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# Evaluation of a leadership and intrapersonal development subject for university students in Hong Kong: findings based on 2 years

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**Abstract:** The present study aimed to examine the effectiveness of a general education subject entitled “Tomorrow’s Leaders” using the Student Feedback Questionnaire (SFQ) and student final grades in the subject in 2012/2013 and 2013/2014 academic years at The Hong Kong Polytechnic University. A total of 1406 and 1283 students in 2012/2013 and 2013/2014 academic years, respectively, completed the online SFQ. Results revealed that despite a slight decrease in student ratings in the second year, students generally expressed positive perceptions of the subject over 2 years regarding subject attributes, teacher attributes, and subject benefits. Results also showed consistent faculty differences in students’ satisfaction across 2 years. Students in the Faculty of Applied Science and Textiles and the Faculty of Engineering had more positive evaluations for the subject compared with students from the Faculty of Construction and Environment. Significant relationships amongst the three dimensions of course evaluation as well as between course evaluation and students’ final grade in the subject were also observed. Students’ perception of teacher attributes was a significant predictor for their final grade. The present study demonstrates the favorable effects of the subject on students’ positive development over time.

**Keywords:** academic performance; evaluation; holistic development; Hong Kong; leadership training; university students.

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## Introduction

Adolescence represents one critical period of development where several key development experiences occur, such as physical and sexual maturation, acquisition of emotional and behavioral skills, and the capacity for problem solving [1]. While adolescents have tremendous growth and potential in adolescence, it is also a time during which they are particularly vulnerable to develop problem behaviors. A large number of studies have consistently found that adolescents displayed different mental health problems and engaged in destructive behaviors [2–4]. For example, using 5-year data of the National Survey on Drug Use and Health (NSDUH), Edlund and colleagues [2] found 6% and 8% of American adolescents aged 12–17 reported nonmedical prescription opioid use and major depressive episode in the past year, respectively. A recent study revealed that 21.1% of secondary school adolescents had problematic symptoms of Internet use in Iran [5].

With particular reference to Hong Kong, adolescents have shown similar developmental problems, such as depression, addictive behaviors, and suicidal ideation and behavior. For example, in a survey of depression among freshmen in Hong Kong and Beijing, Song and colleagues [6] revealed that the prevalence rate of freshmen depression in Hong Kong was approximately 43.9%, which was significantly higher than that of their counterparts in Beijing (24.8%). Based on a large sample survey, Shek and Yu [7] showed that 13.7% of the school students had suicide thoughts, 4.9% devised specific suicidal plans, and 4.7% had actually attempted suicide in the past year. Yu and Shek [8] additionally found 22.5% of school adolescents could be classified as suffering from Internet addiction. Using university students, Chan [9] reported that 20% of the respondents engaged in binge drinking during the last month. Besides the profound developmental changes occurring during adolescence which may account for the above mentioned developmental problems, the social environments regarding globalization and economic transitions in Hong Kong could also be challenging for adolescents. It is believed that today’s graduates should possess

social, emotional, and interpersonal competences in addition to intellectual competence (i.e. whole-personal development) to fulfill the requirements of knowledge- and service-based economy in Hong Kong [10].

Obviously, it is important to develop and implement effective programs to reduce adolescent risk behaviors as well as to promote their holistic development in Hong Kong. In this circumstance, positive youth development approach could be a way out. Positive youth development focuses on the positive and bright sides of adolescents and emphasizes the importance of promoting youths to develop all-round healthy functioning characteristics [11]. The concept is comprised of several domains such as emotional and behavioral competence, self-efficacy, and prosocial behaviors [12]. Numerous Western evaluation studies have demonstrated positive youth development programs as effective in promoting positive youth development outcomes and preventing youth problem behaviors [13, 14].

Despite the merits of the positive youth development programs, implementation of such programs is scanty in Hong Kong. Among the few exceptions, Shek and researchers have developed and implemented a positive youth development program named as “Positive Adolescent Training through Holistic Social Programmes” (the P.A.T.H.S. Project) in secondary schools in Hong Kong [15, 16]. This program aims to foster psychosocial competencies and holistic development of adolescents in Hong Kong based on 15 positive youth constructs such as bonding, emotional competence, resilience, and prosocial behavior [15].

