

Evaluation of a general education program in Hong Kong: Results based on multiple evaluation strategies

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Abstract

To respond to the growing concerns about the need for university students to learn generic skills to complement their disciplinary expertise, many universities have included General Education (GE) in their curriculum. A new general education framework entitled “General University Requirements” (GUR) has been implemented at The Hong Kong Polytechnic University (PolyU) since the 2012/13 academic year. A five-year longitudinal project using multiple evaluation strategies was conducted to evaluate the GUR, including objective outcome evaluation (online survey), Collegiate Learning Assessment Plus (CLA+), subjective outcome evaluation (Student Feedback Questionnaire), and qualitative evaluation (focus groups, longitudinal case studies and document analyses). With reference to the second year of program implementation, results from different evaluation strategies consistently demonstrated that the GUR subjects were effective in promoting the five desired graduate attributes as defined by PolyU (i.e., problem solving, critical thinking ability, effective communication, ethical leadership and lifelong learning) in students. Both students and teachers perceived the subject contents, teaching and learning methods, and teaching staff in GUR subjects favorably though several challenges were also noted.

Keywords: general education, Chinese adolescents, university students, evaluation, longitudinal study

Introduction

Universities worldwide are expected to nurture graduates with a broad range of graduate attributes to meet the challenges of today’s economic situation (1, 2) through an all-round education. Kristiansson and Luchinskaya (3) highlighted that “equipping students with relevant competencies required for their social and professional integration, successful career, and personal development is a key mission of the higher education sector” (p. 1). The former Harvard President, Derek Bok (4), commented that

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contemporary students should possess generic skills such as skills in critical thinking, quantitative, and moral reasoning in order to become well-informed citizens. However, most universities are oriented towards training students on discipline-specific knowledge, with the primary goal of producing work-ready professionals (5). Therefore, Lewis (6) criticized that the mission of universities has been misplaced and the fundamental goal has been lost.

In recent years, increasing international evidence showed that there is an expectation gap between employers' demands and university graduates' generic skills. The Institute of Directors (7) reported that only 55% of employers were satisfied with students' generic employment-related skills. More employers have increasingly articulated their dissatisfaction with graduate skills and they even questioned the extent of generic skills that graduates possess such as leadership and interpersonal skills, analytical thinking, communication skills, and the ability to work in a team. In Hong Kong, for example, results from a joint survey on "opinion leaders" by the South China Morning Post and Taylor Nelson Sofres (TNS) market research found that less than 20% of respondents were "extremely confident" or "confident" that Hong Kong students had sufficient skills in leadership, interpersonal skills, creativity, analytical thinking, international understanding, and English. Only 11% of respondents expressed that Hong Kong students were "much better" or "slightly better" than their North American counterparts (8).

On a global level, Australian employers expressed their concerns over the inadequacy of generic skills among university students (9-11). A survey of 92 employers reported that accounting graduates lacked skills in writing, presenting, and interaction (12). Accounting graduates reported that their undergraduate education largely focused on technical skills and specific knowledge related to their profession. However, employers rated generic skills more important than technical skills, particularly team skills, verbal communication and leadership (13). The over-emphasis on technical knowledge by the universities and a lack of transferrable skills (14) lower the employability of university graduates. More importantly, the lack of positive attributes among university graduates such as leadership skills may reduce the competitiveness of a country. For example,

an American report commented that universities were not producing suitable labor force to maintain the status of America as the world leading economic power (15). Colleges and universities have therefore been criticized for providing an education which is "disconnected with the real world" and "delayed reality" (16, p. 25).

Academics such as Albrecht and Sack (17) argued that students forget what they memorize easily and emphasized the importance of psychosocial skills. Indeed, content knowledge can quickly become "dated and is often not transferable across different types of jobs. On the other hand, critical skills rarely become obsolete and are usually transferable across assignments and careers" (p. 55). Kavanagh and Drennan (18) noted that graduate attributes should encompass those qualities that prepare them as "lifelong learners; as 'global citizens'; as agents for social good, and for personal development in light of an unknown future" (p. 280).

