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Framing an integrated framework of design curriculum in higher education: understandings, meanings and interpretations

ABSTRACT
This article aims to explore an alternative framework of design curriculum among the diverse and fragmented interpretations of design education, contributing to rethinking future design education in higher education. Data were collected from thirteen individual and group interviews with fifteen informants, and a series of investigations into the academic performance of a Hong Kong university’s design department. The qualitative study of the data identified embedded understandings and interpretations of design education expressed by the design experts, faculty members and local designers. Grounded theory analysis unveiled the experts’ recommendations to the university senior management that design was not art in its own right but supported industrial transformation. Paradoxically, the designers aimed for art to be the foundation of design practices for economic development, while the faculty members faced a
tension between art-based and industry-based design practices at all levels that reflect the nature of design. These diverse interpretations were subject to several cycles of comparison and abstraction. The findings shape the alternative vision of design education in the interplay between design artefacts and the human-made world, which integrates design-making, design planning and design thinking in a coherent framework of study. The implications are that the fragmented interpretations are neither mutually exclusive nor antagonistic in the further development of design education.

INTRODUCTION

It is widely postulated that design education is of value to creative education in providing design talents for economic and cultural development of society. What it means here is a set of university programmes through which students can learn to become graphic, product, interior or multimedia designers. Whether or not design graduates are up-to-date with timely design knowledge and skills for practice is always under professional scrutiny. In contrast, the design literature indicates that discourses on emerging design education reflect diverse interpretations of design, which give rise to fragmented meanings of design education in different stances. Less research focuses on integrating and transforming the fragmentation in interpreting design education that can reflect what alternative visions of design education design research can explore and what further development of design education the research can propose in the diverse interpretations of design. This article aims at filling the gap with a grounded theory study of a series of expert investigations into design education in Hong Kong higher education.

Hong Kong design education is no exception to the fragmented interpretations. Moreover, new challenges, including the relocation of Hong Kong industry, closer economic and cultural connections with major cities on the mainland, and the rise of mainland design education, have emerged to press a change in its future direction. This article explores an alternative vision of design education in which a coherent curriculum framework is proposed as an answer to the question. The exploration is based on three sets of data collected in the expert investigations into a design department (the department) at a Hong Kong university (‘the university’). By focusing on the expert investigations, the data samples cover the interviews of the experts, the department faculty members and the practising designers who are the department alumni and represent the local design community. The samples of the alumni are more appropriate than the then current design students for the study.

A group of overseas and local design experts was formed to review the department and its design programmes. Instead of a critical review of the problems design education faces, their recommendations merely offer a direction to the university senior management akin to the one that advocates ‘design for industry’, a long-time educational mission in Hong Kong. As a consequence, the findings of the investigation gave rise to the exploration of alternative visions of design education for further development.

VARIOUS INTERPRETATIONS OF DESIGN EDUCATION

The design literature reveals various changes to the structure of design education in the latter half of the twentieth century. In the United Kingdom, the nature of design education as a branch of the fine arts was challenged while
polytechnic education was being implemented in the 1960s (Pratt 1997). Due to political reasons, Hong Kong design education was strongly influenced by the UK system. One of the informants said, ‘That was the time [in the 1960s] when the first design programme was transplanted from the United Kingdom to Hong Kong, when the Hong Kong Technical College was relocated to Hung Hum, Kowloon’. Although Hong Kong’s design education began with the British model, its subsequent development was entwined with Hong Kong’s economic and political changes and the interwoven influences of Japanese, North American and European cultures.

In search of new directions for design education

As a young discipline in higher education, Hong Kong design education could not claim a distinct territory as other disciplines did due to its vague educational identity. Siu (2003: 83) indicated that ‘Since the 1960s, “visual art” and “design” have tended to be mentioned in the same breath in Hong Kong’. This issue reflects an underlying dilemma that design could be regarded as a technical subject in industrial education on one hand and as an art subject in art education on the other. With this paradoxical perception of design, Ng (2000) commented on the overall development of Hong Kong art education in the last 60 years as if it were a peripheral component in the education system incompatible with the education expectations of overemphasis on academic subjects, excessive examinations and economic priority. Although polytechnic education gradually merged into the university system in the late 1990s, design education was further developed in a blurred disciplinary context in Hong Kong. The dilemma turned to whether university requirements should apply to design education at universities in which theory and research have higher priority than the skills of making and craftsmanship.

