphic design competence mainly emphasize aesthetic appearance and skill in execution. If there is to be a graphic design *profession* comparable to established professions (and currently as all stakeholders agreed, the Hong Kong public does not have much respect for graphic design), then the 'knowledge base' of graphic design and the respective place and importance of functional and aesthetic aspects of design will need to be clarified.

Practical implications of the findings of this study

In order to address the gap in knowledge and competence acquisition during the transition stage, there are implications for the conduct of two sets of bodies or

institutions: 1) graphic design education institutes and 2) professional design bodies. My research suggests that the following should be considered:

1) Graduate designers, design firms and academic institutions teaching graphic design should share more clearly specified responsibilities, such as implementing agreed collaboration and training policy with involvement from professional design bodies in order to raise graduates' standard of professionalism.
2) There is a need to establish a consensus among stakeholders regarding the core competencies expected of novice as well as more experienced graphic design practitioners in Hong Kong. Core competences for graphic design practice have already been developed by Western professional bodies such as the Chartered Society of Designers (CSD) and the AIGA, the professional association for design. These 'core competences 'are to guide the curriculum planning for academics and the design bodies' policy making so that in future designers will demonstrate these attributes.
3) The 'core competencies' of the design industry need to be integrated into the design education curricula of educational institutions, in collaboration with employers and professional design bodies.
4) A system of certification for these core competences should be established through a professional design body such as Hong Kong Designers' Association (HKDA).
5) Design institutes need to develop curriculum for Continuing Professional Development (CPD) that could help to provide a learning framework for collaboration with design bodies. The objective of the CPD research is to identify the curricular content that will help designers tackling the changes of professional practice in future.
6) There is a clear need to expand the postgraduate courses (i.e. Masters degree) of institutes to include CPD, to cater for the practical needs of working designers.
7) Through close collaboration, design bodies, economists and the Hong Kong Labour Department need to examine how the conditions of work of design graduates might be improved. The design firm employers may even have

infringed the government's 'Minimum Hourly Wage' law, although this is beyond the scope of my research.

Points 2 and 4 need some clarification and elaboration. The findings indicate that there are difficulties in forming competence criteria, in particular because the 'creativity' and 'aesthetic' features of design could be rather subjective. In order to resolve this issue, this study suggests that the criteria of measure should move away from the *subjective* aspect to a more *objective* aspect, from merely judging the artifacts' appearance to an assessment of the different levels of design process which involves the integration of different disciplines' knowledge and skills (taking the essential knowledge that designers need to understand from other disciplines in order to produce a design solution, i.e. marketing and business knowledge). Professional criteria could be similar to those used by the Hong Kong Institute of Architects (HKIA), which evaluates practice in terms of knowledge and skills such as building design, contracts, legal control, budgeting, technological aspects, and professional conduct. Although graphic design practice does not involve public safety in the same way as architecture, it does have a formative role in essential communication processes in society and incorporates knowledge from other disciplines or subjects, such as

- Marketing
- Business strategies
- Project management
- Budgeting
- User research
- Copyright and legal matters
- Technology
- Production

All these, moreover, are only examples of what my long design practice has shown to be involved. Additional information can be drawn from the explanations of core competencies of graphic design practice of the CSD(UK) and AIGA, already outlined in section 2.4.8 (Professional competence assessment of graphic designers in UK,

North America and Hong Kong), under the headings of creativity, professionalism, skills and knowledge.

It is worth exploring whether the findings of this study could also be generalized into a broader perspective in other design disciplines such as product, interior or fashion design. Similar experiences and issues may be shared by Hong Kong graduates in these areas. However, further study would be required to test such applicability /generalizability. Furthermore, design is generally regarded as a new and rapidly changing area of expertise, subject to the influence of the local fast-moving economy and general globalization; therefore, CPD courses for professional designers seem to be the gateway for future career advancement for designers to acquire up-to-date knowledge and skills, equipping them to become more adaptable to market changes. On the other hand, whether or not the concept of competence criteria to qualify a 'professional designer' should apply to design disciplines is still a contested issue among the professional bodies in Hong Kong. However, in the West, several representative design bodies (AIGA and CSD) have already taken the lead to establish such criteria of competence. This seems to be a trend that design bodies in Hong Kong should take notice of.

Collaboration of stakeholders on Hong Kong design policy

As reflected in Point 1) to 3) in this section 7.2 (Practical implications of the findings of this study), there is an essential need for collaborative policy with the involvements of all major stakeholders (design education institutes, design firms and professional design bodies), which means they should work as strategic partners in formulating appropriate policies that promote the essential competence of graphic design professionals. According to this study's findings, so far in history, each of the stakeholders only upheld one's preference and beliefs and missed contributing individually and effectively to the holistic objective in this tripartite relationship as shown in Fig. 7.2.1. As a result, this lack of shared beliefs and collaborative effort in policy-making has contributed to each stakeholder experiencing a 'blind spot'.

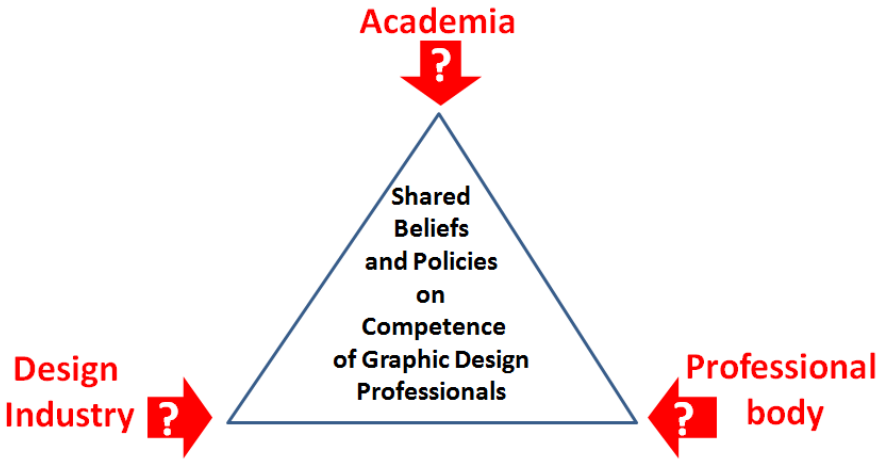


Fig. 7.2.1 Collaborative policy on competence and professionalism

However, the research findings of this study were only limited to the perspectives of the 'core group' of graduate designers, while academics and employers were only considered as the supplementary groups in this study. As such, a need has arisen to conduct and publish future research on collaborative strategic studies of the stakeholders in Hong Kong.

Alternative career pathways for graduate graphic designers

Apart from working in local firms after graduation, alternative pathways for Hong Kong graduate designers should be explored, such as design entrepreneurship and overseas working opportunities. According to Heskett (2003), there were cases where local talented designers who were frustrated with the working situation of the design industry in Hong Kong decided to establish their own business based on their own visions and standards, acquired solid business and marketing knowledge over the years and eventually became successful local design entrepreneurs. Alternatively, a few designers left Hong Kong for better career prospects and gained their reputation as design professionals, one example being the PolyU-graduated graphic designer Raman Hui, film director and animator of Dreamworks in Hollywood, US., and winner of the Best Animated Feature Film at the Academy Awards in 2002. These constitutes positive indications as alternative pathways for Hong Kong's graphic design graduates in future.

There is an initiative to provide support for start-up design companies and entrepreneurship – the Hong Kong Design Centre (HKDC) has set up a Design Incubation Programme (DIP) since 2002 to nurture startup design companies (incubatees) offering a 2-year financing support funded by the Hong Kong SAR Government. The programme encourages entrepreneurship and helps designers to become a design business owner/employer. Graphic design disciplines which have benefited from this programme include branding/packaging, visual arts, and media communication. Apart from providing rental and business hardware supports to newly incepted design companies, a series of business training programmes and networking opportunities from academic institutes and professional bodies are offered to the participating companies so as to strengthen their long term sustainability. Up to the present, many graphic design companies have successfully completed the programme. Furthermore, the importance of design management, which involves the application of design solutions, is critical to the future of Hong Kong (Heskett, 2003). In response to this significance, the Professional Education and Engagement Centre (PEEC) of HKDI has recently launched a 'Design Management' course at Diploma level for working designers. The School of Design of PolyU has also set up an 'International Design and Business Management' course at the Masters level for overseas and local designers as well as other related professionals to integrate design thinking, business strategy and technology into design solutions (The School of Design, 2015). In other words, apart from the conventional design practice career path for graduate designers, design management can also be considered as a related career pathway for design graduates who wish to become a design company manager, and they can choose to study design management either within or beyond the transitional period to determine their future career prospects.

7.3 Limitations

As the discussion of its theoretical significance and potential pedagogical implications suggests, this qualitatively-driven study of graphic design graduates' transitions into the workplace begins to uncover the complex processes, expectations, challenges and misconceptions involved in novices' enculturation into

the profession. As any research study, however, it has limitation, including limitation due to the limited variety of the survey respondents for triangulation.

Inability to engage company employers and academics as survey respondents

In this study, strategies of data triangulation and method triangulation were used to reinforce internal validity and to neutralize personal biases. Interview data from three different sources (academics, employers, designers) were cross-checked in order to identify valid findings through the data pattern matching method. 100 graduate designers were selected as respondents of the survey questionnaire to compare to interview findings; however, there were no company employers and academic respondents involved in the survey research. There were a few reasons for that which may affect the validity of data interpretation. The first reason was that academic departments in Hong Kong offering graphic design programmes do not have a large number of full-time lecturers, which means that even if a reasonable return rate could be achieved, the low number may not be sufficient for any statistical analysis of significance. On the other hand, the lecturers of many institutes which provide higher diploma and top-up degree level courses have dual (or multiple) roles, i.e. part-time lecturers or professional designers or even design company owners. The dual roles will affect the validity of the statistical data. Thus, based on this rationale, there were no academic respondents involved in the survey research. However, in order to increase the richness and validity of data from the academics, all academic interviewees in the qualitative research interviews were *programme leaders* who could provide comprehensive and in-depth knowledge of the transition, and who are also considered to be 'experts' within the academic programmes.

Employers were not involved in the surveys either primarily because of the experiences and findings of previous researchers. For example, the survey used in the DesignSmart Research Project (2008) of the Hong Kong Polytechnic University was distributed to 6,000 company addresses in the database containing data from thirteen project collaborators (the most representative professional, trade and academic bodies in Hong Kong). However, the overall response rate was rather low

(under 9%). As a PhD student, I did not possess such strong official connections, manpower and funding as the DesignSmart Research Project (2008) had, and I did not have the database I could use to cross-reference the education institution that novice staff of these employers graduated from. In addition, the prohibitively low response rate of previous studies suggested that it would take years to collect responses from a representative sample. Therefore, there were no employer respondents involved in the survey research. Notwithstanding, in order to increase the richness and validity of data from the employers, all employer interviewees in qualitative research interviews were carefully selected from the workplace and all have in-depth knowledge of the employment of the designers working in their companies during transitional period.

Given that the primary aim of this study was to explore fresh graduates' reported experiences and challenges, the academics and employers were used as 'supplement-groups'. The graduate designers were considered the 'core group' in this study, who by their nature are in a position to recall their experience with academia as well as their opinion on the treatment by their employers, while collecting data from them did not present the abovementioned issues of validity and feasibility.