In response to calls for increasing students' international competitiveness in face of globalization and knowledge-based economies, universities are becoming more conscious of the need to develop not only the major technical skills of their students, but also their generic skills in the intrapersonal and interpersonal domains (19) so major changes have been initiated. One of the changes is the inclusion of General Education (GE) in the curriculum which helps students develop a wide array of skills such as language and communication skills, quantitative and analytical skills, critical thinking, and problem solving skills (20) that meet the demands of the employers and the challenges in this changing society, and increase their international competitiveness in the era of globalization. Besides, moral values and ethics are also important attributes for graduates (21, 22).

In Hong Kong, the higher education system also has experienced monumental changes (23) since 2012. One of the most significant changes is an extension from a three to four academic year undergraduate curriculum (24). The additional year allows the inclusion of GE which has become a mandatory requirement for undergraduate education in order to "strengthen general education and multi-disciplinary learning" (25, p. 114) in university students.

Being one of the eight publicly funded universities in Hong Kong, The Hong Kong Polytechnic University (PolyU) has developed and implemented a new General Education framework entitled the General University Requirements (GUR) since the 2012-2013 academic which aims to cultivate five desired graduate attributes (i.e., critical thinking, effective communication, problem solving, lifelong learning and ethical leadership). The curriculum of the GUR encompasses six major components: Freshman Seminar (FS: 3 credits), Language and Communication Requirements (LCR: 9 credits), Cluster Area Requirements (CAR: 12 credits), Leadership and Intra-personal Requirement (LIPD: 3 credits), Service Learning (SL: 3 credits), and Healthy Lifestyle (HL: 0 credit). The essence of each GUR component was outlined in Shek, Yu, Wu and Chai (26).

The teaching approaches of GE significantly differ from traditional pedagogy. GE courses “create a learning environment in which relationship between teachers and students, and between students and students, is interactive” (27, p.9). Hence, interactive and experiential learning approaches such as hands-on workshops, group activity, and field work have been widely used in most GUR subjects to increase students’ learning interest, enhance their intellectual creativity, and ultimately improve the learning outcomes.

Evaluation of GUR at PolyU

With the growing emphasis on the generic skills that students need to acquire going beyond their major (28), concerns over the effectiveness of programs that offer students the opportunities to learn such generic skills have increased and evaluation of the impact of those programs on students has become more common. Coupled with the development of the evidence-based practice movement, scientific evaluation has been emphasized more than ever. Program evaluation is therefore a “valuable tool for program managers who are seeking to strengthen the quality of their programs and improve outcomes for the children and youth they serve” (29, p. 1).

Mathison (30) argued that employing multiple evaluation strategies to examine program

effectiveness can establish the credibility of the findings through the method of triangulation. The basic assumption of triangulation is that each research method has its biases and limitations. By using different evaluation methods, stakeholders, data sources, biases and limitations related to the evaluation method will be cancelled out (31). Using multiple evaluation strategies can also increase the credibility of the findings based on a post-positivistic stand. Similarly, Smith and Kleine (32) commented that the use of different evaluation methods increases the potency of evaluation findings.

To evaluate the effectiveness of the GUR project at PolyU, a five-year longitudinal evaluation project has been conducted. Results from the first-year program implementation (i.e., 2012-2013) have been reported (33). The current paper presents the evaluation findings on the implementation and effectiveness of the GUR in the 2013-2014 academic year, i.e., the second year of the GUR implementation. Specifically, major findings based on the following evaluative components are reported: (a) longitudinal online survey on students’ development (objective outcome evaluation I), (b) the Collegiate Learning Assessment Plus (CLA⁺) (objective outcome evaluation II), (c) secondary data analyses of students’ feedback questionnaires (SFQ) on GUR subjects (subjective outcome evaluation), (d) yearly focus group interviews with students and teachers, (e) longitudinal case study of students’ development under the GUR, and (f) document review.

Objective outcome evaluation (online survey)

In the 2013-2014 academic year, the second wave of online survey was conducted with the same group of students who joined the first wave of online survey. The respondents filled in an online survey questionnaire with five validated instruments, plus several items on students’ university aspiration and demographic information. The instruments used in the study included the Chinese Interpersonal Reactivity Index (C-IRI), Index of Learning Styles (ILS), Chinese Positive Youth Development Scale (CPYDS), and National Survey of Student Engagement (NSSE), the details of which have been described elsewhere (33).