After the return of Hong Kong’s sovereignty to China in 1997, the Hong Kong education system in general went through drastic changes. One of the prominent changes was the introduction of the 3+3+4 education system. By 2012, the 3-year junior secondary school, 3-year senior secondary school and 4-year university system will be fully implemented to replace the current British model. Regardless of the reasons presented by the government officials, the main reason for the change is to integrate with the mainland education system so that educational qualifications and schooling in mainland cities and Hong Kong will be compatible. Meanwhile, two leading art institutions in mainland China, the then Central Academy of Arts and Design and the China Central Academy of Fine Arts established in Beijing in 1956 and 1950, respectively, began to reform their design education in China. In 1999, the former was merged into Tsinghua University and renamed the Academy of Arts and Design, with a strong focus ‘to build itself into a world-class academy of applied fine arts with distinct features’ (Academy of Arts and Design Tsinghua University 2010). In 2003, Zhu et al. (2003) reported a tripartite talk between Gongkai Pan, President of the China Central Academy of Fine Arts, Pang Tan, Vice President of the Academy, and Min Wang, the then Dean of the Academy’s School of Design, about the Academy’s reform and the newly incepted School of Design. The objective of the reform was to empower creative and practical development of art education in China. Regardless of the changes the two academies had implemented, the salient message was that design was gradually being perceived as one of the pillars of art education. These reforms coincided with the expert investigations into the design department in search of a new direction for Hong Kong’s design education, starting from 2002.
**Fragmented understandings and meanings of design education**

Not only did the art and design academies or universities in Beijing and Hong Kong look for new directions for their design education, but design schools in other places also explored various educational possibilities. The literature disseminates different views on transforming design education in response to emerging understandings of design education in the rapidly changing global context, thereby giving rise to the salient epistemological query: what counts as a body of design knowledge comprising theory, research and practice in design?

Different design scholars, experts and practitioners may interpret design knowledge in design education differently. The fragmentation is well reflected in the various critiques of two prominent scholars’ design theories in various contexts – Schön’s (1985, 1991) design theory in reflective practice posed by Carvalho and Dong (2009), and Chua (2009) and Simon’s (1996) design theory in systematic problem solving challenged by Dreyfus et al. (1986) and Schön (1991). The critiques do not vindicate the complex nature of design theory that can be both reflective and problem-solving processes in design. Indeed, Schön’s (1985) can be interpreted as studio-based learning of design through learning by doing; Simon’s (1996) can be regarded as programmable problem-solving processes through system design. The difference characterizes pluralistic views on design knowledge in shaping learning and teaching design from different epistemological stances. However, such a pluralistic view could bring about fragmented and disintegrated content of design knowledge.

Although design is a loose term describing the multifaceted nature of designing in various design disciplines, Galle (2008) worried that the disintegration of design knowledge may weaken the credibility of design, and proposed the notion of ‘candidate worldviews for design theory’. Meanwhile, Carvalho and Dong (2009) explored Legitimation Code Theory as a sociological lens to legitimate design knowledge by drawing from the data collected in interviews with designers from four design-related disciplines. Indeed, these scholars provided philosophical inquiry into design theory and knowledge as alternative understandings of design to Schön’s reflective practice in design and Simon’s programmable problem solving by design. What is missing though is a coherent transformation of these scholars’ notions of design for design education.

**Framing a coherent view of design education**

Many design educators practiced design long before going into academia. After that, they continued their practices, consultancy and close connections with design communities. Wearing several hats at the same time, they may take the epistemological disintegration in design knowledge for granted. It is not surprising to realize that the issue is reflected in design education by claiming various emphases on:

1. Design-making, that is, the understanding of designed artefacts in light of human-made worlds (Black 1983b; Dilnot 2000; Schön 1985),
2. Design planning/management, that is, the planning of business strategies and systems at firm or organization level in light of economic development (Heskett 2003; Simon 1996), and/or
3. Design thinking that is concerned with design issues in light of philosophical inquiry into design (Buchanan 2001; Cross 2001; Carvalho and Dong 2009; Galle 2008).
With reference to the fragmented meanings of design, these emphases implicate various unbalanced interpretations of design education ranging from an educational dichotomy between the specialized and generalized nature of design (Black 1983a, 1983b) to design as a professional discipline (Cross 2001). Thus, design education is characterized as studio-based learning (Schön 1985) for creative problem solving, synthesis of skills and prototyping by making, and Cross’ (2001) argument for ‘a science of design’. In contrast to these interpretations, Dilnot (2000) argued that design, as a general subject for all students, relates to the study of artificial phenomena in the interdisciplinary context of liberal arts in a university setting.