7.4 Recommendations for future research

This study has generated some new insights and brought about areas for future research, including 1) the core competencies of professional graphic designers; 2) graphic designers' ability and expertise development, 3) a Continuing Professional Development curriculum, focusing on the transitional stage but also dealing with life-long learning in the longer term; 4) the process of competence development of graduate designers in the transitional period; 5) future research and publication on Hong Kong design policy.

The core competencies of graphic designer

In light of the gap in the regulation of learning and the standardization of professional competence criteria in the graphic design industry, it seems that future

research should focus on establishing a body of knowledge that could codify professional graphic design practice, and on detailed articulation of the core competencies of graphic designers. Such research on defining the core competencies should elicit responses from academia regarding curriculum and syllabus planning, and from design professional bodies regarding the development of professional standards. This information would be instrumental for developing future graphic designers with these competencies.

Identifying design ability at each level of 'professional development'

By applying the 'eight core features' of design ability identified by Nigel Cross (1990) and integrating them with the 'seven levels of expertise' from Dreyfus' model, a matrix diagram can be formed as shown in Table 2.3.2. A large body of knowledge could be constructed for graphic designers at all levels of expertise. This is a vast field and would take many years of research. However, its findings could enable the professional design bodies to formulate a more appropriate, comprehensive and testable measure of professional expertise.

CPD curriculum formation for bridging the learning gap

In terms of bridging the learning gap between the academic and workplace settings, my findings from most novice graduate designers indicated that they wanted to do professional learning, but on a part-time basis, since they had discovered that the knowledge they had obtained from the design institutes was insufficient in the workplace. As my research indicated, it would be valuable if educational institutes took up this CPD training and research development role, setting an appropriate curriculum, time schedule and course length that accommodated the realities of the working life of designers in Hong Kong. In the longer run, research on CPD training should not be limited to the transitional stage, but should also address the needs of more senior professional designers, thus benefiting the entire designer population.

The process of competence development in the transitional period

This study has focused on the general issues graphic design graduates typically face in the transition and how these issues affect their professional development.

Further research could be conducted to investigate the process of competence development of graduate designers from the selected academic level/institution using a longitudinal qualitative research approach. Such research could focus on several graduate designers' competence development from their entry into the first year to the third year of professional practice. This would mean using a case study research method to investigate a bounded case in an intensive manner.

Future research and publication on Hong Kong design policy

As explained in the subsection (Collaboration of stakeholders on Hong Kong design policy) of Section 7.2, there is a need to conduct and publish future research on collaborative strategic studies of the stakeholders in Hong Kong, investigating the perspectives, insights and capabilities of 'each' stakeholder in this tripartite relationship (see Fig. 7.2.1): 1) the particular role and responsibility each stakeholder should undertake; 2) the shared belief and areas of collaboration; 3) the feasibility of executing the policy under the tripartite relationship in the future.

7.5 Final remarks

Professional competence is one of the decisive marks of professional status as well as one of the most importation features in any knowledge-based society around the world. Many professions such as law, accountancy, architecture, engineering, nursing, and social work which involve public and social safety have acknowledged that the first few years of practice and training are critical for enabling graduates to become 'professionals'. This signals the importance of graduates bridging the knowledge gap on the way to becoming professionals. Graphic design in Hong Kong, however, does not have a formal professional training period to groom a graduate designer into a professional. Whether or not graphic design in fact requires professional criteria to certify a designer as a 'professional' is still debatable. Although graphic design is generally perceived as not involving public and social safety issues, the literature provides evidence to the contrary. According to Frascara (2006), graphic design has impact on *values, beliefs, culture, social norms, behaviour, social and personal securities* (Legal, Political, Banking & Finance), *people safety* (Medical) in society. However, one thing which is certain is that Hong Kong's design

community would like to see a higher standard of professionalism in graphic design as well as a higher standing in public esteem than at present, both of which can be achieved through greater awareness and attention to the impact of graphic design on public and social safety. This study of the 'initial stage' of professional learning has revealed an 'open gate' in this respect.

Historically, graphic design in the West, China and Hong Kong has emphasized aesthetic style and the work of highly regarded (exemplary or paradigmatic) designers and visual artifacts in assessing 'value'. Graphic design was born from an art school tradition and gradually moved to a university setting. Hong Kong's graphic design has grown from these roots, fed also by the heritage of the thousands of years of Chinese art and craft tradition. The few renowned Chinese graphic designers in Hong Kong who have a strong influence on industrial trends continue these traditions. Their style, their works and the identity they project have become the few most important sources of norms of what have been and still are regarded as competence. Recently, the design community has seen great efforts on the part of the Hong Kong Government and design bodies such as the Hong Kong Design Centre (HKDC) and Hong Kong Designer Associations (HKDA) to promote the importance of design for Hong Kong's culture, society and economic competitiveness. Overall, the activities and reports have been an eye-opener, disclosing what designers *could* achieve, given their competence and insight, in terms of social, cultural and economic values, if they ceased to focus only on aesthetic appearance and style in their work. Some research reports of the HKDC greatly encouraged and motivated me to study the issue of 'competence' in the graphic design discipline.

In the future, I hope to see more research on the formation of 'core competences' of designers, and expertise development in graphic design, product design, interior design and fashion, with the support of professional bodies. Such research can only be meaningful for implementation if its findings involve the collaboration of academic institutions and design bodies. On the other hand, there seems to be a clear need for better sharing of responsibilities and the formation of an ordered

structure of professional training, with design bodies taking the lead to raise the level of professionalism of graduate designers. The findings of this research indicate that a harsh working environment, lack of accountability of employers and academic institutions , and absence of professional 'goals' in graphic design, have become the 'norms' in the local graphic design industry. This might be the time for the graphic design community in Hong Kong to begin to reflect seriously on the 'norms' in present professional practice so as to bring about a positive change in terms of the 'norms' of competence of graphic designers in the future.

APPENDIX 1

Semi-structure interviews for <u>Graduate Designer</u>

1) Please provide some education background about your yourself (warm-up question)
   - Institute that you graduated
   - How many years of working experiences since graduated
   - What is the nature of company that you are working in the present
   - How many years of establishment
   - No. of designers in creative team
   - Your position of the creative team

2) What is the scope of your job as graphic designer of your company?

3) Do you see any similarities and differences in knowledge and skills that you have learned in previous design programme and actual workplace in the transition?

4) How do you see the design programme equip you with the essential knowledge and skills applicable at the workplace? (prompt: a learning gap)

5) Do you see any useful knowledge learned in design institute which the workplace people find it not useful? (prompt: design research, user-centered research)

6) Could you describe the criteria that your boss or senior colleagues measure the quality of your work? (prompt: disagreement and agreement and why)

7) How would you consider as the best graphic design practice 'role-model' in Hong Kong? (prompt: present famous graphic designers)

8) What do you think about graphic designers working with personal artistic style as a professional designer for commercial jobs at the same time? (prompt: conflicts, agreement or disagreement)

9) Can you describe the competent level of a graphic designer?

10) Could you describe the characteristics between 1st year, 2nd year and 3rd year ability of a graphic design graduates in the transition? (prompt: knowledge, skills and attitude)

11) Please describe the current working situation of design companies for the graduate graphic designers in the transition? (prompt: salary level, working hours, promotion opportunity in the first 3 years)

12) How do you see the current working situation in fostering graphic design graduates reaching competent level in the transition? (prompt: the first 3 years)

13) What kinds of role/ involvement does a **design educator** have in guiding the graduate to be a competent designer?

14) What role/involvement do you believe **design educator** should have implemented towards the development of design graduate's competence?

15) What kinds of role/involvement do you believe an **employer** have in guiding the graduates to be a competent designer?

16) What involvement do you believe **the employer** should have implemented towards the development of design graduates' competence?(prompt: apprenticeship role, responsibility for training)

17) What kinds of involvement does a **design graduate** have in achieving competent level?

18) Any suggestion for helping the graduate achieving competent level for the employer?

19) Any suggestion for helping the graduates achieving competent level for their long term career? (prompt: CPD programme, longer time span internship, professional competence measure)

Semi-structure interviews for <u>Design company employer</u>

1) Please provide some background about your company (warm-up question)
   - Can you introduce yourself
   - Role and position
   - Scope of works
   - Years of experience
   - Size (SME or International)
   - Company nature
   - How many years of establishment
   - No. of designers in Creative team

2) What is the scope of job of graphic designer for your company?

3) What criteria do you use to assess the performance of the fresh graduates who works in your company?

4) Could you describe the criteria you assess the performance of graphic designer who has gained three year working experiences?

5) What do you see the contributions of the work of the graphic designers have brought to your company?

6) Any kinds of training your company provide to designers in their first three working years after they graduated? (probe internal & external training programme)

7) Has your company taken up any student internship program? Why or why not?

8) Any strength/ weakness of the graduates can you recall in the transition in your company? (Prompt: PolyU, IVE, HKU Space, curriculum and programme design, a learning gap)?

9) Can you describe the competent level of graphic designer?

10) Could you describe the characteristics between 1st year, 2nd year and 3rd year ability of design graduates in the transition (prompt: knowledge, skills and attitude)?

11) Please describe the current working situation of graphic design companies for the graduate designers in the transition? *(*prompt: your company and other companies, learning situation, salary level, working hours, promotion opportunity in the first 3 years*)*

12) How do you see the current working situation in fostering graphic design graduates reaching competent level? (prompt: the first 3 years)

13) What kinds of role/ involvement does a **design educator** have in guiding the graduate to be a competent designer (prompt: role for building the short and long-term competence)

14) What kinds of role/ involvement do you believe **design educator** should have implemented towards the development of design graduate into a competent designer?

15) What kinds of role/ involvement do you believe an **employer** have in guiding the graduate achieving competent level?

16) What kinds of role/ involvement do you believe **the employer** should have implemented towards the development of design graduate into a competent designer? (prompt : apprenticeship role, responsibility)

17) What kinds of role/ involvement do you believe a **design graduate** have in achieving competent level? (prompt: attitude)

18) Any suggestion for fostering the graduate achieving competent level for the employer?

19) Any suggestion for guiding the graduate achieving competent level for his/her long term career? *(*prompt: CPD programme, longer time span internship, professional competence measure)

Semi-structure interviews for <u>Academic</u>

1) Please provide some background about yourself and institute (warm-up question)
   - Your career background
   - Background of your institutes
   - The nature of your course
   - Your role
   - Years of working experience in academia

2) How is Visual Communication curriculum designed?

3) How to keep curriculum to match up-to-date professional practice?

4) What kinds of components are constructed into the current curriculum for the learning of graduates?

5) Any aspects of components in visual communication curriculum are emphasized more or less? E.g. Professional practice?

6) How does the curriculum equip the fresh graduates to become competent for entering the design practice?

7) Can you describe the characteristics of a competent graphic designer in design industry? (Prompt: Knowledge, Skills and Attitude and Capability? Easy to find in Hong Kong?)

8) What criteria do you measure the design graduate's performance to achieve competent level for the employer? (Prompt: knowledge, skills, attitude, capability, a learning gap)

9) Could you describe the characteristics or differences of a graduate designer between 1st year, 2nd year and 3rd year ability in terms of knowledge, skills and attitude in the transition?