Although the P.A.T.H.S. Project is successful in preventing and reducing adolescent problem behaviors (e.g. Internet addiction and drug use) and promoting their positive development (e.g. interpersonal skills and self-efficacy) [17–19], the program mainly targets high school students. As mentioned above, growing psychological and behavioral problems in university students as well as the rapid changing society also require suitable positive youth development programs to promote the holistic development of Hong Kong university students. The lack of such effective programs has motivated scholars to develop validated and credit bearing subjects to promote holistic development of university students. Consistent with the philosophy of the public health approach, helping students to develop psychosocial competencies is a promising way to help them develop in a holistic manner.

At The Hong Kong Polytechnic University (PolyU), a subject entitled “Tomorrow’s Leaders” was modeled after the Project P.A.T.H.S. and delivered to 2000+ year-one students each year since the academic year of 2012/2013. The

objective of the subject is to promote university students’ interpersonal (e.g. leadership and communication) and intrapersonal (e.g. emotion management and problem-solving) competencies based on interactive teaching and experiential learning (e.g. sharing, role play, group discussion, and reflective writing). A variety of evaluation studies employing different methods have congruously supported the overall effectiveness of the subject in promoting intended competencies in university students [20–22].

Among the ways used to evaluate the effectiveness of the subject, subjective outcome evaluation is an important one due to its inexpensiveness and efficiency in obtaining course recipients’ views towards course quality. For example, by using the Student Feedback Questionnaire (SFQ) designed for subjective outcome evaluation of courses in the university [23], Shek and Yu showed that students were overall satisfied with the Tomorrow’s Leaders subject, there were different perceptions of students from different faculties, and the course evaluation showed predicting effect on students’ final course grade to some extent in academic years of 2012/2013 [24] and 2013/2014 [25]. However, only students taking the subject in the first semester of each academic year were investigated in the corresponding study.

While the abovementioned two studies using SFQ have demonstrated positive views held by students towards the Tomorrow’s Leaders subject and faculty differences among students’ evaluation in academic years of 2012/2013 and 2013/2014 separately, the data have not been fully examined. In other words, students that enrolled in the subject in second semester of each year have not been examined yet. As a result, to investigate students’ view on the subject based on the whole data set (i.e. all data of 2 academic years) may not only offer more comprehensive findings regarding overall course effects and faculty differences of students’ perceptions, but also helps to reveal potential changes of student view across years. With specific respect to the latter expectation, several justifications can be noted. First of all, course content has been refined based on post-lecture feedback given by students after the completion of course delivery in 2012/2013. Second, the Tomorrow’s Leaders subject in 2013/2014 academic year ( $n=2104$ ) enrolled more students compared to 2012/2013 academic year ( $n=1996$ ), which resulted in larger average class size in 2013/2014 and subsequent changes in teaching and learning strategies. Third, to reduce teaching staff’s workload and meet the demands of large number of students, new teaching staff was recruited in 2013/2014 academic year. Hence, simultaneously examining the 2-year data of students’ evaluation would provide a good

chance to see if these new situations bring about any changes to course effect.

Against this background, students' perceptions of the Tomorrow's Leaders subject were assessed using aggregated data of 2 years based on the SFQ. Four research questions were addressed in this study: (1) what were students' general perceptions of the subject across 2 years? (2) Were there any changes in students' perceptions of the subject between the year of 2012/2013 and 2013/2014? (3) Were there faculty differences regarding students' evaluation of the subject across 2 academic years? (4) Did students' perceptions of the subject predict their academic performance in terms of course grade?