The discourse on various interpretations of design education did not reach any conclusion, and continued in a series of international design conferences with a specific focus on doctoral design education (Ph.D. in design) (Buchanan et al. 1998; Durling and Friedman 2000; Popovic and Kim 2001; Swann and Young 2000). The discussion could also apply to all levels of design education. In respect of this, profound reflection on design education by researching into theories and practices in higher education was called for (Pizzocaro 2003; Durling and Friedman 2003; Newbury 2003). Rust (2002: 143–4) pointed out that ‘The greatest fear seems to be reserved for the spectre that individuals might cynically propose, for example, a piece of product design as being research largely on the grounds that it is a new product and therefore new knowledge’. This confusion hindered the understanding of the nature of practice-based and research-based production of design knowledge.

The discourses posit design education as a professional discipline in university settings. So, production of design knowledge by research is valued much more highly than that by practice. By referring to the discussions at the conferences and the fragmented meanings of design, design education could be re-conceptualized in three directions: (1) studio-based learning for creative problem solving, synthesis of technology, skills and prototyping through making of artefacts; (2) design strategy in business planning and management to maximize design in organizations; and (3) multidisciplinary inquiries through philosophical thinking of the human-made world.

In sum, there is no widely accepted form of design education as coherent as other professional education due to the diverse and fragmented interpretations and meanings of design. This study therefore proposes a holistic perspective to encapsulate the directions and various emphases of design education in a coherent form, as shown in Table 1.

<table>
<thead>
<tr>
<th>Direction of design education</th>
<th>Studio-based direction</th>
<th>Business-based direction</th>
<th>Multidisciplinary direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasized content</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design-making</td>
<td>Specific designing</td>
<td>Design uses</td>
<td>Ontology of design</td>
</tr>
<tr>
<td>Design planning</td>
<td>Design processes</td>
<td>Design management</td>
<td>Systems of design</td>
</tr>
<tr>
<td>Design thinking</td>
<td>Design creativity</td>
<td>Design strategies</td>
<td>Cultures of design</td>
</tr>
</tbody>
</table>

Table 1: A coherent view of design education.
What follows is the study of local designers’ and design faculty members’ views on design education in contrast to the design experts’ recommendations of change to the university’s design education. Their understandings of design education reflect the diverse interpretations shown in the literature. The outcomes of the study and the holistic perspective would possibly delineate an alternative vision of design education in terms of a coherent design curriculum framework for further development at all levels of study. This alternative can shed new light on the epistemological disintegration of design knowledge in design communities in various contexts.

THE METHODOLOGY

To answer the two research questions: (1) what alternative visions of design education design research can explore; and (2) what further development of design education the research can propose in the diverse interpretations of design. I conducted a qualitative study at the university when the university senior management invited a group of overseas and local design experts to investigate the academic performance of the department and the quality of its design education. The study proceeded in three phases of data collection. The first phase was to interview the invited design experts and collect their investigation outcomes for close examination. The second and third phases were to interview the department faculty members and local designers, respectively.

Methodologically, grounded theory guided the study in the way that I could explore, examine and interpret understandings and meanings of design education embedded in the data. This is a flexible research methodology for a variety of research studies. Different researchers may have different versions of grounded theory in mind. Some adopt it as a methodology, research method or research device for generating theories. More importantly, research inquiry must be grounded in data. Creswell (2005: 397) summarized three notions of grounded theory designs implemented by scholars as follows ‘[…] [T]hree dominant designs are discernible: the systematic procedure allied with Strauss and Corbin (1998); the emerging design, associated with Glaser (1992); and the constructivist approach espoused by Charmaz (1990, 2000)’. Creswell (2005: 396) suggested that ‘A grounded theory design is a systematic, qualitative procedure used to generate a theory that explains, at a broad conceptual level, a process, an action, or interaction about a substantive topic […]’. This study adopted Glaser and Strauss’ version of grounded theory in analysing collected data with constant comparison and theoretical sampling techniques. Thus, embedded and fragmented understandings and meanings of design education could be revealed in the data.

For data collection, Czarniawska (2004) suggested that interviews are a production of narration on-site and also formulate narrative constructs of the informants’ stances. Kvale (1996) asserted that interviews are processes of the inter-exchange of informants’ views. Thus, the interview method was suitable for the collection of the views of the design experts, designers and faculty members. In analysing rich interview data, scholars have noted that the constant comparison and theoretical sampling techniques of grounded theory could reveal any embedded evidence that informs new understandings of a field study (Glaser 1992; Glaser and Strauss 1967; Charmaz 2002). In the process of data analysis, the data were subject to several cycles of comparison in which the theoretical sampling illuminated new discoveries in which the findings emerged.
THE STUDY

Design education offered by the university

In Hong Kong, the department faculty had nurtured many generations of designers through the design programmes at subdegree, degree and graduate levels. The subdegree programmes, such as general design studies and two- and three-dimensional design, were self-financed. The programmes funded by the Hong Kong University Grants Committee (the UGC), including the undergraduate design programme, were government-funded. The undergraduate programmes included three options: a general design degree akin to broad-based design education, a single specialism, and combined studies of two design specialisms. The UGC funding also supported research-based graduate study.