10) Please describe the current working situation of graphic design companies for the graduate designers in the transition? *(*Prompt: the salary level, working hours, learning environment, promotion opportunity in the first 3 years)

11) How do you see the current working situation in fostering graphic design reaching competent level? (prompt: only the first 3 years)

12) What kinds of role/ involvement as **design educator** in helping the graduate achieving competent level? (prompt: the role for building short, long-term competence)

13) What kinds of role/ involvement do you believe of **the employer** in guiding the graduate achieving competent level? (Prompt: apprenticeship role, training responsibility)

14) What kinds of role/ involvement do you believe **the employer** should have implemented towards the development for a design graduate to a competent designer?

15) What kinds of role/ involvement of the **design graduates** in achieving competent level?

16) Any suggestions for helping the graduate achieving competent level for the employer and long term career? (CPD programme, longer time span internship, professional competence measure)

APPENDIX 2 (Survey Questionnaire in English)

Questionnaire survey

The questionnaire is intended to identify the significances of the professional learning situation during the first three years after graduated from a graphic design course. Your participation is deeply appreciated. Please answer each question by circling the appropriate number. Kindly return by email to address: benson_twinsad@ , or by fax to no.: 2311 1236 by 31 March, 2012.

Basic Background

How long have you been working since graduation

5 under 6 months | 4 1 year | 3 2 years | 2 3 years | 1 Less than 3 and half year

Which design institute did you graduate from?

5 PolyU | 4 IVE | 3 HKU SPACE | 2 CityU | 1 Other Top-up degrees in HK

What qualification did you graduate with and from which design institute?

3 Higher Diploma | 2 Degree | 1 Top-up degree

What is the nature of your design company?

5 General graphic design | 4 Advertising design | 3 Brand design | 2 Multi-media design | 1 Design related work

Part 1. You opinion of competency

1) A competent graphic designer is knowledgeable about the client's needs.

5 Strongly Agree | 4 Agree | 3 No Opinion | 2 Disagree | 1 Strongly Disagree

2) A competent graphic designer is capable of project management.

5 Strongly Agree | 4 Agree | 3 No Opinion | 2 Disagree | 1 Strongly Disagree

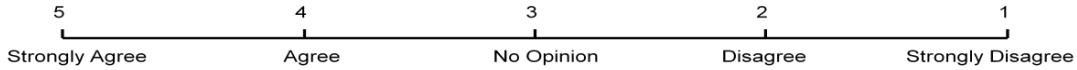
3) A competent graphic designer is capable of design execution.

5 Strongly Agree | 4 Agree | 3 No Opinion | 2 Disagree | 1 Strongly Disagree

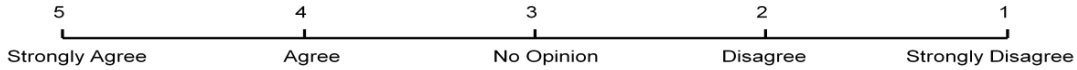
4) A competent graphic designer should understand various marketing strategies.

5 Strongly Agree | 4 Agree | 3 No Opinion | 2 Disagree | 1 Strongly Disagree

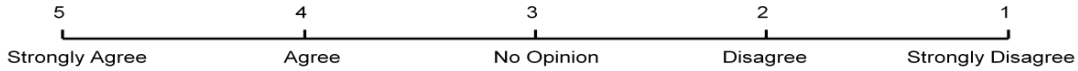
5) A competent graphic designer should possess a personal visual style.



6) Aesthetic appearance is the most important part of graphic design.

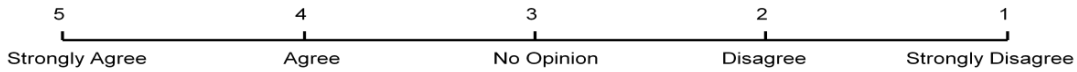


7) A graduate designer with 1 to 3 years' working experience is NOT a competent designer.

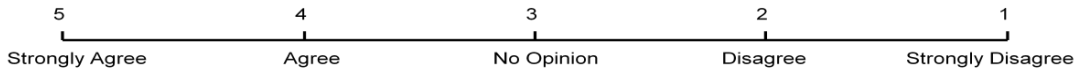


Part 2. General opinion about graphic design and practice

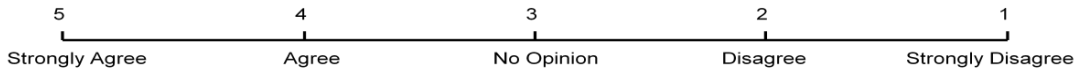
8) Hong Kong's famous graphic designers have a distinctive artistic style and image like an artist.



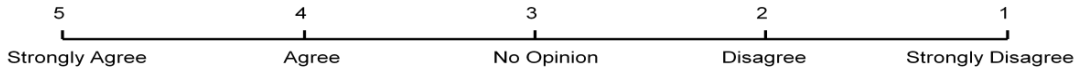
9) Hong Kong's famous graphic designers have projected a professional designer image.



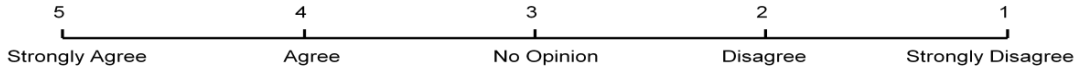
10) Hong Kong's famous graphic designers have influenced the design education in Hong Kong.



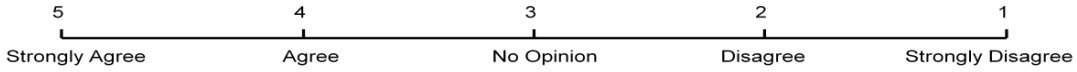
11) Whether graphic design is an art or a business function tool is confusing.



12) I would like to develop my personal style at work but clients/employers often reject my work.

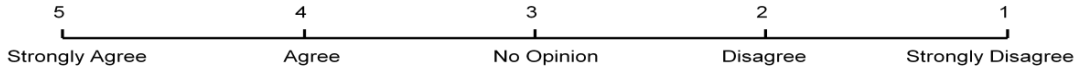


13) Design institutes do not judge 'competence' in the same way as employers and clients in the design industry.

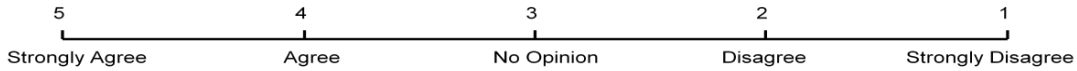


Part 3. Opinion about your working experience in design industry after graduation

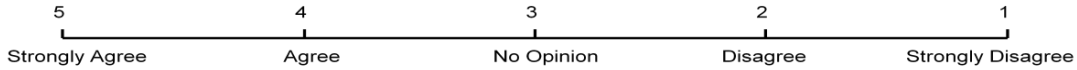
14) Employers demand that you work long hours (approx. 10-13 hours) with no overtime payment.



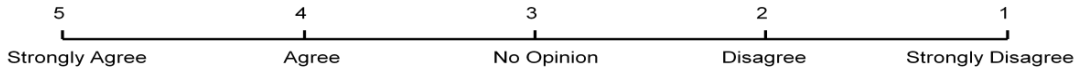
15) Employers are concerned about your health condition from long working hours.



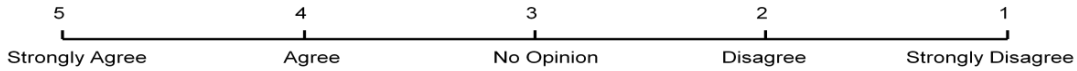
16) Employers judge the competence level of graphic designers on the basis of the client's acceptance of the design options.



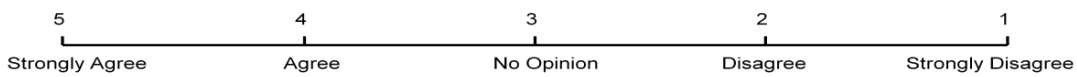
17) Employers judge the competence level of graphic designers on the basis of the latter's willingness to work overtime, efficiency in producing quality and the quantity of design options.



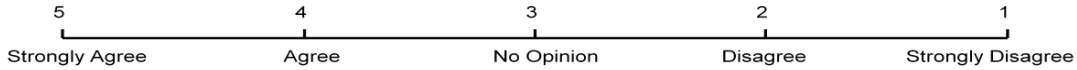
18) Employers have the main responsibility for training design graduates in the design industry.



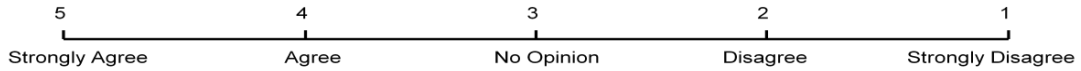
19) Your employer has arranged senior staff and time to train you at work.



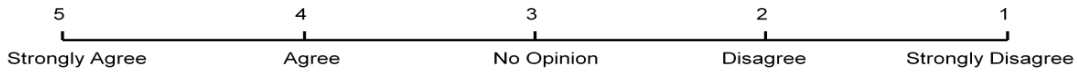
20) Your employer has taken up the responsibility of training design graduates in your company.



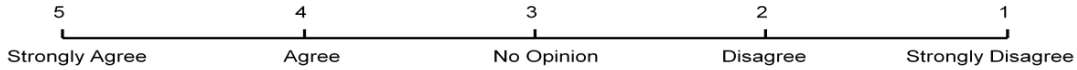
21) Designers have to rely on their own initiative to find opportunities for further study, no actual help is offered by employers.



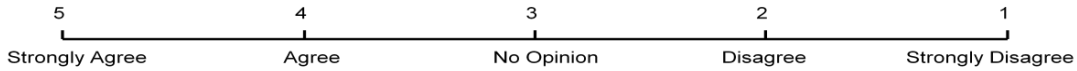
22) You have no time to attend any training course related to design after work



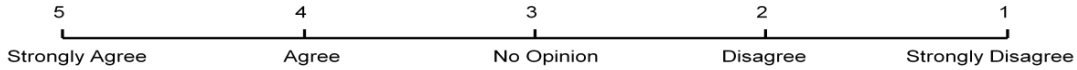
23) Design course of your institute has prepared you with abilities to find the first design job only.



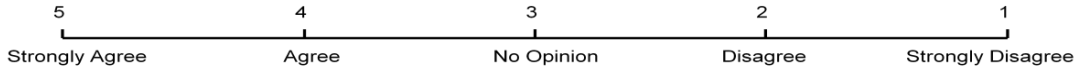
24) Academic design programmes have equipped you with enough knowledge and skills for the first three working years in the industry.



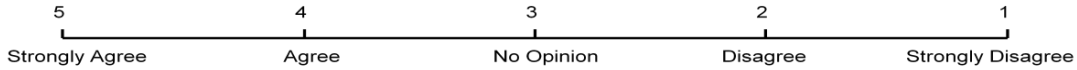
25) Lecturers have fulfilled their responsibility to teach you real design practice in the industry.



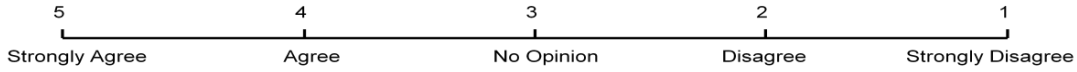
26) The design course of your institute has equipped you to become a competent designer for a long-term career.