A total of 513 student cases were successfully matched (203 males and 310 females) over two waves. The mean age of the participants was 19 years old and about 78.1% (N = 424) of the respondents were from intact families. To explore the effect of GUR study on students' development in the five desired graduate attributes, paired *t*-test and McNemar's test were used to compare participants' scores on different indicators over their first year of university study, and to examine the changes in the proportions of students adopting different learning styles after one-year undergraduate study, respectively.

Results showed that there was no significant difference in the participants' scores in problem solving between the 2012-2013 and 2013-2014 academic years, suggesting that students maintained a moderate level of self-reported problem solving ability after one-year follow-up. Regarding the students' learning style preference in the 2013-2014 academic year, results indicated that the majority of students adopted the learning styles pertaining to sensing (72.51%), sequential (66.89%), visual (65.86%), and reflective (55.17%) dimensions. More specifically, results showed that a) most students learned more efficiently when they had time to reflect on the information and instruction received (reflective) than through hands-on approach (active); b) they preferred learning factual knowledge and using well established ways for problem solving (sensing) to explore possibilities and try innovative methods (intuitive); c) they tended to follow the logical paths in problem solving (sequential) than to absorb materials randomly (global), and d) they remembered better with visual aids (i.e., picture and video) than with verbal information (e.g., written words or spoken explanations). Although the majority of students were still reflective learners, the percentage of active learners increased significantly after a year. However, for other dimensions of learning style preferences, no statistically significant changes were found between these two years.

The mean score of Critical Thinking subscale (CT) of the CPYDS was 4.58 (SD = 0.70, range 1-6) in the 2013-2014 academic year, showing a moderate level of self-reported critical thinking ability. Results demonstrated that students' CT scores were lower in 2013-2014 than in the previous academic year,

suggesting that self-perceived critical thinking ability had decreased in the participants after one year studying at university.

Regarding students' lifelong learning (LL), participants reported a medium level of lifelong learning in the 2013-2014 academic year as reflected in their LL score (M = 4.58, SD = 0.74; range = 1-6), but the scores were lower than the results in the first year (M = 4.69, SD = 0.74), $t(512) = -2.44$, $p < .05$. When we compared students' scores in other indicators between the two academic years, no significant changes were found on Learning Strategies (LS) and Quantitative Reasoning (QR); however, students scored higher on higher-order (HO) learning but lower on reflective and integrative learning (RI) in the second year. The results suggested that after one year of university study, students' higher-order thinking skills had improved but their reflective and integrative ability had decreased.

As far as ethical leadership was concerned, results showed that students' scores on the Empathy subscale in the 2013-2014 academic year were lower than the baseline data in 2012-2013. Students reported lower level of ethical leadership and empathy in the second year of their university life. For effective communication, no significant differences were found on students' scores over one year, indicating that students' competencies in effective communication were relatively stable in two academic years.

Overall, students generally reported a moderate level of competencies in problem solving, critical thinking, lifelong learning, ethical leadership, and effective communication in the 2013-2014 academic year. However, when compared with findings from the previous year, students' abilities of problem solving, lifelong learning and effective communication remained stable, while their abilities of critical thinking and ethical leadership decreased slightly in the second year.

Objective outcome evaluation II (Collegiate Learning Assessment Plus [CLA⁺])

The Collegiate Learning Assessment Plus (CLA⁺) was used to assess students' attainment of institutional student learning outcomes over their years at PolyU. The specific objectives of CLA⁺ are to (1) benchmark

the performance of PolyU's entering and graduating students with reference to those of the international counterparts, (2) assess the generic competencies of students studying in the four-year undergraduate program with reference to the desired graduate attributes, particularly problem solving, critical thinking, and written communication skills, (3) examine the changes of students' generic competencies as a result of their learning experience at PolyU, and (4) evaluate the usefulness of the CLA+ as an institutional learning outcome measure for PolyU.

The CLA+ is a standardized international evaluation tool used to assess and benchmark institutional contribution to students' academic development with respect to six major competencies: Analysis and Problem Solving, Writing Effectiveness, Writing Mechanics, Scientific and Quantitative Reasoning, Critical Reading and Evaluation, and Critique an Argument. The six key competencies are aligned with the three desired graduate attributes of PolyU: Problem Solving, Critical Thinking, and Effective Communication.