## Methods

### Participants

In the academic year of 2012/2013, a total of 1406 Year 1 students from seven faculties who took the Tomorrow's Leaders subject completed the online SFQ. Among the participants, 61 were from the School of Design (SD), 77 were from the Faculty of Humanities (FH), 220 were from the Faculty of Construction and Environment (FCE), 330 were from the Faculty of Engineering (FENG), 80 were from the School of Hotel and Tourism Management (SHTM), 441 were from the Faculty of Health and Social Sciences (FHSS), and 197 were from the Faculty of Applied Science and Textiles (FAST). In the academic year of 2013/2014, 1283 freshmen completed the online SFQ, with 48 from SD, 72 from FH, 183 from FCE, 328 from FENG, 97 from SHTM, 385 from FHSS, and 170 from FAST. Across faculties, the number of participants showed no significant difference between the 2 academic years ( $\chi^2[6]=6.93$ ,  $p=0.33$ ). No other individual information was available due to the principle of anonymity in the survey.

### Procedures

Near the end of each semester, students enrolled in Tomorrow's Leaders subject were invited through an email to complete the online SFQ in the period of 1 week before and after the last lecture of the subject. The aim of the survey and some important principles (e.g. confidentiality of the data collected from them) were highlighted in the invitation email, which was sent by the Educational Developmental Centre (EDC) of the PolyU. Students were informed with how to complete the survey at the beginning of the questionnaire. After the completion of questionnaire, the data were saved automatically and can only be accessed by research staff in EDC. The SFQ data in the present study was obtained from EDC and the final course grades were provided by the Department of Applied Social Sciences (APSS). EDC helped match the two sets of data based on student number and then removed individual information from the completed data set before sending to the authors.

### Instruments

The SFQ used to measure students' evaluations of the TL subject in the present study was developed by Kember and Leung [23] and revised by EDC [26] at PolyU. The SFQ consisted of two parts. The first part measured students' view towards subject attributes, including learning experience (4 items; e.g. "I have a clear understanding of what I am expected to learn from this subject") and achievement of learning objectives (5 items; e.g. "I have acquired interpersonal skills essential for functioning as an effective leader"). In the second part, students' feedback towards teacher attributes was assessed with seven items (e.g. "The teacher has motivated me to learn"). In addition to abovementioned three common subscales for all subjects, two extra subscales were specifically designed for the Tomorrow's Leaders subject, with one further assessing subject benefits (5 items; e.g. "This subject has improved my communication skills") and the other measuring perception of "other qualities of the teacher" (5 items, e.g. "The teacher showed good professional attitudes").

As a result, the SFQ used in the present study comprised three dimensions, namely subject attributes (9 items), teaching attributes (original 7 items plus the newly added 5 items about the other qualities of the teacher), and subject benefits (5 items). Details of these items can be seen in Table 1. All the items were rated from 1 (strongly disagree) to 5 (strongly agree). Mean scores across items under each dimension were calculated to reflect students' evaluations, with higher scores representing more positive perceptions. Cronbach's alphas of the three dimensions ranged from 0.92 to 0.96 in 2012/2013 year and from 0.95 to 0.97 in 2013/2014 year, indicating very good internal consistency of the questionnaire used in the present study.

### Data analytical plan

Descriptive statistical analyses were performed to investigate evaluations of the three domains (i.e. subject attributes, teacher attributes, and benefits of the subjects). Then independent-samples t-tests were performed to investigate potential differences of student perceptions between 2 years. To investigate whether there were faculty differences on students' feedback in 2 years, a 7 (faculty)  $\times$  2 (academic year) multivariate analysis of variance (MANOVA) was conducted with scores of three domains in SFQ treated as dependent variables. Correlation analyses were then carried out to examine how perceptions of the three domains were correlated amongst themselves and with final course grade. Regression analysis was used to test whether perceptions of subject attributes, teacher attributes, and benefits of the subject could independently predict students' final course grade.

## Results

Table 1 shows the numbers and percentages of positive respondents for each year as well as across 2 years. Despite a slight decreasing trend in the percentage of positive respondents across years, students' evaluations of the three dimensions of SFQ remained stable in 2 years, and majority of the students had positive views towards

Table 1: Numbers and percentages of respondents with positive responses (4 and 5).