Collection of the three sets of data

The data collection began with a series of investigations into the strengths and weaknesses of the department and its design education undertaken by the group of design experts. The group members, fifteen in total, were design academics, researchers and practitioners from North America, Europe, East Asia and Hong Kong. Only two overseas experts (Experts A & B, design professors of North American universities) and one local expert (Expert C, a senior manager of the university) of the group were responsible for the investigations. Expert A studied design development in Hong Kong at the macro level, while Expert B reviewed the academic performance of the department. Expert C expressed his views on design education in a trade magazine and conducted a survey on the university’s product design programme and its graduates’ performance in industry. Finally, the experts recommended to the university senior management the future direction that the department supports Hong Kong design as a design hub for industrial transformation to high-value design strategy.

The first set of data was the interviews of the three design experts \((n=3)\) and the documents related to the investigation outcomes \((n=7)\), including the review reports, the survey results, departmental memos, published articles and a book chapter. The second and third sets of data were the interviews of the department faculty members \((n=5)\) and designers \((n=6)\), respectively. These informants were directly or indirectly involved in the investigation processes.

Data analysis

The study adopted grounded theory techniques, constant comparison and theoretical sampling, in the data analysis. Glaser (1992: 101) defined theoretical sampling as ‘the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges’. Constant comparison between data, emerging concepts, codes or quotations is a technique of data abstraction to inform researchers to induce and discover emerging theories by grounding the induction in data. Similar to Glaser’s definition, Charmaz (2006: 96) construed theoretical sampling as ‘[…] seeking pertinent data to develop your emerging theory […] You conduct theoretical sampling by sampling to develop the properties of your category(ies)
until no new properties emerge’. However, Robson (2002) referred to it as a
generic ‘purposive sampling’ for various flexible research designs. In short,
thoretical sampling guides further data analysis, interpretation and recollec-
tion to generate theories.

The analysis involved an overall and individual conceptualization of the
coded data, identifying pivotal and hidden interpretations of design education.
The overall and individual coding processes were two connected cycles of dis-
covery. The former unveiled fragmented meanings embedded in the views of
design experts, design faculty and designers categorized into four conceptual
themes, while the latter uncovered the common attributes in the three groups
of informants’ (i.e. the design experts, design faculty and designers) interpre-
tations of design. The study would formulate the findings in the two cycles of
data analysis for further discussion in which any alternative vision of design
education could emerge.

Consequently, the overall data coding unveiled four conceptual themes:
aims, models, curricula and accountability. I have coined these themes as
the aim-model-curriculum-accountability scaffolding that represents the
scaffolding of design education in the university context and the educational
issues that the department faces. For example, the informants experienced
various aims and models of design education, displaying changing empha-
ses and content driven by design users’ needs and expectations in the past
and present. They had various views on what design curriculum could be of
value to better balance between the discipline-dependent body of practical
knowledge and intellectual development in generic design theories. In addi-
tion, they agreed that accountability of design education was an overdue
problem rooted in the ways to evaluate the department faculty members’
teaching and research quality, design students’ learning outcomes in the
design programmes, and graduates’ performance in design practices. Thus,
the aim-model-curriculum-accountability scaffolding covered the inform-
ants’ concerns about further development of design education in higher
education (Table 2).

In the individual data coding, the study uncovered two common attributes
embedded in the informants’ interviews and the collected documents. The
notions of embedded meanings of design and the expected qualities of design
education repeatedly appeared in the coding as the informants’ pivotal inter-
pretations of design and concerns about quality design education. Tables 3 to
5 show the details of the collective interpretations made by individual groups
of informants in terms of the embedded meanings of design and the expected
qualities of design education. These embedded and expected attributes also
related to the evidence coded in the aim-model-curriculum-accountability
scaffolding. Thus, the overall and individual data coding was the interrelated
discovery in the exploration of the data. The embedded meanings of design,
the expected qualities of design education and the aim-model-curriculum-
accountability scaffolding represent the informants’ various interpretations of
design and perceived meanings of design education in different stances in the
local design community.

