

Changes of the Academic Structure of Hong Kong Universities in 2012 – Opportunities and Challenges for Undergraduate Surveying Programmes

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Key words: Academic structure; curriculum; education; surveying; vocational training; practices

SUMMARY

This paper discusses aspects of the planned education reform on surveying education in Hong Kong. With the launch of the new 3 years junior secondary, 3 years senior secondary and 4 years tertiary undergraduate programme structure, students who enter universities will have to spend four years instead of three starting 2012. There are challenges on planning for the 4-year curriculum on Surveying courses. Not only because most of the Surveying subjects are only taught at tertiary education level, but also they are mainly vocational and training based.

The objectives of this paper are to investigate the current problems in teaching of surveying to fresh university students who have no previous knowledge of the subject and attempt to explore with possible solutions by comparing various surveying education practices that have been adopted in Singapore with those of the Hong Kong system. This research is aimed at enhancing the planning of the structure Hong Kong's new 4-year degree surveying programmes.

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1. INTRODUCTION

The academic structure in Hong Kong will have a complete changeover in 2012. Until then, most of the secondary school students spend seven years in high school before entering the university, for a period that normally consists of three years. With the launch of the new 3-3-4 education reform (3 years junior secondary, 3 years senior secondary and 4 years tertiary undergraduate programme), it means that, in the near future, students will have to spend four years in university instead of three in the near future.

Currently, most of the vocational education and training related to Surveying are only taught at tertiary education level. To match with the new education reform, the change in the current curriculum for Surveying programmes are therefore inevitable. There are several questions that need to be dealt with. What should we teach our Surveying students with the extra year of their university studies? Could we increase the weighting of Internship towards the new degree structure? Should there be interface between Secondary and Tertiary education for Surveying programmes?

2. THE CHANGING EDUCATION SYSTEM IN HONG KONG

The education system in Hong Kong was established during the days of colonial rule and currently still follows the British system, with six years of primary school, three years of junior secondary school, two years of senior secondary school (Secondary 5), and a two-year course leading to the advanced level examinations (Secondary 7), which provide for entry into tertiary institutions offering diploma, higher diploma, two-year associate's degree and three-year bachelor's degree programmes. Primary through junior secondary education is compulsory. Most universities offer three-year Bachelor's degree.

2.1 Changes in Secondary School Sector

However, this is due to change soon. By 2012, the system will be internationalized, and will consist of three years of Junior Secondary, three years of Senior Secondary, and a four-year normative undergraduate degree. These education reforms entered a crucial phase with the implementation of the new senior secondary structure in September 2009. With the 3-3-4 structure in place, the first group of secondary school leavers will sit the Hong Kong Diploma of Secondary Education (HKDSE) Examination in 2012. ^[1]

Developed by the Hong Kong Examinations and Assessment Authority (HKEAA), the HKDSE will replace both the Hong Kong Advanced Level Examination (HKALE), currently taken by secondary students after Secondary 7, and the Hong Kong Certificate of Education Examination (HKCEE), taken after Secondary 5. This new qualification will be awarded after six years of secondary study for students to pursue further study or employment.

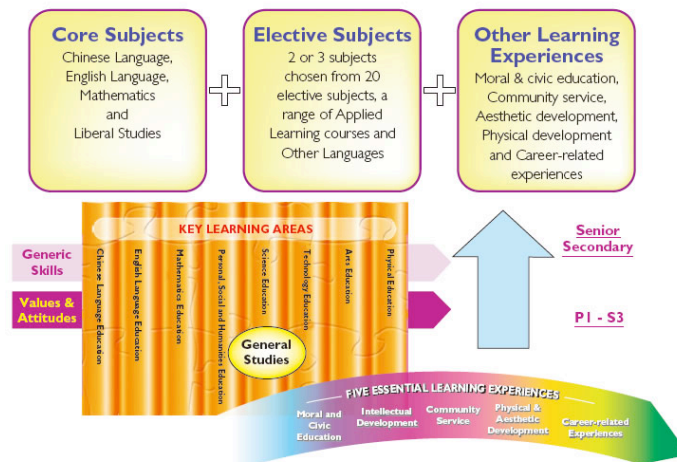
Under the new secondary curriculum there will be three different categories of subjects.^[2] They are highlighted as follow:-