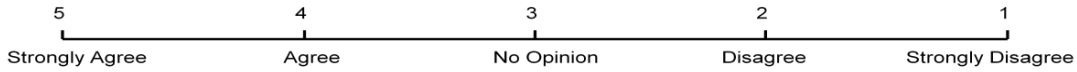
27) Graphic design has NOT gained respectable professional status in Hong Kong.



28) Professional qualification needs to be introduced in the design industry to qualify competence of graphic designers



29) Professional design training courses in the form of part-time study need be offered to design graduates in the first three years after graduation

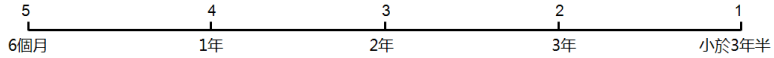


APPENDIX 3 (Survey Questionnaire in Chinese)

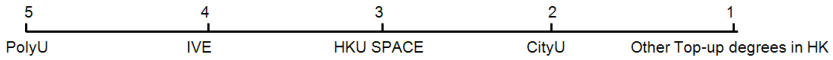
在職的平面設計師問卷

以下的問題是希望識別出年青設計師在畢業後三年內的工作及學習環境，您的意見十分重要，請用幾分鐘的時間，圈出您認同的數目字，完成後請在 2012 年 3 月 31 日前以電郵回覆致 benson_twinsad@ 或傳真到 2311 1236

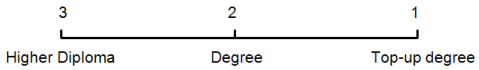
- 在畢業後您工作有多久？



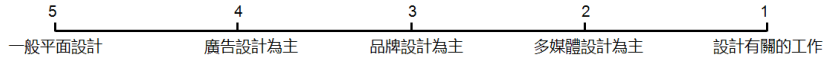
- 您是從那一所設計學院畢業的？



- 有什麼學術資格是您從設計學院取得

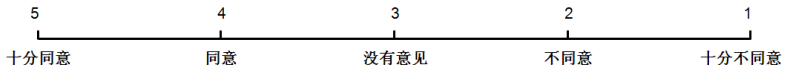


- 您工作的設計公司類別

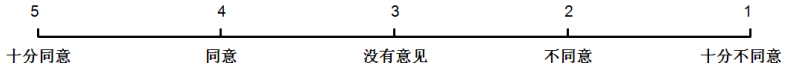


第一部份: 您對平面設計師能力的準則

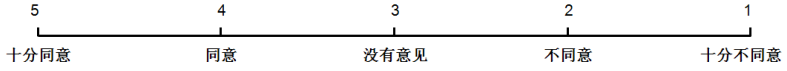
1) 有能力的平面設計師對客戶的需求很認識



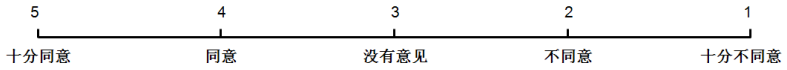
2) 有能力的平面設計師對設計項目管理有能力



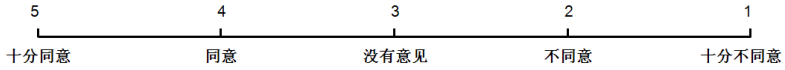
3) 有能力的平面設計師對實行及完成設計有能力



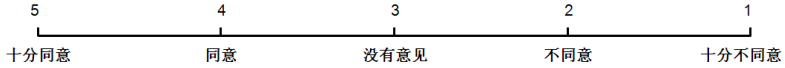
4) 有能力的平面設計師對市場學策略很了解



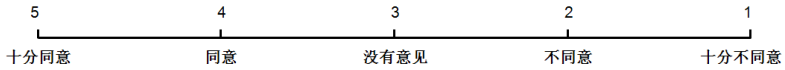
5) 有能力的平面設計師應有個人藝術風格



6) 美學表現是平面設計最重要之部份

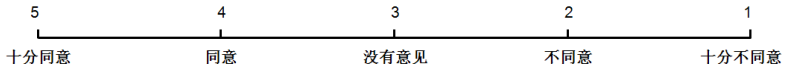


7) 只有一至三年工作經驗，並不認同為有能力的設計師

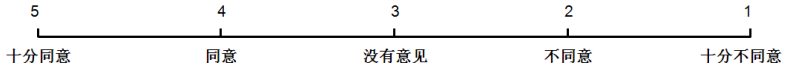


第二部份: 您對平面設計及實務的意見

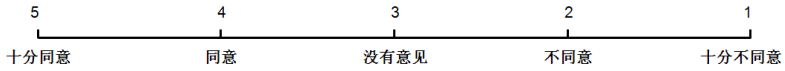
8) 香港出名的平面設計師像藝術家有個人風格及形象



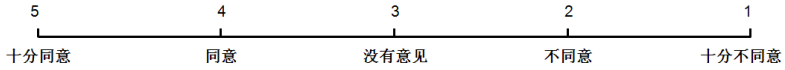
9) 香港出名的平面設計師有專業設計師形象



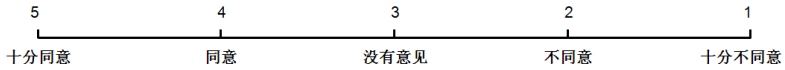
10) 香港出名的平面設計師對香港設計教育很有影響力



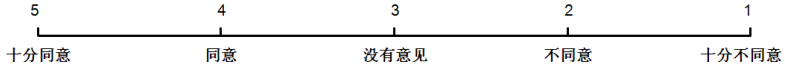
11) 平面設計是一門藝術或是生意的工具概念使人困惑



12) 您很想發展您個人設計風格，但您的上司或客戶都不賞識您的設計方案

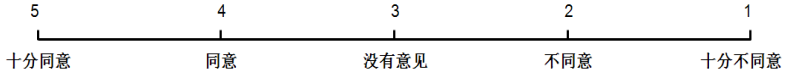


13) 設計能力的衡量準則在學院與實際工作是不同的

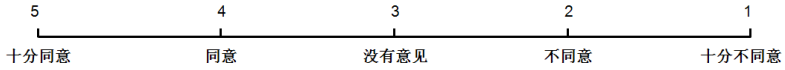


第三部份: 您對畢業後工作體驗看法

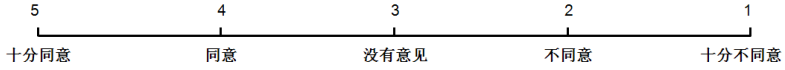
14) 僱主時常要求您長時間工作(10 至 13 小時)，但沒有給您額外工資



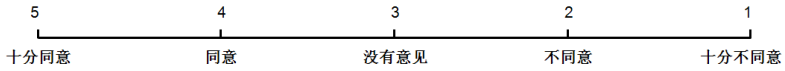
15) 僱主有關注您的身體精神狀況在公司內裏長時間工作



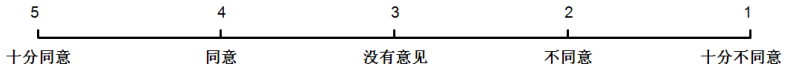
16) 僱主衡量您的設計能力在乎客戶對您設計方案的應用



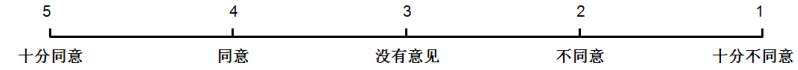
17) 僱主衡量您的能力在乎能否長時間工作，有效率地做出有質數及多數量的設計方案



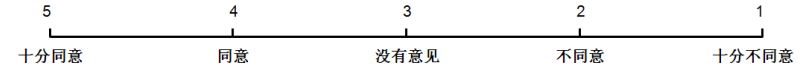
18) 僱主應有責任訓練設計畢業生，因他們對於設計實務環境不熟識



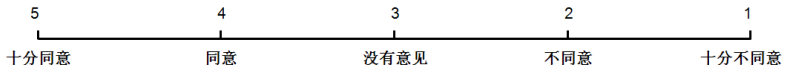
19) 僱主有安排資深同事及時間去訓練您



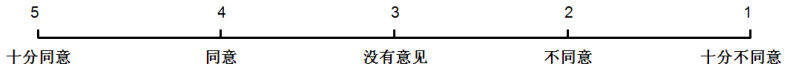
20) 您的僱主有負起設計畢業生之學徒訓練上之責任



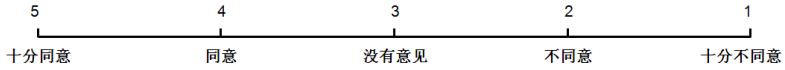
21) 設計師只能依靠自己進修，僱主沒有實質幫助您。



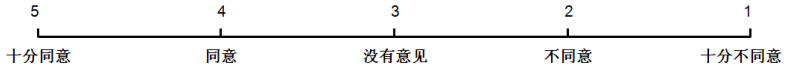
22) 放工後，您沒有多餘時間進修



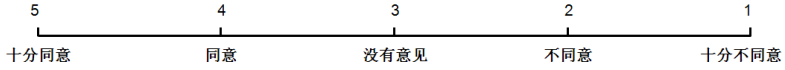
23) 您的學院課程只可幫您找到第一份工



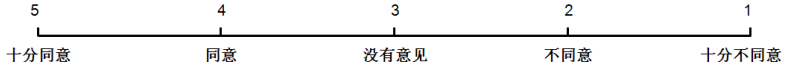
24) 學院課程已裝備您所需要的知識及技能上在頭三年的設計行業工作



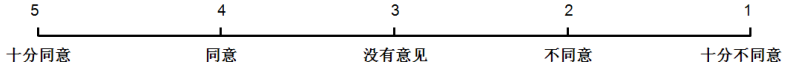
25) 導師已履行責任教導您如何應付在實際設計行業的實務工作



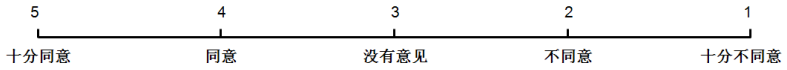
26) 您的學院課程已裝備您成為有能力設計師在長線發展上



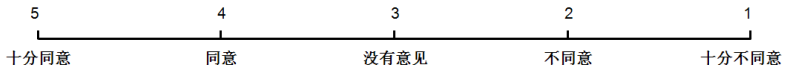
27) 平面設計師在香港得不到專業地位的尊重



28) 專業地位資格應在行業內提倡給有能力的平面設計師



29) 針對職業性課程應提供給頭一至三年的畢業設計師在工作後進修



APPENDIX 4 (Glossary)

Below is the list of terminologies used in this thesis of which meanings are associated with the *specific context* of the graphic design field. This list is based on a review of scholars' works, professional fields, dictionaries and websites as references. These terminologies may not carry the same definitions as used in other professional disciplines or even within graphic design discipline.

.

Core competence - Professionals have various competences. Core competence of a professional relates to the crucial key knowledge, skills and attributes that a professional is required to possess in a particular profession.

Competence criteria – it is a set of essential knowledge, skills and attributes that are established by a company or a professional body as requirements for a staff/professional to excel at the job.

Competence development – It refers to the process of improvement and strengthening of one's performance in task. It is typically workplace specific, but can also refer to the development of individual's abilities and performance throughout the career.

Continuing professional learning (CPL) – CPL refers to formal education and professional training for professionals, in form of either an academic degree course, seminar or practical workshop training. It enhances their professional competence and personal strength. CPL is a broad term for lifelong professional and personal learning.