**FINDINGS**

After completing the overall and individual data coding, I abstracted the evi-
dence by way of the scaffolding, the embedded meanings of design, and the
Framing an integrated framework of design curriculum in higher education

<table>
<thead>
<tr>
<th>Aim</th>
<th>Model</th>
<th>Curriculum</th>
<th>Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td>The experts’ view</td>
<td>An industrial project</td>
<td>An integrated curriculum of new design theories, methodologies, technologies and business</td>
<td>Design users’ determination of values of design and graduates’ performance in practices at all levels</td>
</tr>
<tr>
<td>The faculty members’ view</td>
<td>A compromising project of art and industry</td>
<td>Long-term intellectual development versus immediate skills for design practices</td>
<td>A reconciliation between external indicators – the governing mechanism, market needs and internal quality assurance</td>
</tr>
<tr>
<td>The designers’ view</td>
<td>An opportunistic project for profit</td>
<td>Knowledge of R&amp;D and high-value design practices in real-world industry</td>
<td>Social recognition by local industry and design communities</td>
</tr>
</tbody>
</table>

Table 2: Emerging interpretations of design education represented in the aim-model-curriculum-accountability scaffolding by the views of the three groups of informants.

expected qualities of design education, respectively. The results are tabulated as the study findings for further discussion.

1. The overall conceptualization of the data by the aim-model-curriculum-accountability scaffolding.

The overall conceptualization of the data was derived from the coded evidence of the individual groups of informants’ interpretations of design education with the constant comparison technique of grounded theory. The categorization of the evidence was based on the conceptual themes of the scaffolding.

2. The conceptualization of the three groups of informants’ interviews and the collected documents in terms of the embedded meanings of design and the expected qualities of design education.

Tables 3 to 5 show the individual groups of informants’ interpretations of design and their relevant views on design education printed in the collected documents. Table 3 lists further abstraction of the design experts’ interpretations and views.
### The design experts' embedded meanings of design

<table>
<thead>
<tr>
<th>The design experts' expected qualities of design education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Equipment Manufacturing/Original Design Manufacturing/Original Brand Management/Original Strategy Management</td>
</tr>
<tr>
<td>Balanced design programmes with different levels of curriculum development that focus on design, business and technology and integrate real-world design practices towards world-class standards</td>
</tr>
<tr>
<td>Commercial, social and cultural activities related to creative industries</td>
</tr>
<tr>
<td>An appropriate array of educational models that serve the future needs of design users in the region and that emphasize the context of making for economic, social and cultural development</td>
</tr>
<tr>
<td>Adding and creating value for businesses, products and/or social systems for profit and non-profit-making</td>
</tr>
<tr>
<td>Employability and functionality of design graduates at high-level management</td>
</tr>
<tr>
<td>Creative problem-solving capability and capacity</td>
</tr>
<tr>
<td>Innovative pedagogy and research development that informs good scholarship of teaching and learning</td>
</tr>
<tr>
<td>Creative strategies for change</td>
</tr>
<tr>
<td>Understandings of market needs of diverse cultures</td>
</tr>
</tbody>
</table>

*Table 3: The design experts' interpretations and views listed by the embedded meanings of design and the expected qualities of design education.*

### The faculty members' embedded meanings of design

<table>
<thead>
<tr>
<th>The faculty members' expected qualities of design education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social projects for the exploration of all possible public participation</td>
</tr>
<tr>
<td>Design graduates would possess the qualities to lead industry by research and development</td>
</tr>
<tr>
<td>Tension between art-based and industry-based practices that reflect the paradoxical nature of design</td>
</tr>
<tr>
<td>The two-legged approach: design education comprising art and industrial components</td>
</tr>
<tr>
<td>Design creativity for all levels of practices</td>
</tr>
<tr>
<td>Intellectual development of creative thinking for all levels of design practice</td>
</tr>
<tr>
<td>Satisfaction of users’ needs with creative design solutions</td>
</tr>
<tr>
<td>Facilitation of industry/university collaborations</td>
</tr>
<tr>
<td>Vocational preparation</td>
</tr>
<tr>
<td>Emphases on multi-disciplinary knowledge, learning-by-making, skills, technologies and understanding of users’ needs</td>
</tr>
</tbody>
</table>

*Table 4: The faculty members' interpretations and views listed by the embedded meanings of design and the expected qualities of design education.*
Table 4 comprises further abstraction of the department faculty members’ interpretations and views.

Table 5: The designers’ interpretations and views listed by the embedded meanings of design and the expected qualities of design education.

<table>
<thead>
<tr>
<th>The designers’ embedded meanings of design</th>
<th>The designers’ expected qualities of design education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalyst in economic and cultural development</td>
<td>Provision of high-level creative talents</td>
</tr>
<tr>
<td>Intelligent thinking and competency</td>
<td>Holistic training with authentic design projects</td>
</tr>
<tr>
<td>Personal tacit knowledge of visualizing and materializing design ideas</td>
<td>Art as the foundation of creative design education for design practices in industry and commerce</td>
</tr>
<tr>
<td>Everyday experiences of putting design knowledge and skills into practice for adding value to industry and users</td>
<td>Research, development and re-engineering of design knowledge to users’ needs in the context of the world factory (Pearl River Delta in China)</td>
</tr>
<tr>
<td>Responses to market</td>
<td>Accountability of faculty members’ academic performance and graduates’ practices in the real world</td>
</tr>
</tbody>
</table>

Table 5: The designers’ interpretations and views listed by the embedded meanings of design and the expected qualities of design education.