Two cohorts of randomly selected students (150 freshmen and 150 sophomores) in the 2013-2014 academic year were assessed by the CLA+ to understand the effectiveness of GUR on promoting students' critical thinking, effective communication, and problem solving. Means and standard deviations of participants' scores of the whole CLA+ scale, its two subscales, and the six CLA+ indicators were compared between freshmen and sophomores. Based on independent samples t-test, the results showed that 1) sophomores scored significantly higher than did freshmen on the whole CLA+ scale, $t = 1.74$, $p = .04$ (one-tailed); 2) sophomores performed better than did freshmen on the two subscales "writing effectiveness", $t = 1.75$, $p = .04$ (one-tailed), and "scientific and quantitative reasoning", $t = 2.10$, $p = .02$; 3) no significant differences were observed in other CLA+ indicators between the two cohorts of students. Overall, sophomores showed better performance on CLA+ than their freshmen counterparts.

In addition, CAE also categorized participants into different mastery levels based on the related knowledge, skills, and abilities based on CLA+ scores. Compared to first-year cohort, more second-

year students reached the mastery levels of "Proficient" and "Basic" while less sophomores were classified as "Below Basic" ($p = .07$, one-tailed).

Secondary data analyses of students' feedback questionnaire

All students taking GUR subjects in the 2013-2014 academic year completed a Student Feedback Questionnaire (SFQ) for each GUR subject. A total of 17,463 completed questionnaire were collected based on 1,004 classes (response rate = 54%). The details of the SFQ have been reported elsewhere (Shek et al., in press). To summarize briefly, the SFQ comprises 12 closed-response type questions evaluating six dimensions (i.e., learning outcome; interaction; individual help; organization and presentation; motivation; and feedback) pertaining to the teaching and learning experience of university subjects. The questionnaire consists of two main parts: Part I explored the students' learning experience in terms of the students' evaluation of the subject, and Part II examined the student perceptions of the staff's teaching.

Results showed that the students' overall ratings of their learning experiences in GUR subjects suggested a general satisfaction with the course design and the delivery of the GUR subjects offered in the 2013-2014 academic year. Compared with the overall ratings in the last academic year, there was a moderate increase in items related to the effectiveness of assessment and clarity of evaluative criteria for students. Results by GUR component showed a general increase in ratings on Language and Communication Requirements (LCR) subjects, while there was a decrease in Service Learning (SL) subjects. Students' learning experience in Leadership and Intra-Personal Development (LIPD) subjects also slightly dropped in the 2013-2014 academic year while students' satisfaction towards the teaching of the staff in this component remained high.

Qualitative evaluation (student focus groups and student qualitative evaluation sheet)

Student qualitative evaluation sheets and focus group interviews were employed to examine students' perceptions of the GUR with regard to its content, teaching and learning method, implementation, and perceived benefits and challenges. Towards the end of the first semester of the 2013-2014 academic year, 320 students were randomly selected from the whole population of the Year Two students. Each 40 students were randomly selected from each faculty or school. They were invited to fill in a qualitative evaluation sheet attached to the invitation email. A total of 163 students returned their completed sheets. The same batch of 320 students was invited again through phone calls to join the student focus group interviews. Eighteen focus groups were formed, with 74 participants in total. The length of the interviews lasted about 1 to 1.5 hours. One researcher was the moderator of the focus group interviews. The entire interview was audio-taped, with the participants' consent. The interviews were later transcribed into Chinese for data analysis.

Based on the qualitative data, several observations can be made. First, the findings suggested that students' general impressions on the GUR subjects which they studied during 2013-2014 academic year were essentially positive. For instance, students commented that:

- "I think GUR is good because it contained a lot of things. For example, it included different languages and CAR components. In this way, your learning is very diverse."
- "What we learned from the GUR could not be learnt from our majors. It is a good thing."

Second, students perceived the contents of many GUR subjects as interesting and conducive to the acquisition of knowledge and skills beyond their own majors. More importantly, the GUR subjects provide students with diversified knowledge and learning experiences for their holistic growth. Many students expressed that the GUR subjects contributed to their development in the areas of effective communication, critical thinking, leadership, problem solving,

knowledge broadening, and health consciousness. For example, students commented that:

- "The service learning subject was very helpful to the development of my problem solving ability. I have encountered many unexpected difficulties in the process of service and my team members and I worked together to deal with these [unexpected] difficulties."
- "I think GUR subjects trained most our communication and critical thinking abilities. Especially in CAR, we had presentation and conducted a lot of preparation work. We need to work together with other group mates to accomplish a task. Therefore our communication and critical thinking abilities were trained."