Continuing professional development (CPD) – a term that relates to professionals maintaining and expanding their professional knowledge, skills, attributes and competitiveness in practice through continual lifelong learning (Rouse, 2004).

Continuing professional training (CPT) – it has a similar meaning to that of *CPD* except that it puts CPD into action. Typical CPT training includes seminars, workshops with a qualified trainer/provider. The trainee may need to fulfill the training requirement as outlined in the course syllabus.

Graphic design professionalism - the 'internal qualities' of a professional system of graphic design. The elements of the professional system include body of knowledge, values, standard and code of practice.

Pre-work professional training: pre-working training usually means academic training, which focuses on broad-based learning and theoretical coded knowledge. Professional training focuses mainly on the workplace context. It means students are to be trained through internships and work-integrated projects away from academic study in order to gain tacit learning from the workplace.

Professional learning - it has a similar meaning as that of *professional development*. In professional education, the term can be used to describe a wide variety of specialized training and learning activities that enhance professional knowledge and skills in the short and long term.

Professional practice – practice under taken by a professional who applies his/her professional and personal knowledge and skills into practice in society (Kemmis, 2010).

Professional competence - exclusive knowledge, skills and abilities that a professional possesses are attributes to his/her performance in the profession.

Professional knowledge – the term can be used to describe the two types of knowledge for most professional education: coded and tacit. Coded knowledge can be explained as the possession of abstract, library-based knowledge of a specific discipline (French, 2007). Tacit knowledge can be acquired mainly in professional training and practice, and it is the knowledge that is accumulated through the experience of learning by doing.

Professional development - it means the skills and knowledge that a professional gains for enriching her/his career longevity and professional growth. It includes learning opportunities such as obtaining academic degrees, attending conferences and workshop sessions, and conducting research.

Professional expertise – a professional who successfully performs professional works and actions demonstrating immense knowledge and skills.

Professional standard – A standard that professionals need to follow in conducting professional practice/business. The standard is client/community-focused, mainly concerns the delivery of quality service, professional responsibility and ethical standards.

Professional training – it has a similar meaning as that of *CPT* referred above.

Professional training courses – generally refers to seminars, workshops for specific contextual training for professionals in their respective field.

Professional training at workplace: training at workplace is context specific, practical and task-oriented. It is to train professionals' short-term competence applicable in a workplace setting**.** Common types of training include on-job-training, specific training programmes organized by a company to enhance the employee's immediate competence.

Proficiency – it has a similar meaning to that of *competence*, though according to 'Seven Levels of Expertise' (Dreyfus & Dreyfus, 1986), proficiency is one class above the performance level of competence, with a proficient professional having a higher level of skills and acting intuitively without much self-reasoning in performance.

Practical knowledge – It is a type of 'know-how' which a professional engages in a particular situation in action . "'Practical knowledge' is roughly defined as knowledge that does and shall (from a normative, prudential or moral, point of view) motivate [an individual] to act in a certain way" (Lumer, 2010, P.1).

Professional expectation – It has a similar meaning to that of *professional standard*. Professionals are required and responsible for providing quality work/service that meets the expectations of the clients/users. Ethical conduct, competence and attitude of the professionals are vital qualities that contribute to the success in meeting such expectation.

REFERENCES

Abbott, A. (1988). *The system of professions: An essay on the division of expert labor.* Chicago: University of Chicago Press.

Adams, J. S., Tashchian, A., & Shore, T. H. (2001). Codes of ethics as signals for ethical behavior. *Journal of Business Ethics*, 29, 199–211.

American Institute of Graphic Arts (2012). About AIGA. Retrieved May 5, 2012, from http://www.aiga.org/about/About/

American Institute of Graphic Arts (2012a). Defining the designer of 2015. Retrieved November 24, 2012, from http://www.aiga.org/designer-of-2015-competencies/

American Marketing Association. (2012). From the definition of marketing. Retrieved February 1, 2011, from http://www.marketingpower.com/AboutAMA/Pages/DefinitionofMarketing.aspx

Analoui, F. (1993). *Training and transfer of learning.* Aldershot, England: Averbury, Ashgate Publishing Limited.

Argyris, C., & Schön, D. (1989). *Theory in practice: Increasing professional effectiveness.* San Francisco, (CA): Jossey-Bass Limited.

Asian Development Bank. (2012). Improving transitions from school to university to workplace . Philippines: Asian Development Bank.

Aynsley, J. (2000). *Graphic design in Germany 1890-1945.* London: Thames & Hudson.

Babbie, R. (2011). *The basics of social research.* (5th ed.). Wadsworth, (CA): Wadsworth Cengage Learning.

Bakarman, A. (2005). Attitude, skill and knowledge (ASK) a new model for design education. Proceedings of the Canadian Engineering Education Association, Open Journal Systems.

Barkley, D. L. (2006). The values of case study research on rural entrepreneurship: useful method? ERS-RUPRL conference, exploring rural entrepreneurship: Imperatives and opportunities for research, *Washington, DC,* (pp. 1-14). Washington, DC.

Baseman, F. (2005). Liberal art is old news. In S. Heller (Ed.), *The education of a graphic designer* (pp. 19-21). New York: Allworth Communications, Inc.

Beach, K. (2003). Consequential transitions: a developmental view of knowledge propagation through social organisations. In T. Tuomi-Grohn, & Y. Engestrom (Ed.), *Between school and work : new perspectives on transfer and boundary-crossing* (pp. 39-62). Oxford: Elsevier Science Ltd.

Bean, J.A., Toepfer, C. F.,Jr., & Alessi, S.J.,Jr.(1986). *Curriculum planning and development.* Boston: Allyn and Bacon.

Bell, J. (2006). *Doing your research project* (4th ed.). Milton Keynes: Open University Press.

Benson, G. C. S. (1989). Codes of ethics. *Journal of Business Ethics*, 8(5), 305–319.

Bernard, R. (2000). *Social research methods: Qualitative and quantitative approaches.* Thousand Oaks, (CA): Sage Publications.

Beyer, J. W., & Lodahl, T. M. (1976). A comparative patterns of influence in United States and English Universities. *Administrative Science Quarterly,* 21 (1), 104-129.

Bonsiepe, G. (1994). A steps towards the reinvention of graphic design. *Design Issues,* 10 (1), 47-52.

Boon, J., & Van Der Klink, M. (2002). Competencies: the triumph of a fuzzy concept. Academy of Human Resource Development Annual Conference Processedings, *Vol.1* (pp. 327-334). Honolulu, HA: Academy of Human Resource Development.

Boshuizen, H. (2003). *Expertise development: how to bridge the gap between school and work.* The Netherlands: Open University of the Netherlands.

Bowker, G., & Star, S. L. (1999). *Sorting things out: Classification and its consequences.* Cambridge, MA and London, UK.: MIT Press.

Boztepe, S. (2007). User Value: Competing theories and models. *International Journal of Design* 1(2), 55-63.

Buchanan, R. (1985). Declaration by design. *Design Issues,* 2(1), 4-22.

Buchanan, R. (2001). Design Research and the new learning. *Design Issues,* 17(4), 3-23.

Buchanan, R. (2001a). The problem of character in design education: Liberal arts and professional specilization. *International Journal of Technology and Design Education,* 11 (1) , 13-26.

Buchanan, R. (2004). Human-centered design: changing perspectives on design education in the east and west. *Design Issues,* 20 (1), 30-34.

Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and organisational analysis.* London: Heinemann Educational Books Ltd.

Buzan, T. (1989). *Use both sides of your brain.* (3rd ed.). New York: Plenum.

Cameron, N. (1991). *An illustrated history of Hong Kong.* New York: Oxford University Press.

Cardoso, R. (2005). A prelimary survey of drawing manuals in Britain 1825-1875. In E.B. Romans (Ed.), *History of art and design education: collected Essays* (pp. 29-32). Bristol; Portland, (OR): Intellect.

Cavanagh, G. F. (2010). *American business values.* (6th ed.). Upper Saddle River, (NJ): Pearson Prentice.

Chartered Society of Designers. (2009). About . Retrieved May 18, 2012, from http://www.csd.org.uk/index.aspx?id=127

Chartered Society of Designers. (2009). CSD Genetic Matrix - 4 core criteria and 16 competences. Retrieved May 2012, from: http://www.csd.org.uk/index.aspx?id=180

Chen, J. (1975). *Inside the cultural revolution.* London: Sheldon Press.

Chen, J. (2008). The Using of Mind Map in Concept Design. Computer-Aided Industrial Design and Conceptual Design, 2008. CAID/CD 2008. 9th International Conference (pp. 1034 - 1037). Kunming: IEEE Xplore Conferences (IEL).

Chen, W. H. (1985). The art of Kan Tai-Keung. *Hsiung Shih Art Monthly*, 177, p.3.

Cheung, B. (2008). A study of training on design professional practice at higher diploma course in vocational design education of Hong Kong (Master Degree Thesis, Middlesex University. Hong Kong: Middlesex Univiersity EAWBLC, 2008).

Cheung, B. (2011, May). Developing Hong Kong Professional Competence framework for Graphic Design Practice in Future Doctoral Education Research. Proceedings of Doctoral Education in Design Conference 2011: Practice, Knowledge, Vision (pp. 137-145). Hong Kong: School of Design, Hong Kong Polytechnic University.

Chein, I. (1981). Appendix: An introduction to sampling. In L. Kidder (Ed.), *Selltiz, Wrightsman & Cook's research methods in social relations* (4th ed., pp. 418–441). New York: Holt, Rinehart & Winston.

Chou, W. H. (2006). The reorganisation of graphic design history. International Conference in Lisbon (p. 0221). IADE.

Clarks, H. (2009). Back to the future, or forward? Hong Kong design, image, and branding. *Design Issues,* 25 (3), 11-29.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, (NJ): Lawrence Erlbaum Associates.

Corbin, J., & Strauss, A.(2007). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* (3rd ed.). Thousand Oaks, (CA): Sage Publications.

Crawford, T. (Ed.).(2008). *AIGA professional practices in graphic design*. New York: Allworth Press : AIGA

Cramsie, P. (2010). *The story of graphic design.* London: British Library.

Creswell, J. W., & Clark, V. L. (2011). *Designing and conducting mixed methods research.* Thousand Oaks, (CA): Sage Publications.

Creswell, J. W. (2003). *Research design: qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, (CA): Sage Publications.

Creswell, J. W., & Clark, P. (2007) *Designing and conducting mixed methods research*. Thousand Oaks, (CA): SAGE Publications.

Creswell, J. W. (2009). *Research design: qualitatuve, quantitative, and mixed methods approaches.* (3rd ed.). Thousand Oaks, (CA): Sage Publications.

Creswell, J. (2011). *Designing and conducting mixed methods research.* Los Angeles, (CA): Sage Publications.

Cross, N. (2006). *Designerly ways of knowing.* Springer-Verlag London Limited.

Cross, N. (1990). The nature of nurture of design ability. *Design Studies,* 11 (3), 127-140.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: HarperCollins.

Davis, M. (2005a). Raising the bar for higher education. In S. Heller (Ed.), *The education of a graphic designer* (pp. 13-18). New York: Allworth Press.