Figure 1: Components of the Senior Secondary Student Programme

| | |
|--------------------------|---|
| Core Subjects | <ol style="list-style-type: none"> 1. Chinese Language 2. English Language 3. Mathematics 4. Liberal Studies |
| Elective Subjects | <ol style="list-style-type: none"> 1. Chinese Literature 2. Literature in English 3. Chinese History 4. Economics 5. Ethics and Religious Studies 6. Geography 7. History 8. Tourism and Hospitality Studies 9. Biology 10. Chemistry 11. Physics 12. Science (Integrated Science; Combined Science) 13. Business, Accounting and Financial Studies 14. Design and Applied Technology 15. Health Management and Social Care 16. Technology and Living 17. Information and Communication Technology 18. Music 19. Visual Arts 20. Physical Education |
| Applied Learning Courses | <ol style="list-style-type: none"> 1. Moral and Civic Education 2. Community Service 3. Aesthetic Development 4. Physical Development 5. Career-related Experiences |

At the end of their three-year senior secondary course, students will sit the HKDSE examinations and they may take up to a maximum of 8 subjects. Those who pass the examinations and fulfil the entrance requirement for their chosen courses will be admitted to universities. The structure of the system is outlined below.

Figure 2: Building on Strength of Basic Education^[3]



Source: <http://334.edb.hkedcity.net/EN/curriculum.php>

Sketched out below is the current system and the one will be implemented in 2012. The changes affect senior secondary and tertiary education; leaving primary and junior secondary education to operate substantially as they do now.

Figure 3: Comparison of the Current and New Hong Kong Academic Structures^[4]

| New Structure | | Current Structure | |
|---------------|--|--|--------|
| PG | Post-graduate Study | Post-graduate Study | PG |
| Year 4 | 4-Year College or University | Tertiary Education | Year 3 |
| Year 3 | | | Year 2 |
| Year 2 | | | Year 1 |
| Year 1 | | Hong Kong Advanced Level Examination (HKALE) | S7 |
| S6 | Hong Kong Diploma of Secondary Education (HKDSE) | Advanced-Level Course | S6 |
| S5 | | Hong Kong Certificate of Education Examination (HKCEE) | S5 |
| S4 | | Senior Secondary School | S4 |
| S3 | Junior Secondary School | Junior Secondary School | S3 |
| S2 | | | S2 |
| S1 | | | S1 |
| P6 | Primary School | Primary School | P6 |
| P5 | | | P5 |
| P4 | | | P4 |
| P3 | | | P3 |
| P2 | | | P2 |
| P1 | | | P1 |
| K | Kindergarten | Kindergarten | K |

Source: http://www.iiehongkong.org/advisors_e.htm

3. SURVEYING TEACHING IN TERTIARY INSTITUTION

Not only will the secondary education system have a new structure, the university system in Hong Kong will also be revamped. The length of the undergraduate degree will be extended from 3 to 4 years starting 2012, thus bring the system more in line with the one currently used in Mainland China and the United States tertiary educational system.

At the present time, most of the vocational education and training related to surveying is only taught at tertiary education level. Three of the eight institutions of higher education in Hong Kong offer government-funded Surveying programmes varying from higher diploma, associate degree to degree studies. They are University of Hong Kong (HKU), Hong Kong Polytechnic University (PolyU) and City University of Hong Kong (CityU). The following table lists all the government-funded Surveying programmes taught within the above three institutions.

Figure 4: Government-funded Surveying Courses in Hong Kong

| Name of Institution | HKU^[5] | PolyU^[6] | CityU^[7] | CityU^[8] | PolyU^[9] |
|-----------------------------|----------------------------------|--|--|--|--|
| Name of Surveying Programme | Bachelor of Science in Surveying | Bachelor of Science (Honours) in Surveying | Bachelor of Science (Honours) in Surveying/ Minor in Law | Associate of Science in Surveying (Building Surveying/Estate Surveying/Quantity Surveying) | High Diploma in Building Technology and Management (Surveying) |
| Mode of Study | Full-time | Full-time/ Sandwich | Full-time | Full-time | Full-time |
| Duration | 3-year | 3-year (Full-time) or 4-year (Sandwich) | 3-year | 2-year | 2-year |

Among these courses, all the bachelor degrees course have obtained accreditation from the Royal Institution of Chartered Surveyors (RICS) based in the United Kingdom. It is common practice for Surveying courses to seek accreditation from RICS, a global Surveying institution, to prove the courses' international quality and standards.

To match with the new education reform, i.e., the 3-3-4 structure, the change of the current curriculum for Surveying programmes is therefore inevitable. There are several questions that need to be addressed. What should we teach our Surveying students with the extra year of their university studies? Could we increase the weighting of Internship towards the new degree structure? Should there be interface between Secondary and Tertiary education for Surveying programmes? The next section of this paper examines the highlighted issues.