Third, two factors were identified as contributing to the students' active engagement in learning and gains from GUR subjects. The first factor is the active and engaging teaching and learning methods including group work and experiential learning. Students found teaching and learning methods very interesting, enjoyable, and effective at connecting students to the society and their real lives. Another factor is the dedication of teachers. Students expressed their satisfaction and gratitude to dedicated teachers. Nevertheless, several major challenges were also identified based on the qualitative data, including the difficulties in studying science-related Cluster Area Requirements (CAR) subjects with too specialized content, heavy workload in some GUR subjects, and the registration system.

Qualitative evaluation (teacher focus groups and teacher qualitative evaluation sheet)

In the utilization-focus evaluation model (34), the involvement of different stakeholders is crucial for evaluation. Hence, aside from student qualitative evaluation, teachers were also important stakeholders whose views on the content, teaching and learning, implementation, and benefits to students' development related to GUR subjects were also solicited. A total of 99 teachers teaching different

GUR components were invited to fill in the online qualitative evaluation sheet through the LEARN@PolyU electronic Learning Management System (LMS) in late 2013. A total of 68 teachers responded but seven teachers completed the sheet twice as they taught two different GUR components which made up a total of 75 collected sheets. Towards the end of the second semester of the 2013-2014 academic year, eight focus groups were formed, with 49 teachers participating in the focus group interviews. The interviews lasted for about one to two hours and they were audio-taped. The recordings were later transcribed into Chinese and each transcribed text was checked by two research assistants to ensure accuracy and consistency.

The results from the teacher qualitative evaluation generally showed that there was a smooth implementation of the GUR in the 2013-2014 academic year. Most teachers had positive impressions of the GUR subjects they taught in this academic year, particularly teachers of Healthy Lifestyle (HL) showed highly positive perceptions about this GUR component. Teachers generally considered GUR subject contents as interesting and attractive to students. Some subject contents were considered being closely related to students' real life experiences and met with their needs. The teachers' views on the teaching and learning of the GUR were also positive, especially the views on the active and engaging methods adopted such as experiential learning, group activity, and visualized methods. These methods were commented as favored by students, engaging students in learning, facilitating students' understanding of subject contents, and developing students in the desired graduate attributes of PolyU. Teachers also gave positive comments to the evaluation mechanisms in their respective GUR components. They perceived these evaluation mechanisms as comprehensive, effective, and enhanced their communication with students.

The teachers perceived that the GUR subjects were beneficial to the students' development in the five desired graduate attributes of PolyU, such as effective communication (both oral and written communication), problem solving, critical thinking, lifelong learning and ethical leadership. More specifically, students' oral and written communication abilities improved after studying LCR subjects and

CAR subjects with EW/ER. With respect to leadership, while LIPD subjects promoted students' cognitive understanding of the attribute of ethical leadership, the experiential learning in SL and CAR subjects further developed students' empathy and social responsibility which were also essential components in ethical leadership attribute. These benefits are aligned with the respective contributions of each GUR component to five desired graduate attributes stated in the policy document of PolyU.

Some challenges were also identified based on the qualitative evaluation from teachers. The "not buy-in" or utilitarian attitudes of some staff and students might greatly impede on students' active engagement in GUR study. In addition, some teachers expressed concerns about their heavy workload. Overall, the findings were in line with the results from the student qualitative evaluation.

Qualitative evaluation (longitudinal case study)

A longitudinal case study has been used as one of the evaluation methods to further understand how the development of students can be promoted by GUR study in their four-year university life. Purposive sampling was adopted in selecting the students ("cases"). A total of 71 cases from different faculties/schools were recruited among the participants of the student focus groups held in the 2012-2013 academic year but 19 student cases expressed no interest so they withdrew from the study. As a result, the remaining cases were followed up by eight researchers.