Davis, M. (2005). What is 'professional' about professional education? In S. Heller (Ed.), *The education of graphic designer* (pp. 66-73). New York: Allworth Press.

De Bono, E. (1990). *Lateral thinking.* London: Penguin Books.

De Bono, E. (1995). Exporing patterns of thought...serious creativity. *The Journal For Quality and Participation,* 18 (5), 12-18.

De Vaus, D. A. (1996). *Surveys in social research Surveys in social research.* (4th ed.). London: UCL Press.

Design Council. (no date). Design networks and national design bodies. Retrieved Oct. 5, 2012, from http://www.designcouncil.org.uk/our-work/investment/national-and-international-design-networks/

Dorst, K., & Reymen, I. (2004). Levels of expertise in design education. 2nd International Engineering and Product Design Education Conference. The Changing Face of Design Education (pp. 159-166). Delft, The Netherlands: NIVO.

Dreyfus, H., & Dreyfus, S. (1986). *Mind over machine: the power of human intuition and expertise in the era of the computer.* Oxford: Basil Blackwell.

Drucker, J., & McVarish, E. (2009). *Graphic design history: A critical guide.* Upper Saddle River, NJ: Pearson Education, Inc.

Dunning, J. H. (2002). Regions, globalization, and the knowledge-based economy: the issues stated. In J. H. Dunning (Ed), *regions, globalization, and the knowledge-based economy*. (p.6-41) Oxford: Published to Oxford Scholarship Online.

Elkin, G. (1990). Competency-based human resource development. *Industrial and Commercial Training, 22(4)*, 20-25.

Englund, T. (1996). Are professional teachers a good thing? In I. Goodson & A. Hargreaves (Eds.), *Teachers' professional lives* (pp. 75-87). London: The Falmer Press.

Enright, M. (2002). Globalization, regionalization and the knowledge based economy in Hong Kong . In J. H. Dunning (Ed.), *Regions, globalization and the knowledge based economy* (pp. 381-406). Oxford: Oxford Universiyt Press.

Eraut, M. (1998). Concepts of competence. *Journal of Interprofessional Care,* 12 (2), 127-139.

Eraut, M. (1994). *Developing professional knowledge and competence.* London, UK: The Falmer Press.

Eraut, M. (2007). Early career learning at work and its implications for universities. In Entwistle, N. & Tomlinson, P. (Eds). Student learning and university teaching. *British journal of educational Psychology, mongraph series* , 1(1), 113-133.

Eskilson, S. (2012). *Graphic design a history.*(2nded.). London: Laurence King Publishing Ltd.

Evetts, J. (2003). The sociological analysis of professionalism: Occupational change in the model world. *International Sociology*, 18 (2), 395-415.

Etzioni, A. (Ed.).(1969). *The semi-professions and their organization: Teachers, nurses and social workers*. New York: Fress Press.

European Credit Transfer and Accumulation System (ECTS) (2009). ECTS Users' Guide. Retrieved October 4. 2012, from http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/guide_en.pdf

Fielding, R., & Siu, K. C. (1998). The paradox of aims in Chinese art and design education: Speculation on co-operation in Hong Kong, post 1997. *Journal of Art and Design Education,* 17 (3), 315-322.

Flanagan, M; Howe, D., & Nissenbaum, H. (2008). Embodying values in design: Theory and Practice. In M. J. van den Joven & J. Weckert (Eds.), *Information Technology and Moral Philosophy* (pp.322—353). Cambridge University Press.

Florida, R. (2003). Cities and the creative class. *City & Community, American Sociological Association,* 2 (1), 3-18.

Foreman, K. (1998). *Vision and mission. In D. Middlewood & J. Lumby. strategic management in schools and colleges.* London: Paul Chapman Publishing Ltd.

Frascara, J. (2001). A history of design, a history of concerns. In S. Heller & G. Ballance, (Eds.), *Graphic design history* (pp. 13-18). New York: Allworth Press.

Frascara, J. (2004). *Communication design: principles, methods and practice.* New York: Allworth Press.

Frascara, J. (2006). Graphic design: fine art or social science. In A. Bennett, (Eds.), *Design studies: Theroy and research in graphic design* (pp. 26-35). Princeton Architectural Press.

Freeman, K. (2003). *Teaching visual culture: Curriculum, aesthetics and social life of art.* New York: Teachers College Press.

French, N. (2007). Professional knowledge, professional education and journalism. In the proceeding of IAMCR conference 'Media, Communication, Information' (pp.1-18). Paris: France

Friedman, K. (2000). Creating design knowledge: From research into practice. In the proceeding of IDATER: Department of design and technology, Loughborough University, UK.

Freidson, E. (2001). *Professionalism, the third logic: On the practice of knowledge.* Oxford: Blackwell Publishers Ltd.

Friedman, K. (2003). Theory construction in design research: criteria: approaches and methods. *Design Issues*, 24 (6), 507–522

Fry, T. (1989). A Geography of power: Design history and marginality. *Design Issues,* 6 (1), 15-30.

Fung, A., & Lo, A.. (2001). Design education in China: New proposals to address endemic problems. *Journal of Art and Design Education,* 20 (2), 171-179.

Ghose, R. (Ed.) (1990). *Design and development in South and Southeast Asia.* Hong Kong: Centre of Asian Studies. University of Hong Kong.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine Pub. Co.

Green, P. (1997). Moving from the world of the known to the unknown: The transition from primary to secondary school. *Melbourne Studies in Education*, 38(2), 67-84

Greener, I. (2011). *Designing social research: a guide for the bewildered.* London: Sage Publication.

Grunig, J. (2000). Collectivism, collaboration, and societal corporatism as core professional values in public relations. *Journal of Public Relations Research,* 12 (1), 23-48.

Guba, E. G. (Ed.)(1990). *The Paradigm dialog.* Newbury Park, Calif.: Sage Publications.

Guile, D., & Young, M. (2003). Transfer and transition in vocational education: some theoretical considerations. In T. Tuomi-Grohn, & Y. Engestrom (Eds.), *Between school and work: new perspectives on transfer and boundary-crossing* (pp. 63-81). Oxford: Elsevier Service Ltd.

Guo, E., & Su J. B. Z.(2008). *Zhongguo xian dai she ji de dan sheng.* Shanghai: Dong fang chu ban zhong xin (in Chinese).

Harland, R. (2010). The dimensions of graphic design and its spheres of influence. *Design Issues,* 27 (1), 21-34.

Hartle, F. (1995). *How to re-engineer your performance management process.* London: Kogan Page.

Heller, S., & Chwast, S. (2000) *Graphic style: from Victorian to digital*. New York: Harry N. Abrams, 2000.

Heller, S. (2001). Advertising: The mother of graphic design. In S. Heller, & G. Balance (Eds.), *Graphic design history* (pp. 295-304). New York: Allworth Press.

Heller, S. (2005). The case for critical history. In S. Heller (Ed.), *The education of a graphic designer* (pp. 92-97). New York: Allworth Press.

Herskovits, J. (1948). *Man and his works*. New York: Alfred Knopf

Heskett, J. (2002). *Toothpicks and logos: Design in everyday life.* New York: Oxford University Press.

Heskett, J. (2003). *Shaping the future, design for Hong Kong. A strategic review of design practice and education, design task force report*. The School of Design, The Hong Kong Polytechnic University.

Heskett, J. (Ed.) (2004). *Designed in Hong Kong*. Hong Kong : Hong Kong Trade Development Council : Hong Kong Design Centre

Heskett, J. (2009). Creating economic value by design. *International Journal of Design,* 3 (1), 71-84.

Heskett, J. (2009, September). Creating values by design. *MDes. unpublished lecture notes*. Hong Kong: School of Design, Hong Kong Polytechnic Univesity.

Heskett, J. (2011).*Continuity and change: design for Hong Kong. Design Task Force Report 2.* The School of Design, The Hong Kong Polytechnic University.

Hofmann, B (2006). When means become ends: Technology producing values. [On-line serial]. Seminar Net, 2 (2) Available Internet: www.seminar.net/index.php/volume-2-issue-2-2006-previousissuesmeny-114/66-when-means-become-ends-technology-producing-values

Hollis, R. (2001). *Graphic design: a concise history.* London: Thames & Hudson.

Holloway, I. (1997). *Basic concepts for qualitative research.* Oxford: Malden, Mass: Blackwell Science.

Hong Kong Designers Association (2010). Apply for membership. Retrieved August, 2014, from http://www.hongkongda.com/zh-hk/apply.aspx

Hong Kong Designers Association (2010a). about us. Retrieved May 2012, from: http://www.hongkongda.com/zh-hk/about.aspx

Hong Kong Design Centre (2008). About us: what is design? Retrieved February 1, 2011, from http://www.hkdesigncente.org/en/about/design.asp.

Hong Kong Design Centre (2008a). *From creative industries to creative economy: The role to education.* Hong Kong: The Hong Kong Design Centre and University of Hong Kong.

Hong Kong Design Centre; Asia Case Research Centre, The Hong Kong University. (2008a). News and information, from Forum on "From creative industries to creative economy: The role to education (Full report). Retrieved May 2012, from http//www.hkdesigncentre.org/download/news/The_Role_Education_full_report.pdf

Hong Kong Design Centre (2011). *A study on the framework of Hong Kong design index.* Hong Kong: Hong Kong Design Centre.

Hong Kong Design Institute (2010). *Course Validation Document (draft): full time higher diploma in visual communication 61905S.* Hong Kong: Hong Kong Design Institute.

Hong Kong Design Institute (2011). *Hong Kong Design Institute: Prospectus 2011-12, full-time programmes*. Hong Kong: Hong Kong Design Institute

Hong Kong Design Institute (2012). Mission. Retrieved June 12, 2012, from http://www.hkdi.edu.hk/?l=en&t=0&s=1&p=1

Hong Kong Design Institute (2012). Higher diploma in advertising design. Retrieved June 12, 2012, from http://www.hkdi.edu.hk/?l=en&s=2&p=246

Hong Kong Education Bureau (EDB) (2008a). Qualification framework, Introduction. Retrieved July, 14, 2014, from http://www.hkqf.gov.hk/guie/HKQF_intro.asp

Hong Kong Education Bureau (EDB) (2008). Generic level descriptors (GLDs). Retrieved May, 30 2011, from http://www.hkqf.gov.hk/media/HKQF_GLD_e.pdf

Hong Kong Institute of Certified Public Accountant (n.d.). Registration requirements. Retrieved September 9, 2011, from http://www.hkicpa.org.hk/en/registration-and-licensing/register-as-cpa/registration-requriements/

Hong Kong Institute of Certified Public Accountants (2012). Code of ethics. Retrieved May 2012, from: http://www/hkicpa.org.hk/en/standards-and-regulations/standards/code-of-ethics

International Council of Communication Design (ICOGRADA)(2012). Definition of communication design. Retrieved May 2012, from: http://www.icograda.org/about/about/articles836

Isaksen, S. G., & Murkock, M. C. (1993). The emergence of a discipline: Issues and approaches to the study of creativity. In S. G. Isaksen (Ed.), *The emergence of a discipline* (pp. 13–47). Norwood, NJ: Ablex Publication Corporation

Jiang, X. (2003). Art and design education and Chinese traditional craft. *Zhong Zhi (Art and design), 117 (1)* , 66-67 (In Chinese).