3.1 Interface with Secondary School Curriculum

To tackle the first issue of what additional subjects should be taught for the extra university year, the author has examined the core subjects taught by the higher institutions in Hong Kong. The current curriculum for first year students from different higher institutions and other subjects taught subsequently in the next two years is listed as follow:

Figure 5: A Comparison of Core Subjects for Surveying Courses in Hong Kong

| CORE SUBJECTS FOR DEGREE COURSES | HKU ^[10] | PolyU ^[11] | CityU ^[12] |
|---|---------------------|-----------------------|-----------------------|
| Building and Fire Safety Control | | | X |
| Building Design and Appraisal | | | X |
| Building Measurement | | | X |
| Building Science | | | X# |
| Construction/ Construction Technology | X# | X# | |
| Construction Materials and Structural Mechanics | | | X# |
| Dissertation/Final Year Project | X | | X |
| Environmental Science | | X# | |
| Land and Construction Economics | X# | X# | X# |
| Land and Construction Management | X# | X# | X# |
| Property and Construction Law | X# | X# | X |
| Planning and Development | | X# | |
| Research Methods | X | | |
| Surveying Studio | X# | | X# |

Subjects taught at first-year of the undergraduate degree studies

From the above table, it is noted that the Surveying courses by CityU and PolyU tend to be more vocationally based, given their former polytechnic nature; whereas the Surveying course by HKU is comparatively of a more theoretical nature, judging from the content of its core subjects. Also, HKU is the only institution which introduces Reserach Methods into its degree curriculum, a skill which can be applied in a number of different areas.

Among these subjects, only a few are commonly taught across all three institutions, namely Land and Construction Economics; Land and Construction Management, and Property and Construction Law. Given the current structure of the above programmes, students will only learn similar subjects, though at advanced levels, when they are to second and final year of their undergraduate degree studies. Sadly, except for Economics and possibly Envirmental Science, all other subject highlighted in the above table are largely unrelated to what students would have learned during the senior Secondary school years. This is hardly surprising, in a PolyU programme pamphlet, there is a quote from a graduate saying that Surveying is a discipline rather distant from the secondary school arena. Indeed, the interface between Secondary and Tertiary Education in the area of Surveying remains minimal.

3.2 Singapore as a Learning Model

Hong Kong and Singapore have a lot in common. Natural resource in these two political jurisdiction are largely absent. Land resource, in particular, is scarce as they are both geographically small with large populations, making them the third and fourth most densely populated areas in the world.^[13] Both Hong Kong and Singapore governments have strong concerns about high quality education. Courses taught in higher institutions often seek recognition from professional association to maintain their standards and quality at an international level.

The following Surveying courses taught at National University of Singapore (NUS) are the only two courses in Singapore which have received RICS accreditation. With both of the courses structured in a 4-year curriculum, it is suitable to examine their course contents for the purpose of comparison with the soon-to-be implemented system in Hong Kong. In addition, the table further below compares the core subjects of both degree programmes in Singapore and whether any of those subjects are taught in Hong Kong .

Figure 6: RICS accredited courses in Singapore

| | | |
|-----------------------------|--|--|
| Name of Institution | National University of Singapore (NUS) ^[14] | National University of Singapore (NUS) ^[15] |
| Name of Surveying Programme | Bachelor of Science in Building (Quantity Surveying) | Bachelor of Science in (Honours) in Real Estate |
| Mode of Study | Full-time | Full-time |
| Duration | 4-year | 4-year |

Figure 7: A Comparison of Core Subjects for Surveying Courses between Hong Kong and Singapore

| CORE SUBJECTS FOR DEGREE COURSES | BSc in Building (QS) ^[16] | BSc (Hons) in Real Estate ^[17] | Is the subject common in any of the HK degree courses? |
|-----------------------------------|--------------------------------------|---|--|
| Art & Architectural Application | X | | NO |
| Building Science | X | | YES |
| Building Technology | X | | YES |
| Communication Skills | X | X | NO |
| Construction Management | X | | YES |
| Construction Technology | X | | YES |
| Design and Technology | | X | NO |
| Economics | X | X | YES |
| Law | X | X | YES |
| Measurement | X | | YES |
| Real Estate Policy and Management | | X | NO |
| Real Estate Business | | X | NO |
| Real Estate Finance | X | X | NO |
| Real Estate Management | | X | YES |
| Research Methodology | X | X | YES |

| | | | |
|--------------------------------|---|---|-----|
| Statistics | X | X | NO |
| Urban Land Use and Development | X | X | YES |

From the above table, it can be found that three common subjects in both courses which are not currently taught in Hong Kong degree programmes, namely Real Estate Finance, Research Methodology, and Statistics. Whereas for generic skills such as Reserach Methods, is only taught to students at HKU.