Since the longitudinal case study has been conducted for only one year, we reported the general observations derived from the researchers' one-page summaries on students' development and their views towards GUR study. Based on the results of the summaries, most researchers have developed trusting and reciprocal relationships with their case students which were essential for exploring students' perceptions of university life and GUR subjects. In addition, several observations were made. First, diversified GUR subjects provided students with opportunities to understand knowledge beyond their own disciplines, promoted students' openness to new

things, and challenged their preoccupations. Second, students enjoyed the interactive and collaborative teaching and learning activities conducted in most GUR subjects and perceived that such teaching and learning methods helped them step out of their comfort zone and increased their social and interpersonal skills, as well as competences in critical thinking, problem solving, and leadership. Students also developed a more reflective mindset through multiple reflective activities in GUR subjects, especially through LIPD and SL subjects. Furthermore, many students found that their understanding of the importance of desired graduate attributes and General Education was elevated through GUR study.

Nevertheless, although the researchers reported that the students agreed that the GUR components have provided them with new learning experiences, they showed difficulties in identifying the linkage between different GUR components and their disciplines and professions. Some students had insufficient understanding about the goals of GE, which may arouse negative opinions about the arrangement of the GUR subjects and hinder students' effective learning. More efforts need to be directed at helping students understand the meaning and importance of GE for their professional development.

Qualitative evaluation (document analyses)

Another means of identifying the strengths and limitations of the implementation of the GUR was via the systematic examination of a series of official resources related to GUR issued in 2013-2014. The documents analyzed included administrative focus group reports and recorded minutes from formal committee meetings related to teaching and learning in the GUR curriculum. Specifically, the documents investigated were meeting minutes (i.e., from 50th to 53rd meeting minutes) of Learning and Teaching Committee (LTC), comments on GUR collected by Office of General University Requirements (OGUR) from the meeting minutes of Departmental Learning and Teaching Committees (DLTC) in the 2013-2014 academic year, comments on GUR collected by OGUR from the meeting minutes of Student/Staff Consultative Group (SSCG) from different

departments of PolyU in the 2013-2014 academic year, and list of subjects in different GUR components offered in the 2013-2014 academic year.

Based on the document analyses, the findings suggest that there was a good linkage between the intended learning outcomes and the contents of GUR subjects. The subject contents of various GUR components were viewed as appropriate and sufficient. The teaching staff members of GUR subjects were complimented on their well-equipped knowledge and interactive teaching strategies. However, some concerns were raised in several department staff-student meetings regarding the long lecture hours (3 hours), weak connection between the course materials and the students' future development, and unclear purposes of assignments in several GUR subjects.

Discussion and conclusion

This paper presents and discusses the second year evaluation findings of the GUR project at PolyU in order to provide a comprehensive picture of the implementation and effectiveness of GUR subjects in the 2013-2014 academic year. This longitudinal evaluation study has several distinctive features which are worth noting. First, with the dearth of scientific literature reporting the effectiveness of GE in Hong Kong, the present study provides an interesting addition to the literature. Another distinctive feature was the adoption of post-positivistic and pragmatic stands where multiple research methods are used to evaluate the GUR project. A more all-round picture could be generated. In relation to this, the third distinctive feature is that different types of data (i.e., qualitative and quantitative) were collected which helped produce "profiles" of responses and subjective experiences of different stakeholders simultaneously. Fourth, the data were collected longitudinally which allow us to examine the changes in students over time. In addition, with particular reference to the objective outcome evaluation, validated Chinese measures were used.

The present findings from multiple evaluation methods in the GUR project suggest that the implementation of the GUR in the 2013-2014 academic year was smooth and successful. GUR

subjects were well received by both teachers and students and have been effective in promoting students' development in various areas, in particular those related to the desired graduate attributes. Areas of improvements were also identified for a better refinement of the GUR and its implementation in the next academic year. These observations are reported in details elsewhere (35-39).

However, there are three issues that should be addressed. First, using the data based on the longitudinal online survey, results showed that there was a drop in some of the outcome measures, for example, self-reported empathy and critical thinking. There are two explanations for these "odd" observations. The first explanation is that when students just entered the university, they tended to have an over-optimistic view of themselves based on their previous success in secondary schools (40, 41). However, with growing maturity and increased self-awareness, students may have a better self-reflection which contributed to a more realistic self-evaluation. Another explanation is that students' self-perceived leadership competence and empathic understanding might be undermined due to the changes in the students' social environment as they left secondary school and need to adjust to university life by establishing a new self-image and social identity. This period of transition has been found to be associated with the decline in social competence and empathy over the first and second years of university which tends to reverse by the end of the sophomore year.