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Towards a definition of mixed methods research. *Journal of Mixed Methods Research, 1(2)* , pp.112-133.

Justice, L. (2012). *China's design revolution.* Cambirdge: The MIT Press.

Kanes, C. (2010). Challenging professionalism. In C. Kanes (Ed.), *Elaborating professionalism: Studies in practice and theory* (pp. 1-16). Dordrecht ; New York: Springer Science & Business Media.

Keedy, J. (1998). Graphic design in the Postmodern era. The AIGA National Student Design Conference, CalArts. San Francisco: Emigre 47.

Kennedy, D., Hyland, A., & Ryan, N. (2009). Learning outcomes and competences. Retrieved October 5, 2012, from http://skc.vdu.lt/downloads/seminaro_medziaga_100622-23/learning_outcomes_and_competences.pdf

Kerin, R., Hartley, S., & Rudelius, W. (2011). *Marketing* (10th ed.). New York: McGraw-Hill/Irwin.

Keyes, C. L. (1998,). Social well being. *Social Psychology Quarterly*, 61 (2) pp. 121-140.

Konkola, R. (2001). Developmental process of internship at polytechnic and boundary-zone activity as a new model for activity. In T. Tuomi-Grohn, & Y. Engestrom (Eds.), *At the boundary-zone between school and work - new possibilities of work-based learning* (pp. 148-186). Helsinki: University Press.

Korea Institute of Design Promotion (2008). About KIDP. Retrieved March 30, 2012, from http://global.designb.com/disko/list.asp?menuseqnum=20032

Lam, B. (2008). Design for sustainable Curriculum: foundation programme in design education for Hong Kong. (Doctorate thesis, The University of Nottingham, Nottingham, UK. 2008).

Larson, M, S. (1977) *The rise of professionalism: A sociological analysis*. Berkeley: University of California Press.

Lau, S., Hui, A., & Ng, G.(2004). *Creativity: When east meet west .* Singapore: River Edge, N.J.: World Scientific Pub.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge: Cambridge University Press.

Lawson, B. (2004). *What designers know.* Oxford, UK: Elsevier Architectural Press.

Lawson, B., & Dorst, K. (2009). *Design expertise.* Oxford, UK: Elsevier Architectural Press.

Learvy, M. R. (2012). *Introduction to behavioral research methods,* (6th ed.). Boston: Pearson Education.

Leung, K., Au, A., & Leung, B. (2004). Creativity and innovation: East-west comparisons with an emphasis on Chinese societies. In S. Lau, A. Hui, & G. Ng.(Eds.), *Creativity: When east meets west* (pp. 117-118). Singapore: River Edge, N.J.: World Scientific Pub.

Lichtman, M. (2013). *Qualitative research in education*: *a user's guide.* (3rd ed.). Thousand Oaks, (CA): Sage.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Newbury Parks, (CA): Sage Publications.

Longstreet, W. S.,& Shane, H. G. (1993). *Curriculum for a new millennium*, Boston, (Mass): Allyn and Bacon.

Löwgren, J., & Stolterman, E. (1999). Methods & tools: design methodology and design practice. *Interactions*, 6 (1), pp. 13-20.

Lumer, C. (2010). What is practical knowledge? In: M. De Caro & R. Egidi (Eds.), *The architecture of knowledge. epistemology, agency, and science (*pp. 105-130). Roma: Carocci

Malouf, D. (2011). Design education of the future. In A. G. Bennett, & O. Vulpinari (Eds.), *Icograda design education manuifesto* (pp. 98-103). Taipei: Icograda IDA.

Margolin, V. (1983). The scope and methodology of design history. The First Symposium on The History of Graphic Design (pp. 26-29). Rochester, NY: Rochester Institute of Technology.

Margolin, V. (1994). Narrative Problems of Graphic Design History. *Visible Language* 28 (3), 233-243

Margolin, V. (2011). Graphic design education and the challenge of social transformation. *Icograda Design Education Manifesto* (pp. 103-106). Taipei: Icograda General Asembly.

Marsh, C. J. (2004). *Key concepts for understanding curriculum.* (3rd ed.) Milton Park, Abingdon, Oxon: RoutledgeFalmer

Maxwell, J. (1996). *Qualitative research design*. London: Sage Publications, Inc.

Maxwell, J. (2009). Designing a qualitative study. In L. Bickman & D. J. Rog (Eds.), *The SAGE Handbook of Applied Social Research Methods* (pp.214-253). Thousand Oaks, (CA): Sage Publications.

Mayer, R. E. (1999). Fifty years of creativity research. In R. J. Sternberg (Ed.), *Handbook of Creativity* (pp. 449–460). Cambridge: Cambridge University Press.

McCoy, K. (1997). Education and professionalism or what's wrong with graphic design education. *How WE Learn What We Learn Conference.* New York.

McCoy, K. (2001). American graphic design expression. In S. Heller & G. Balance, (Eds.), *Graphic Design History* (pp. 3-11). New York: Allworth Press.

McGhee, W., & Thayer, P. W. (1961). *Training in business and industry.* New York: John Wiley & Sons.

Meggs, P. (1998). *A History of graphic design.*(3rd ed.)*.* New York: John Wiley & Sons.

Menger, C. (Ed.).(1976). *Principles of economics.* New York: New York University Press.

Menger, C. (2007). *Principles of economics.* Auburn, Ala.:The Ludwig von Mises Institute.

Mento, A., Martinelli, P., & Jones, R. M. (1999). Mind mappin in exeutive education: applications and outcomes. *Joournal of Managment Development,* 18 (4), 390-407.

Merriam, S. (1998). *Qualitative research and case study application in education.* (2nded.)*.* San Francisco: Jossey-Bass Publishers.

Merriam, S. (2009). *Qualitative research: A guide to Design and Implementation.* San Francisco: Jossey-Bass Publishers.

Mertens, D. (2005). *Research and evaluation in education and psychology: Intergrating diversity with quantitative, qualitative, and mixed methods.* Thousand Oaks, (CA): Sage Publications.

Minick, S. & Jiao, P. (1990). *Chinese graphic design in the twentieth century.* London: Thames and Hudson.

Morse, J. M. & Niehaus, L. (2009). *Mixed method design: principles and procedures.* Walnut Creek, (CA): Left Coast Press.

Mulder, M., Weigel, T., & Collins, K. (2007). The concept of competence in the development of vocational education and training in selected EU member state: a critical analysis. *Journal of Vocational Education and Training, 59 (1)*, 67-88.

Müller-Brockmann, J. (1971). *A history of visual communication.* Switzerland: Arthur Niggli Ltd., Tenfen, AR, Switzerland.

Nespor, J. (1994). *Knowledge in motion: space, time and curriculum in undergraduate physics and management.* London: Falmer Press.

Newark, R. U. (2003). Regions, Globalization, and the knowledge-based economy. Newark, Rutgers University: Oxford Univesity Press.

Ngo, D. C., Samsudin, A., & Abdullah, R. (2000). Aesthetic measures for assessing graphic screens. *Journal of Iinformation Science and Engineering*, 16. 97-116.

Norris, N. (1991). The trouble with competence. *Cambridge Journal of Education,* 21(3), 331-341.

Onwuegbuzie, A. J., & Teddie, C. (2003). A framework for analyzing mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social & Behavioral Research* (pp. 351-383). Thousand Oaks, CA.: Sage Publication.

Oxford English Dictionary (2011). Retrieved September 9, 2011, from http://www.oed.com/view/entry/163432?rskey=0J2W1&result=1&isAdvanced=false#eid

Oxford University Press (2011). Value. Retrieved July 29, 2014, from http://www.oxforddictionaries.com/definition/english/value?q=value

Patton, M. Q.(1989). *Qualitative evaluation methods*. Beverly Hills, (CA): Sage

Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*, (2nd ed.). Newbury Park, (CA): Sage Publications

Patton, M. Q. (2002). *Qualitative research and evaluation methods.* (3rd ed.).Thousand Oaks, (CA): Sage Publications.

Pearson, H. (1984). Competence: a normative analysis. In E. Short (Ed.), *Competence: Inquiries into its meaning and acquisition in educational settings* (pp. 31-38). New York: University of Press of America.

Portelli, J. P. (1987). On defining curriculum. *Journal of Curriculum and Supervision*, 2(4),354-367

Peterson, G., & Hayhoe, R. (2001). Introduction. In G. Peterson, R. Hayhoe, & Y. Lu (Eds.), *Education, Culture, & Identity in Twentieth-century China* (pp. 1-21). Hong Kong: Hong Kong University Press.

Pham, B. (1999). Design for aesthetics: interactions of design variables and aesthetic properties. SPIE IS&T/11th Annual Symposium - Electronic Imaging 99, Vol 3644 (pp. 364-371). San Jose, USA: School of Information Technology & Mathematical Sciences, University of Ballarat.

Poggenpohl, S. H. (2003). *Plain talk about learning and a life in design.* Retrieved March 3, 2012, from http://www.herron.iupui.edu/sites/all/files/documents/plain_talk.pdf

Poggenpohl, S. H. (2011). Communities of practice. *Icograda Design Education Manifesto 2011* (pp. 112-114). Taipei: Icograda IDA.

Postrel, V. (2003). *The sustance of style.* New York: Harper Collins Publishers.

Poynor, R. (2003). *No more rules: Graphic design and Postmodernism.* New Haven, Conn: Yale University Press.

Qian, F. (2007). Iinternational conference on the cultural industry and the education of art and design:The future of design education in different cultural contexts. *Design Issues,* 23 (3), 86-87.

Reynolds, D. R. (2001). Sino-foreign interaction in education. In G. Peterson, R. Hayhoe, & Y. Lu (Eds.), *Education, culture, & identity in the twentieth-century China* (pp. 23-30). Hong Kong : Hong Kong University Press.

Royal Institute of British Architects. (2005). RIBA code of professional conduct. Retrieved July, 22, 2014, from http://www.architecture.com/Files/RIBAProfessionalServices/ProfessionalConduct/DisputeResolution/ProfessionalConduct/RIBACodeOfProfessionalConduct.pdf

Robson, C. (2002). *Real world research : a resource for social scientists and practitioner-researchers.* (2nd ed.). Oxford: Blackwell Publishers.

Rouse, M. J. (2004). Cointinuing professional development in pharmacy. *J. Amer Pharm Assoc.*, 44 (4), 517-320.

Rudowicz, E. (2004). Creativity among Chinese people: Beyond western perspectice. In S. Lau, *Creativity : when East meets West* (p. 56). Singapore: River Edge, N.J. : World Scientific Pub.

Salchow, G. (1997). Graphic design is not a professional. In S. Heller, & M. Finamore (Eds.), *Design culture: An anthology of writing from the AIGA Journal of Graphic design* (p. 83). New York: Allworth Press.

Sandberg, J. & Pinnington, A. H. (2009). Professional competence as ways of being: An existential ontological perspective. *Journal of management studies*, 46 (7), 1138

Schein, E. H. (1972). *Professional Edication: some new directions.* New York: New York, McGraw-Hill.

Schön, D. (1963). *The displacement of concepts.* Tavistock: London.

Schön, D. (1983). *The reflective practitioner: How professionals think in action.* New York: Basic Books.

Schön, D. (1987). *Educating the reflective practitioner.* San Francisco: Jossey-Bass.