By comparing the Surveying courses taught between Hong Kong and Singapore, it appears that the generic side of knowledge learning in Hong Kong (with the only exception of Research Methods taught at HKU to year two students) seems to have been neglected. Aside from the course of Real Estate Finance, in which Surveying students in Hong Kong can choose it as an elective subject for their undergraduate studies, the other three subjects are just not available. Given the nature of the programme structures, Surveying students in Hong Kong can be equipped with technical knowledge when they have completed their three-year degree studies. They would be confident enough to deal with matters at operational level, but lack education in skills beyond that. With an extra year for university studies, it could be an opportunity for Hong Kong educators to tackle the potential problem.

3.3 Can Internship be an Option?

Universities in Hong Kong often encourage students to undertake internship as part of their degree studies. Some universities even emphaze the importance of outcome-based learning, ie. students should be able to apply their knowledge gained from academic studies to practical situations in the industry.

However, hardly any degree programmes consider internships to be an integral part of the curriculum. This is also reflected both in the course curriculum and as well in the attitudes of Hong Kong students. They tend to only undertake internships during the summer period, in order not to disrupt their studies during the academic years.

Professional institutions play an important role in promoting internships, especially for Surveying. After all, it is a vocation-based profession. But given the author's experience and students' feedback, it is always difficult to obtain sufficient internship posts, even if it is only for summer internships. For greater collaboration between institutions of tertiary education and employers is required if internships are to become an important component of four-year degree insurveying.

4. CONCLUSION

This paper sets out three questions in relation to the changes of the Surveying curriculum in Hong Kong with the extra year of the university studies that Hong Kong students will undertake in the 4-year structure.

Unfortunately, even with the revamp of the secondary school structure, there will be minimal interference between secondary and tertiary education in the area of Surveying. This means

that the essential components of the Surveying must be built completely into the four year structure. In addition, an analysis of the Singapore experience with the accredited 4-year Surveying degree programmes suggests that it will be worthwhile to consider courses focusing on generic skills related to Communication, Research Methodology, and as well Statistics to be included in the new 4-year curriculum.

Finally, given the expectation of employers about the ability of new graduates, it will be important for tertiary institutions in Hong Kong to work with employers to strengthen Internship opportunities. At the same time, this will require a change in the attitude of students towards the role of internship experience in preparing for full-time employment.

REFERENCES

1. <http://www.hkeaa.edu.hk/en/hkdse> (18 January 2010)
2. <http://334.edb.hkedcity.net/EN/curriculum.php> (19 January 2010)
3. http://cd1.edb.hkedcity.net/cd/cns/sscg_web/html/english/main01.html (19 January 2010)
4. http://www.iiehongkong.org/advisors_f.html (19 January 2010)
5. <http://fac.arch.hku.hk/> (18 January 2010)
6. http://www28.polyu.edu.hk/aseprospectus/jsp/prog_detail.jsp?scheme_id=200910&prog_id=5807&prog_blk_title_id=443&org_id=5807&websiteId=1&schemeId=200910&langId=1 (18 January 2010)
7. http://www.cityu.edu.hk/arro/catalogue/catalogue_prog.htm (19 January 2010)
8. http://www.cityu.edu.hk/arro/catalogue/catalogue_prog.htm (19 January 2010)
9. http://www28.polyu.edu.hk/aseprospectus/jsp/prog_detail.jsp?scheme_id=200910&prog_id=5793&prog_blk_title_id=443&org_id=5793&websiteId=1&schemeId=200910&langId=1 (18 January 2010)
10. <http://fac.arch.hku.hk/> (18 January 2010)
11. http://www28.polyu.edu.hk/aseprospectus/jsp/prog_detail.jsp?scheme_id=200910&prog_id=5807&prog_blk_title_id=443&org_id=5807&websiteId=1&schemeId=200910&langId=1 (18 January 2010)
12. http://www.cityu.edu.hk/arro/catalogue/catalogue_prog.htm (19 January 2010)
13. http://en.wikipedia.org/wiki/List_of_countries_by_population_density (20 January 2010)

14. http://www.bdg.nus.edu.sg/bsc_CourseStructure.htm#qs (19 January 2010)
15. http://www.nus.edu.sg/registrar/nusbulletin/SDE/UG/degreqs.html#prog_D (19 January 2010)
16. http://www.bdg.nus.edu.sg/bsc_CourseStructure.htm#qs (19 January 2010)
17. http://www.nus.edu.sg/registrar/nusbulletin/SDE/UG/degreqs.html#prog_D (19 January 2010)

BIOGRAPHICAL NOTES

The author has obtained an Undergraduate degree in Facilities Management from the University of Westminster (UK) and a Master degree in Facility and Environment Management from University College London. He has over 5 years of teaching experience in tertiary institution and currently holds the position of Instructor in the Division of Building Science & Technology, City University of Hong Kong.

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