SFQ items	2012/2013 academic year		2013/2014 academic year		Overall	
	n	%	n	%	n	%
<b>Subject attributes</b>						
Learning experience of the subject (items in the common SFQ)						
1. I have a clear understanding of what I am expected to learn from this subject.	1075	76.46	915	71.32	1990	74.20
2. The teaching and learning activities have helped me to achieve the subject learning outcomes.	1121	79.73	945	73.66	2066	77.23
3. The assessments require me to demonstrate my knowledge, skills and understanding of the subject.	1078	76.67	928	72.33	2006	75.10
4. I understand the criteria according to which I will be graded.	1005	71.48	888	69.21	1893	71.06
Achievement of learning objectives (items in the common SFQ)						
5. This subject has enabled me to develop a good understanding of the qualities of effective leaders.	1082	76.96	933	72.72	2015	75.21
6. This subject has enabled me to develop a better understanding of myself.	1032	73.40	915	71.32	1947	72.68
7. I have acquired interpersonal skills essential for functioning as an effective leader.	1002	71.27	855	66.64	1857	69.45
8. I have learned self-reflection skills in this subject.	1053	74.89	918	71.55	1971	73.93
9. I have learned to become more active and self-motivated in pursuing knowledge on self-understanding and interpersonal relationship.	1000	71.12	843	65.71	1843	69.23
<b>Teacher attributes</b>						
Qualities of the teacher (items in the common SFQ)						
1. The teacher has been willing to provide help when necessary.	1269	90.26	1116	86.98	2385	88.93
2. The teacher has motivated me to learn.	1136	80.80	968	75.45	2104	78.77
3. The teacher has given me/the class feedback for improvement.	1208	85.92	1046	81.53	2254	84.23
4. The teacher has organized the subject contents logically and clearly.	1223	86.98	1058	82.46	2281	85.56
5. The teacher has enabled me to relate the knowledge taught to my professional/intended career.	1107	78.73	924	72.02	2031	76.53
6. The teaching of the staff member has provided me with a valuable learning experience.	1168	83.07	998	77.79	2166	81.12
7. Overall, I think that the staff member is an effective teacher.	1220	86.77	1032	80.44	2252	84.89
Other qualities of the teacher (extra items for Tomorrow's Leaders subject)						
8. The teacher was well prepared for the lessons.	1317	93.67	1139	88.78	2456	91.57
9. The teaching skills of the teacher were good.	1174	83.50	1022	79.66	2196	82.00
10. The teacher showed good professional attitudes.	1255	89.26	1085	84.57	2340	87.44
11. The teacher encouraged me/the class to participate in the activities.	1254	89.19	1084	84.49	2338	87.34
12. The teacher had much interaction with me/the class.	1232	87.62	1078	84.02	2310	86.39
Perceived benefits of the subject (extra items for Tomorrow's Leaders subject)						
1. This subject has strengthened my problem-solving skills.	860	61.17	747	58.22	1607	59.96
2. This subject has enhanced my critical thinking.	886	63.02	805	62.74	1691	63.21
3. This subject has promoted my understanding of ethical leadership.	969	68.92	891	69.45	1860	69.51
4. This subject has improved my communication skills.	1074	76.39	865	67.42	1939	72.65
5. This subject has promoted my personal growth.	994	70.70	907	70.69	1901	71.31

subject, teaching staff, and benefits of the subject. For instance, across 2 years, over 70% of the students had favorable perceptions on most aspects of subject attributes (e.g. 77.23% of the students regarded the teaching and learning activities as helpful for achieving learning objectives).

Students also held positive views towards teaching staff. Over 80% of the students gave positive ratings on most aspects of teaching quality and approximately 85% of students thought the teaching was effective. More specifically, 91.57% of the students considered the teacher prepared well for the lessons, and over 87% of the students noted the teacher’s willingness to offer help, professional attitudes, and encouragement for them to participate in class activities. With respect to perceived benefits of the subject, also majority of students agreed that they gained personal achievements from the subject. To list a few, over 70% of the students reported that they improved communication skills, and gained personal growth, and over 60% of the students had improvement in their critical thinking and understanding of ethical leadership.