Table 4 comprises further abstraction of the department faculty members’ interpretations and views.

Table 5 displays the results of further abstraction of the designers’ interpretations and views.

After completion of the two cycles of data analysis, the findings of the study represented in Tables 2–5 require further discussion of the individual groups of informants’ meanings of design, together with those interpretations of design education conceptualized in the aim-model-curriculum-accountability scaffolding.

DISCUSSION

The first research question is: what alternative visions of design education can the study explore? Table 2 represents the partial findings of the study of the overall meanings of design education in response to the design discourses. Design education seems inseparable from industrial development in that design education, by and large, is an industrial art project aiming at providing creative design talents for industry and other economic sectors. It gives rise to an applied model of design education with emphasis on business. Surprisingly, this notion is similar to the narrow expectation of design education rooted in the conception of ‘design for industry’. The only difference is the curriculum, which integrates design theories, methodologies and technologies for intellectual development and proficiency in practical skills for design practices. Accountability of learning and practices relies on design users, including employers and members of the design community whose comments on educational values, learning outcomes, and graduates’ performance determine the quality of design education.

By comparing the coherent view (Table 1) with the emerging interpretations of design education (Table 2), the aim-model-curriculum-accountability scaffolding of design education is merely built on the foundation of
industrial development. Ironically, local industry relocated its business operations and manufacturing plants to the mainland (Wong et al. 2003) while mainland design education drastically expanded (Curedale 2003). In addition, the mainland designers who continued their study abroad and have overseas work experience will gain better design advantages than Hong Kong designers in the region (Tsui 2009). The foundation will no longer sustain further development of design education if the fragmented interpretations of design education in design-making, design planning and design thinking remain separate. This is the gap where I can restore the interlocking relation as three levels of emphases based on the holistic perspective shown in Table 1.

Table 6 shows further abstraction of the perspective in connection with specific design content at the three levels of emphases on design artefacts, organization and the human-made world. Each direction of design education proposed comprises vertical and horizontal coherence at each level.

By being grounded in the diverse discourses on design education and the coherent view, I come to term the further abstraction shown in Table 6 as the alternative vision of design education. This vision is invaluable in conceptualizing the content of design education in a coherent view of design artefacts, organizations and human-made worlds. This can fill the gap where design scholars only engage in discussing separate parts of the content and overlook a possible overall picture as shown in the table. The three directions indicate three options open to further development in design education in relation to the integrated content and the levels of emphases. This coherent vision, however, does not suggest any generalized compartmentalization of design education, and is highly flexible and adaptable to suit different socio-educational contexts. To contextualize the flexibility and adaptability of the vision, the study turns to the second research question for an answer.

The second research question is: what further development of design education can the study propose in the diverse interpretations of design? First, the study explores the findings presented in Tables 3 to 5 for any

<table>
<thead>
<tr>
<th>Emphasis</th>
<th>Content</th>
<th>Studio-based direction</th>
<th>Business-based direction</th>
<th>Multidisciplinary direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design-making</td>
<td>Design artefacts</td>
<td>Design artefacts</td>
<td>Organizations</td>
<td>Human-made worlds</td>
</tr>
<tr>
<td>Design planning</td>
<td>Use of design</td>
<td>Specific designing</td>
<td>Design processes</td>
<td>Ontology of human-made objects</td>
</tr>
<tr>
<td>Design thinking</td>
<td>Design creativity</td>
<td>Management of design</td>
<td>Strategies of design</td>
<td>Culture of human-made worlds</td>
</tr>
</tbody>
</table>

Table 6: The coherent vision of design education in the aim-model-curriculum-accountability scaffolding.
emergence in the conceptualization of the three groups of informants (i.e. the design expert group, the department faculty group and the designer group). Second, the study will extract the groups of informants’ vision of design education to support any emergence found in the aim-model-curriculum-accountability scaffolding. I anticipate that the exploration will reflect further development of design education than the study looks for.