The second issue concerns the linkage between GUR subjects and the disciplinary specific subjects. While some students commented that they did not fully understand the link between GUR subjects and their disciplinary study, such links were in fact included in the design of Freshman Seminars, Leadership subjects, Service Learning and Language subjects. It is suggested that such a link should be further promoted and highlighted amongst colleagues and students in future.

Finally, similar to the first year, students remarked their difficulties in subject registration. Several points should be noted here. First, the difficulty in subject registration is a problem commonly cited by students in different universities in the global context. Second, for students in the first year, their priority in choosing a subject was lower

than those in the second year. Third, for the more popular subjects, competition was always intense. Fourth, probably because of time-table issue, some of the preferred CAR subjects might clash with other subjects. It is therefore recommended that a more accurate picture based on detailed analyses should be conducted to investigate the problems involved and to provide direction of further refinement for course administration.

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References

- [1] Fallows S, Steven C. Building employability skills into the higher education curriculum: a university-wide initiative. *Educ Train* 2000;42:75-83.
- [2] Kember D. Nurturing generic capabilities through a teaching and learning environment which provides practise in their use. *High Educ* 2009;57:37-55. DOI: 10.1007/s10734-008-9131-7.
- [3] Kristiansson L, Luchinskaya E. Creativity and innovation in higher education: the use of project-based learning for mechanical engineering students' competence development, 2013. URL: <http://www.eera-ecer.de/ecer-programmes/conference/8/contribution/22213/>.
- [4] Bok D. *Our underachieving colleges: a candid look at how much students learn and why they should be learning more*. Princeton, NJ: Princeton University Press, 2006.
- [5] Baker K. Employers' perceptions of the employability skills of new graduates. In: Lowden K., Hall S, Elliot D, Lewin J. eds. *Employers' perceptions of the employability skills of new graduates*. London: Edge Foundation, 2011:iii.
- [6] Lewis HR. *Excellence without a soul: how a great university forgot education*. New York: Public Affairs Publishing, 2006.
- [7] Institute of Directors. *Institute of directors skills briefing: graduates' employability skills, 2007*. URL: http://www.iod.com/intershoproot/eCS/Store/en/pdfs/policy_paper_graduates_employability_skills.pdf.
- [8] SCMP Group Limited. *Reaching out: Annual report, 2006*. URL: <http://globaldocuments.morningstar.com/documentlibrary/document/95a73fc4a50b1821.msdoc/original>.