Means and standard deviations of three dimensions in SFQ in each year are shown in Table 2. Students’ evaluation was overall positive during 2 years, given that all scores were above 3.70 in a scale with 5 as the maximum value. Besides, perceived benefits in 2 years did not show significant difference. However, evaluation of subject attributes in the year of 2013/2014 ( $M=3.77$ ,  $SD=0.78$ ) was

lower than the evaluation in 2012/2013 year ( $M=3.85$ ,  $SD=0.63$ ,  $t(2394.22)=2.68$ ,  $p=0.01$ , Cohen’s  $d=0.11$ ). Similarly, teacher attributes had a slightly lower rating in 2013/2014 year ( $M=4.11$ ,  $SD=0.69$ ) than in 2012/2013 year ( $M=4.16$ ,  $SD=0.58$ ,  $t(2414.66)=2.16$ ,  $p=0.03$ , Cohen’s  $d=0.08$ ).

Result of MANOVA yielded a significant main effect of faculty (Wilks’  $\Lambda=0.96$ ,  $F(18, 6907)=6.30$ ,  $p<0.001$ ,  $p\eta^2=0.02$ ), but did not reveal a significant main effect of academic year (Wilks’  $\Lambda=0.99$ ,  $F(32,442)=0.91$ ,  $p=0.44$ ,  $p\eta^2=0.001$ ) or a significant interaction between year and faculty (Wilks’  $\Lambda=0.99$ ,  $F(186,907)=1.48$ ,  $p=0.10$ ,  $p\eta^2=0.004$ ). Post-hoc comparisons with Bonferroni procedure further showed that students in different faculties tended to have different evaluations for the subject across 2 years (see Table 3). Specifically, students in FENG and FAST had the highest evaluations for both subject attributes and benefits of the subject while students in FCE and FHSS gave the lowest ratings in these two dimensions. For teacher attributes, students in FAST gave the highest rating, followed by students in SHTM, FENG, or FHSS, and students in FCE reported the lowest rating. Overall, the Tomorrow’s Leaders subject was more favored by students in FAST and FENG while least rated by students in FCE.

Perceptions of subject attributes, teacher attributes and benefits of the subjects were significantly and positively correlated with each other ( $r_s$  ranged from 0.66 to 0.90,  $p_s<0.001$ , Table 4), and with final course

**Table 2:** Means and standard deviations of students’ evaluation across years and comparisons between 2 years.

Variables	2012/2013 academic year			2013/2014 academic year			t	p	Cohen’s d
	M	SD	n	M	SD	n			
Subject attributes	3.85	0.63	1354	3.77	0.78	1245	2.68	0.01	0.11
Teacher attributes	4.16	0.58	1337	4.11	0.69	1231	2.16	0.03	0.08
Perceived benefits	3.75	0.68	1376	3.70	0.81	1265	1.58	0.11	0.07

**Table 3:** Comparing aggregated SFQ ratings of 2 academic years (2012/2013 and 2013/2014) across faculties.

Subjective outcomes	Faculty							MANOVA		
	SD	FH	FCE	FENG	SHTM	FHSS	FAST	F	$p\eta^2$	post-hoc comparisons
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)				
Subject attributes	3.79 (0.63)	3.80 (0.62)	3.66 (0.83)	3.91 (0.65)	3.84 (0.73)	3.75 (0.74)	3.92 (0.61)	7.20 <sup>a</sup>	0.02	FENG>FCE, FHSS; FAST>FCE, FHSS
Teacher attributes	3.99 (0.59)	4.01 (0.53)	3.97 (0.74)	4.18 (0.61)	4.14 (0.61)	4.14 (0.65)	4.31 (0.53)	10.58 <sup>a</sup>	0.03	FAST>SD, FH, FCE, FENG, FHSS; FENG>FCE; FHSS>FCE
Perceived benefits	3.72 (0.72)	3.71 (0.63)	3.62 (0.86)	3.82 (0.70)	3.72 (0.75)	3.64 (0.78)	3.85 (0.66)	5.94 <sup>a</sup>	0.01	FENG>FCE, FHSS; FAST>FCE, FHSS

SD, School of Design; FH, Faculty of Humanities; FCE, Faculty of Constructing and Environment; FENG, Faculty of Engineering; SHTM, School of Hotel and Tourism Management; FHSS, Faculty of Health and Social Science; FAST, Faculty of Applied Science and Textiles; <sup>a</sup> $p<0.001$ .