Schwartz, M. (2001). The nature of the relationship between corporate codes of ethics and behavior. *Journal of Business Ethics*, 32, 247–262

Schwartz, S. (2005). Basic human values: An overivew. Jerusalem: Hebrew University.

Schwartz, S. (2009). Basic human values. Cross-National Comparison Seminar on the Quality and Comparability of Measure for Constructs in Comparative Research: Methods and Applications. Bolzano: Italy.

Seidman, I. (2013).*Interviewing as qualitative research: a guide for researchers in education and the social sciences.* (4th ed.) New York: Teachers College Press

Simon, H. A. (1991). Organizations and markets,.*The Journal of Economic Perspectives* , 5 (2), 25-44.

Simon, H. A. (1996). *The sciences of the artifical. (3rd ed.).* Cambridge, MA: The MIT Press.

Simpson, J. A. & Weiner, E.S.C. (Eds.) (1989).*The Oxford English Dictionary*. Oxford: Clarendon Press

Siu, K. C. (2003). Redeveloping design education in Hong Kong. *Design Issues,* 19 (3), 83-93.

Siu, K. W. (2008). Review on the development of design education in Hong Kong: The need to nurture the problem finding capability of design students. *Educational Research Journal,* 23 (2), 179-201.

Smeby, J. (2007). Connecting to professional knowledge. *Studies in Higher Education,* 32 (2), 207-224.

Smith, P. B., Bond, M. H., & Kagitcitcibasi, C. (2006). *Understanding social psychology across cultures: living andworking in a changing world.* London: SAGE publications Ltd.

Stake, R. E. (2006). *Multiple case study analysis.* New York: Guilford Press.

Stake, R. E. (2010). *Qualitative research: studying how things work.* New York: Guilford Press.

Starratt, R. J. (2004). *Ethical Leadership*. San Francisco: Wiley.

Steiner, H., & Haas, K. (1995). *Cross cultural design communicating in the global marketplace.* London: Thames & Hudson.

Sternberg, R. J., & Lubart, T. I. (1999). The concepts of creativity: Prospects and paradigms. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 3–15). New York: Cambridge University Press.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures*
and techniques. Newbury Park, Calif.: Sage Publications.

Swanson, G. (2005). Graphic design education as a liberal art: design and knowledge in the university and the 'real world'. In S. Heller (Ed.), *The education of a graphic designer* (pp. 22-32). New York: Allworth Press.

Tagg, S. K.(1985). Life story interviews and their interpretations. In M. Brenner, J. Brown, & D. Canter (Eds.), *The research interviews: Uses and approaches* (pp.163-199). London: Academic Press.

Tashakkori, A., & Teddie, C. (1998). *Mixed methodology: combining qualitative and quantitative approaches.* Thousand Oaks, Calif.: Sage Publications.

Teddie , C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in social and behavioral sciences.* Thoudand Oaks, CA.: SAGE.

The Association of Accredited Advertising Agencies of Hong Kong. (2009). Membership. Retrieved June 14, 2012, from http//www.aaaa.com.hk/en/index.php

The Association of Registered Graphic Dersigners of Ontario (2012). About us. Retrieved May 30, 2012, from http://www.rgdontario.com/aboutUs/default.asp

The DesignSmart Research Project (2008). *DesignSmart Research: Matching the skills, knowledge and capabilities of designers to the expectations and requirement of employers.* Hong Kong: The Hong Kong Polytechnic University.

The DesignSmart Research Project Final Report (2008). *DesignSmart Research: Matching the skills, knowledge and capabilities of designers to the expectations and requirement of employers.* Hong Kong: The Hong Kong Polytechnic University.

The Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ)(2014). Determining QF Levels. Retrieved July, 4, 2014, from http://www.hkcaavq.edu.hk/files/services/accreditation/non-local-learning-programmes/NLP_Determining_QF_Levels_20140801.pdf

The Hong Kong Institute of Architecture(n.d.). About us. Retrieved September 2, 2011, from http://www.hkia.net/en/AboutUs_02_05.htm

The Leusure and Cultural Services Department (2006). *At the East-West crossroads : the art of Wucius Wong.* Hong Kong: The Leusure and Cultural Services Department

The School of Design (2010). *Undergraduate and postgraduate courses prospectus 2010-11.* Hong Kong: The Hong Kong Polytechnic University.

The School of Design (2010). BA(Hons) in design programme document 2010/11: Programme code 73016. Hong Kong: The Hong Kong Polytechnic University.

The School of Design (2012). Vision. Retrieved June 5, 2012, from http://www.sd.polyu.edu.hk/web/About/Vision. The Hong Kong Polytechnic University

The School of Design (2012a). What is communication design (or visual communication) about? Retrieved June 12, 2012, from http;//www.sd.polyu.edu.hk/web/img/files/PolyU%20CD%20intake%202012-13(1).pdf. The Hong Kong Polytechnic University

The School of Design (2015). International design and business management (MDes). Retrieved April 25, 2015, from http://www.sd.polyu.edu.hk/en/study-detail/international-design-and-business-management. The Hong Kong Polytechnic University

Throsby, E. (2008). The creation of values by artists. In M. Hutter (Ed.), *Beyond Price: value in culture, economics and the arts* (pp. 75-88). Cambridge: Cambridge University press.

Trade and Industry Department of the Government of the Hong Kong Special Administrative Region (2004). Small and Medium Enterprise (SME). Retrieved July, 18, 2011, from http://www.epd.gov.hk/epd/misc/env_management_sme/presentation/6_TID.pdf

Toombs, W. E., & Tierney, W.G. (1993). Curriculum definitions and reference points. *Journal of Curriculum and Supervision*, 8(3), 175-195.

Triggs, T. (2011). Graphic design history: past, present and future. *Design Issue,* 27 (1)*,* 3-6.

Tuning Educational Structures in Europe. (2000). Competences . Retrieved October 12, 2012, from http://www.unideusto.org/tuningeu/competences.html

Tuomi-Grohn, T., Engestrom, Y., & Young, M. (2003). From transfer to boundary-crossing between school and work as a tool for developing vocational education: In introduction. In T. Tuomi-Grohn (Ed.), *Between school and work: new perspective on transfer and boundary-crossing* (pp. 1-18). Oxford: Elsevier Science Ltd.

Turner, M. (1989). Early modern design in Hong Kong. *Design Issues,* 6 (1), 79-91.

Turner, M. (1993). The Future of Asian Design: “Cultural Identity” or "Internationalisation.”. In Q. Yin, H. Chen, & J. Tao (Eds.), *Design and Times: Essays of the First Industry Design Meeting in China* (pp.16-21). Beijing: China Building Material Publishing.

Turner, M. (1993a). Erastz design: Interactions between Chinese and Western design in Hong Kong, 1950s-1960s. Unpublished PhD dissertation. London: Royal College of Art.

Twemlow, A. (2006, Spring). End of history? Graphic design hasn't started. Retrieved from Alice Twemlow - *Eye Magazine*: http://www.eyemagazine.com/review/article/end-of-history-graphic-design-hasnt-started

Urde, M. (2003). Core value-based corporate brand building. *European Journal of Marketing,* 37 (7/8), 1017-1040.

Van Maanen, J. (1979). Reclaiming qualitative methods for organizational research: A preface. *Administrative Science Quarterly*, 24(4), 520-526.

Van Der Sanden, J., & Teurlings, C. (2003). Developing competence during practice period: The learner's perspective. In T. Tuomi-Crohn, & Y. Engestrom (Eds.), *Between school and work: New perspectives on transfer and boundary-crossing* (pp. 119-138). Oxford, UK.: Elsevier Science Ltd

Van Der Waarde, K., & Vroombout, M. (2012). Communication design education: could nine reflections be sufficient. *Visual Language,* 46 (1-2), 20-21 23-35.

Waks, J. L. (2001). Donald Schön's Philosophy of design and design education. *International Journal of Technology and Design Education,* 11 (1), 37-51.

Wang, S. Z. (1990). Internationalization of design education: A Chinese experience. In R. Ghose (Ed.), *Design and development in South and Southeast Asia* (pp. 186-209). Hong Kong: Centre of Asian Studies, University of Hong Kong.

Wang, S. Z. (1995). Chinese modern design: A retrospective. In D. P. Doordan (Ed.), *Design History* (pp. 213-241). Massachusetts: The MIT Press.

Wang, X. J. (2009a). Contemporary Forces Driving the Development of Design. *Icograda Education Network Conference 2009* (pp. 2-13). Beijing: Icograda IDA (in Chinese).

Wang, M. (2011). Design education manifesto. In A. G. Bennett, & O. Vulpinari (Eds.), *Icograda design education manaufesto* (pp. 140-143). Taipei: Icograda IDA.

Weill, A. (2004). *Graphic design a history.* New York: Narry N. Abrams, Inc.

Wenger, E. (1998). *Communities of practice. learning, meaning and identity.* Cambridge: Cambridge University Press.

Winterton J, D., Delamare-Le Deis, F., & Stringfellow, E. (2005). *Typology of knowledge,skills and competences; clarification of the concept and prototype.* Retrieved Oct. 4, 2012, from CE-DEFOP: http://www.ecotec.com/europeaninventory/publications/method/CEDEFOP_typology.pdf

Wong, W. S. (2001). Detachment and unification: A Chinese graphic design history in Greater China since 1979. *Design Issues,* 17 (4), 51-71.

Wong, W. S. (2004). Design identity of Hong Kong: Colonization, de-colonization and re-colonization. *Department of Design, York University*, p.1-13.

Wong, W. S. (2005). Torn between tradition and Modernity: The future of design education directions of China. International Conference on Design Education: Tradition and Modernity Conference Proceedings. Ahmedabad: National Institute of Design.

Wong, W. S. (2006). Contemporary design in China: The road to modernity and commericalization. *Internation Conference in Lisbon. IADE* (pp. 1-11). Lisbon: Design Research Society.

Wong, W. (2006a). *At the East-West crossroads : the art of Wucius Wong.* Hong Kong: The Leisure and Cultural Services Department ; organized by the Hong Kong Museum of Art.

Wong, Y. & M. Siu (2012). Is there creativity in design? From a perspective of school design and technology in Hong Kong. *Asia Pacific Education Review. Springer.* 13(3), 465-474.

Woodham, J. M. (2005). Local, national and global: Redrawing the design historical map. *Journal of Design History* 18 (3), 257-267.

Xia, Y. (2009). *Zhongguo she ji shi.* Shanghai: Shanghai ren min mei shu chu ban she (in Chinese).

Yin, R. (2009). *Case study research: design and methods.* Thousand Oaks, (CA): Sage Publication.

Yin, R. (2011). *Qualitative research from start to finish.* New York: The Guilford Press.

Yuan, X. S. (2003). *Zhonggong Yishu Sheji Jiaoyu Fazhau Lichang Yanjiu (The Studies of the development of arts design education in China).* Beijing: Beijing Polytechnic University Ress (in Chinese).

Yu, M. (2011, March). Hong Kong design before 80s, 70s, 60s. *dD (magaizine by Hong Kong Desigenrs Association Ltd.)*, pp. 217-228 (in Chinese).

Yu, M., & Li, H. (2006, Vol.134). Hong Kong designer Michael Miller Yu. *Packaging Design* , pp. 42-51 (in Chinese).