Tables 3 to 5 unveil the individual groups of informants’ interpretations of design and of design education in terms of the embedded meanings of design and the expected qualities of design education, respectively. As mentioned earlier, the findings displayed in the tables can be cross-referenced in the aim-model-curriculum-accountability scaffolding. Similar embedded meanings of design attributes, such as ‘serve future needs of design users in the region’ (Table 3), ‘intellectual development of creative thinking’ (Table 4) and ‘accountability of faculty members’ academic performance and graduates’ practices in real world situations’ (Table 5), can also be identified in the scaffolding (Tables 2 and 6). Thus, searching for an answer to the second research question is inseparable from the answer to the first question. The following discussion of the findings of individual conceptualization of the coded data will be based on the aim-model-curriculum-accountability scaffolding to re-contextualize further development of design education.

**Aims of design education**

The three groups of informants did not arrive at a shared aim of design education. The expert and designer groups expected that design education should serve industry’s needs. Interestingly, the former consisted of wider aims, ranging from a history of making artefacts, liberal arts and creation of new concepts of intellectual development.

Expert B: […] design is not only a technical subject, not only a trade or profession but also a [form of] liberal art. By liberal art, I mean the way we connect into great knowledge in our experience […] So, it’s a new liberal art. […] design offers a possibility for that integration of experiential knowledge in the context of making.

(Interview excerpt/Expert B/PD22: L96)

The designer group aimed for competent design practices in real-world scenarios. The group members treasured the university’s design education offered in the period from the 1970s to 1990s.

Designer 2: […] I have felt that [the department’s] design programmes were really tailor-made for our trade in the past. In the 1970s, 1980s and 1990s, [the university] was the most excellent institute for learning design. To recruit AADs [associate art directors], advertising agencies targeted graduates from [the department] […] who performed excellent visualisation and design.

(Interview excerpt/DP2/PD29: L92)

In contrast, the faculty group saw the aim as a socio-educational project for a balance between immediate industrial needs and long-term student development because design graduates were perceived to play a dual role, being artistic and practical in design practices.
Faculty 2: According to my observation for now, industry-led orientation is and will still be dominant in Hong Kong. The demands of industry go first. My personal view is that there are good attributes in this orientation, but industry needs to establish its vision in longer term [...].

(Interview excerpts/F2/PD26: L73)

Faculty 3: Should the education only serve the current expectations of industry? [...] In particular, industry aims for development in two to three years instead of a visionary sight for ten, twenty years later or a holistic view of design education in China or in South-East Asia.

(Interview excerpt/F3/PD24: L342)

The group still struggled with the ideology of preparing students with timely skills for industry and intellectual capacity for critical reflection on design and its impact on human civilization.

Models of design education
The three groups cannot get away from the demands of industry and business for whatever models they prefer. The expert group proposed a range of models developed in North America, Europe and Asia, including fine arts, social sciences, humanities and technology models. The group tried to encapsulate all the models in a triad relationship between design, business and technology, and defined design as not being art.

Expert C: [...] RISD, that is the Rhode Island School of Design, is the same [...] on the east coast [...] and the Art Centre is in the west. They are very art oriented. In fact, there are other design schools located within the spectrum – MIT/Stanford and RISD/The Art Centre at both ends – in between these two types of design schools there are others.

(Interview excerpt/Expert C/PD21: L29)

Similar to the experts, the designer group favoured a business/industry-based model that focuses on high-value industrial practices. However, the viewpoint of art in design was a dividing line between the two groups. The designer group valued art as an integral part of design education.

Designer 1: Italian designers are better and almost all of them are fine artists. The merit is to integrate design, creation and/or art as an important element in their foundation education. [...] My view is that art is the foundation of two-dimensional and three-dimensional designs. My understanding is that one won’t be a designer without this foundation.

(Interview excerpt/DP1/PD27: L43 & 48)

Meanwhile, the faculty group still struggled to resolve the dilemma between art and design, and intended to retain art in design education.

Faculty 2: [...] First, how design can help their business; secondly, at what level design can help; and thirdly, thinking carefully about the kind of designer for whom the industry is looking is pragmatic.

(Interview excerpt/F2/PD26: L65)
In sum, the preferences of the three groups were not mutually exclusive because it was only a matter of different degrees of emphasis on art or other elements.

**Curricula of design education**

The three groups referred to design programme curricula as prescribed configurations of studying design at different levels. The expert group, for example, emphasized an integrated curriculum; the designer group focused on quality design practice in various design specialisms; and the faculty group was at the crossroads between vocational training in favour of industrial expectations and a broad-based ideology for educating general design professionals.

Expert A: [...] I think there is a huge job in looking at the problem of a particular industry and the role of design within it. There is a huge job of looking into technology and the role of design within it. There is a huge job in understanding people and their needs on all sorts of levels [...].

(Interview excerpt/Expert A/PD20: L70–3)

Designer 1: [...] Hong Kong has no industry, right? Why should we need the technical subjects? I think it would be a shame if we chop off all those [design] subjects [in the secondary curriculum] right away without a second thought. I think we can transform these subjects into hands-on creative subjects with a practical nature [...] the subject knowledge is rich and profound.