- [9] De La Harpe B, Radloff A, Wyber J. Quality and generic (professional) skills. *Qual High Educ* 2000;6:231-43. DOI: 10.1080/13538320020005972.
- [10] Thompson D, Treleaven L, Kamvounias P, Beem B, Hill E. Integrating graduate attributes with assessment criteria in business education: using an online assessment system, 2008. URL: http://jutlp.uow.edu.au/2008_v05_i01/3_Thompson011.html.
- [11] Treleaven L, Voola R., Integrating the development of graduate attributes through constructive alignment. *J Marketing Educ* 2008;20:160-73.
- [12] Gardner PD, Liu WY. Prepared to perform? employers rate work force readiness of new grads. *J Career Plan Employment* 1997;57:32-5.
- [13] Jackling B, De Lange P. Do accounting graduates' skills meet the expectations of employers? a matter of convergence and divergence. *Account Educ* 2009;18:369-85.
- [14] Ainley P, Corney M. Training for the future: the rise and fall of the manpower services commission. London: Cassell, 1990.
- [15] Daly WT. Teaching and scholarship: adapting American higher education to hard times. *J High Educ* 1994;65:45-57.
- [16] Association of American Colleges and Universities. The LEAP vision for learning: outcomes, practices, impact, and employers' views. Washington, DC: AACU, 2011. URL: https://www.aacu.org/sites/default/files/files/LEAP/leap_vision_summary.pdf.
- [17] Albrecht WS, Sack RJ. Accounting education: charting the course through a perilous future. *Account Educ Series* 2000;16:1-72.
- [18] Kavanagh MH, Drennan L. What skills and attributes does an accounting graduate need? evidence from student perceptions and employer expectations. *Account Financ* 2008;48:279-300.
- [19] Precision Consultancy. Graduate employability skills. Melbourne, VIC: Business, Industry and Higher Education Collaboration Council, 2007.
- [20] Laird TFN, Niskode-Dossett A, Kuh GD. What general education courses contribute to essential learning outcomes. *J Gen Educ* 2009;58:65-84.
- [21] Jormsri P, Kunaviktikul W, Ketefian S, Chaowalit A. Moral competence in nursing practice. *Nurs Ethics* 2005;12:582-94.
- [22] O'Connor KM, Lynch K, Owen D. Student-community engagement and the development of graduate attributes. *Educ Train* 2011;53:100-15. DOI: 10.1108/00400911111115654.
- [23] Jaffee D. The General Education Initiative in Hong Kong: organized contradictions and emerging tensions. *High Educ* 2012;64:193-206.
- [24] Freake H. Curricular designs for general education at the UGC-supported universities in Hong Kong. In: Xing J, Ng PS, Leung CY, eds. *General education and the development of global citizenship in Hong Kong, Taiwan and Mainland China*. New York: Routledge, 2013, 105-20.
- [25] Hong Kong Education Commission. Learning for life, learning through life: reform proposals for the education system in Hong Kong, 2000. URL: http://www.e-c.edu.hk/eng/reform/index_e.html.
- [26] Shek DTL, Yu L, Wu FK, Chai WY. General education requirements at Hong Kong Polytechnic University: evaluation findings based on student focus groups. *Assess Eval High Educ* 2014. DOI: 10.1080/02602938.2014.960362.
- [27] Kosslyn SM, Liu DR, Menandm L, Petersen RA, Pilbeam DR, Simmons A, Spector LS, Watters MC, Kenen SH. Report of the task force on general education. Cambridge, MA: Harvard University, 2007.
- [28] Mason G, Williams G, Cranmer S. Employability skills initiatives in higher education: what effects do they have on graduate labor market outcomes. London: National Institute of Economic and Social Research, 2006. URL: <http://www.niesr.ac.uk/pubs/pubs/DPS/dp280.pdf>.
- [29] Metz AJ. Why conduct a program evaluation? five reasons why evaluation can help an out-of-school time program, 2007. URL: http://www.childtrends.org/wp-content/uploads/2013/04/child_trends-2007_10_01_rb_whyprogeval.pdf.
- [30] Mathison S. Why triangulate? *Educ Res* 1988;17:13-7. DOI: 10.3102/0013189X017002013.
- [31] Shek DTL. Evaluation of the Project P.A.T.H.S.: using multiple evaluation strategies. In: Shek DT, Sun RC, eds. *Development and evaluation of positive adolescent training through holistic social programs (P.A.T.H.S.)*. Heidelberg: Springer, 2013:53-67.
- [32] Smith ML, Kleine PL. Qualitative research and evaluation: triangulation and multimethods reconsidered. In: Williams DD, eds. *Naturalistic evaluation. New directions for program evaluation*. San Francisco, CA: Jossey-Bass, 1986:55-71.
- [33] Shek DTL, Yu L, Wu FKY, Ng CSM. General education program in a new 4-year university curriculum in Hong Kong: findings based on multiple evaluation strategies. *Int J Disabil Hum Dev*, in press.
- [34] Patton MQ. *Utilization-focused evaluation*, 4th ed. Thousand Oaks, CA: Sage, 2008.
- [35] Shek DTL, Yu L. An evaluation study on a university general education subject in Hong Kong. *Int J Adolesc Med Health*, in press.
- [36] Shek DTL, Yu L. General university requirements and holistic development in university students in Hong Kong. *Int J Adolesc Med Health*, in press.
- [37] Shek, DTL, Yu L. The impact of three-year and four-year undergraduate programs on university students: the case of Hong Kong. *Int J Adolesc Med Health*, in press.
- [38] Shek DTL, Yu L, Chai WY. Evaluation of the general university requirements: what did students say? *Int J Adolesc Med Health*, in press.

- [39] Shek DTL, Yu L, Chai WY. Qualitative evaluation on a new general education curriculum at a university in Hong Kong: teachers' experiences. *Int J Adolesc Med Health*, in press.
- [40] Alipuria AK. First-year college student decision making: how freshmen respond to the stress of the college transition [dissertation], 2007. URL: <http://search.proquest.com/docview/304879955>.
- [41] Pascarella ET, Terenzini PT. How college affects students: findings and insights from twenty years of research. San Francisco, CA: Jossey-Bass Publishers, 1991.

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