(Interview excerpt/DP1/PD27: L111 & 113)

Faculty 2: Firstly, creativity is a priority in educating designers [...]. In terms of product design, [application of aesthetics] is obviously different from engineering, from the user’s point of view. Talking about creativity, engineers do need creativity which is not limited to designers. Their difference lies in the designer’s ability to apply visuals to design ideas, for good reasons.

(Interview excerpt/F2/PD26: L31)

The three groups had different conceptions of the configurations, depending on their experiences in design. Perhaps a curriculum of design should arrive at a balance between nurturing intellectual capacity and mastering up-to-date design skills. In sum, they agreed that any curriculum of design should be a long-term development for societal benefit at large.

**Accountability of design education**

Accountability of design education meant two things to the three groups. It should relate to design graduates’ performance in design practices and faculty’s performance in teaching and researching design. Because design is a vague professional discipline, its accountability is rather more individual than other well-defined disciplines.

Expert A: [...] they [designers] must satisfy users or customers [...] who ultimately determine whether any project is successful. [...] The
integrity of a design is therefore rooted in this quality of otherness in its intentions; it stems from the degree to which it satisfies actual and latent human needs.

(Interview excerpt/Expert A/PD20: L195)

Designer 2: Any change for improvement should go with a monitoring system operated by a third party who must be objective […] can exercise power to monitor the change.

(Interview excerpt/DP2/PD28: L173–5)

Faculty 3: […] but we are responsible for [the University Grants Committee] in the programme validations. They will send representatives to visit our department regularly.

(Interview excerpt/F3/PD24: L281–3)

Measuring faculty members’ academic performance might be easier than measuring the graduates’ performance in real-world design practices. According to the University Grants Committee (UGC) criteria, accountability means the number of funded research projects and publications, students’ evaluation of teaching quality, and community service. The faculty group also indicated the difficulty in measuring students’ performance, even in formative and continuing assessment. Many design schools, for example, rely on final-year projects as a means of graduation assessment, but the challenge of design graduates’ performance in real-world settings is yet to be seen. In light of this assessment type, the expert and designer groups advocated employers’ comments on the performance as one of the indicators. They also suggested that design faculty should be accountable to potential graduate employers. However, the faculty group argued that design was not a ‘rule-based’ discipline, and that the educational outcomes could not be measured explicitly. In sum, the expert and designer groups preferred users’ comments on faculty members’ and graduates’ performance, while the faculty group stuck with the UGC criteria and current practices of student assessment.

After discussing the emergence in the findings, the three groups of informants had different interpretations of design in the context of the aim-model-curriculum-accountability scaffolding. The interview excerpts reflect the expectations of design experts, faculty members and designers in terms of design education that can support further research into the curriculum components of future design education in relation to the coherent vision of design education shown in Table 6.

CONCLUSION

This explorative study induces a coherent vision of design education. The core of the study is grounded in the fragmented interpretations of design education unveiled in the literature and the data. The grounded theory techniques have further unpacked salient emergence in the overall and individual conceptualization of coded data for further exploration and discussion. This study further develops the aim-model-curriculum-accountability scaffolding of design education based on the individual groups’ interpretation of the embedded meanings of design and the expected qualities of design education. Consequently, the coherence is discovered in the fragmentation of design education. These are pivotal ingredients for re-contextualizing a curriculum framework of
Framing an integrated framework of design curriculum in higher education

design as shown in Table 6 with various interpretations of design education based on the scaffolding. Thus, the framing of the curriculum framework can position a body of design knowledge at the levels of design-making, planning and thinking that integrate design artefacts, organizations and human-made worlds as a whole.

The study is valuable to the design communities in that any prevailing form of design education is always subject to repeated updating based on who gains control of the interpretation. I come to term this discovery as a theory of social interpretation of design education. The emerging coherence in the interpretations, although the views are still diverse, can point the fragmented understandings of design education to a broad range of choices for redesigning design education. In respect of this coherence, the study concludes with the notion of a coherent curriculum framework of design education (Table 6) to transform the fragmentation in design education as a form of social interpretation, which encapsulates broader meanings of design for building stronger creative capital for the well-being of society.

REFERENCES


Ng, A. (2000), *The development of Hong Kong art education in sixty years (1939–99)*, Hong Kong: The Hong Kong Institute of Education.


Tsui, F. T. (2009), ‘港商夥海歸派，創品牌拓內銷/Creating new brand for the mainland market – Partnership between Hong Kong entrepreneurs and mainland design returnees’, *Hong Kong Economic Times*, Hong Kong: HKET.


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