**Table 4:** Correlations among main variables.

Variables	Descriptions			Correlations		
	M	SD	n	1	2	3
1. Subject attributes	3.81	0.71	2599	–		
2. Teacher attributes	4.13	0.63	2568	0.72 <sup>a</sup>	–	
3. Perceived benefits	3.72	0.74	2641	0.90 <sup>a</sup>	0.66 <sup>a</sup>	–
4. Final course grade	6.49	1.15	2689	0.16 <sup>a</sup>	0.16 <sup>a</sup>	0.13 <sup>a</sup>

Student final course grade was recoded as: F=1; D=2; D+=3; C=4; C+=5; B=6; B+=7; A=8; A+=9; <sup>a</sup>p<0.001.

grade ( $r_s$  ranged from 0.13 to 0.16,  $p_s < 0.001$ , Table 4). Ratings on all SFQ items were also significantly correlated with final course grade ( $r_s$  ranged from 0.10 to 0.16,

$p_s < 0.001$ , Table 5). The regression analysis showed that, among three SFQ dimensions, only perception of teacher attributes showed significant predicting effect ( $\beta = 0.13$ ,  $p < 0.001$ ) on students' final grade in the subject (see Table 6).

## Discussion

Using the SFQ, the present study attempted to examine students' subjective outcome evaluation of Tomorrow's Leaders subject across the academic years of 2012/2013 and 2013/2014. The current study has several strengths. First, the study involved a large sample size. Second, the

**Table 5:** Correlations among SFQ items and final course grade.

SFQ items	Correlations with final course grade
<b>Subject attributes</b>	
Learning experience of the subject	
1. I have a clear understanding of what I am expected to learn from this subject.	0.13
2. The teaching and learning activities have helped me to achieve the subject learning outcomes.	0.14
3. The assessments require me to demonstrate my knowledge, skills and understanding of the subject.	0.10
4. I understand the criteria according to which I will be graded.	0.12
Achievement of learning objectives	
5. This subject has enabled me to develop a good understanding of the qualities of effective leaders.	0.14
6. This subject has enabled me to develop a better understanding of myself.	0.12
7. I have acquired interpersonal skills essential for functioning as an effective leader.	0.11
8. I have learned self-reflection skills in this subject.	0.14
9. I have learned to become more active and self-motivated in pursuing knowledge on self-understanding and interpersonal relationship.	0.12
<b>Teacher attributes</b>	
Qualities of the teacher	
1. The teacher has been willing to provide help when necessary.	0.16
2. The teacher has motivated me to learn.	0.15
3. The teacher has given me/the class feedback for improvement.	0.16
4. The teacher has organized the subject contents logically and clearly.	0.14
5. The teacher has enabled me to relate the knowledge taught to my professional/intended career.	0.12
6. The teaching of the staff member has provided me with a valuable learning experience.	0.13
7. Overall, I think that the staff member is an effective teacher.	0.14
Other qualities of the teacher	
8. The teacher was well prepared for the lessons.	0.14
9. The teaching skills of the teacher were good.	0.12
10. The teacher showed good professional attitudes.	0.13
11. The teacher encouraged me/the class to participate in the activities.	0.15
12. The teacher had much interaction with me/the class.	0.15
<b>Perceived benefits of the subject</b>	
1. This subject has strengthened my problem-solving skills.	0.10
2. This subject has enhanced my critical thinking.	0.10
3. This subject has promoted my understanding of ethical leadership.	0.11
4. This subject has improved my communication skills.	0.14
5. This subject has promoted my personal growth.	0.14

Student final course grade was recoded as: F=1; D=2; D+=3; C=4; C+=5; B=6; B+=7; A=8; A+=9; all correlations are significant ( $p < 0.001$ ).

**Table 6:** Multiple regression analysis predicting students' final course grade.

Predictors	B	SE	$\beta$	R <sup>2</sup>
Subject attributes	0.01	0.07	0.01	
Teacher attributes	0.24	0.05	0.13 <sup>a</sup>	
Perceived benefits	0.06	0.06	0.04	0.03 <sup>a</sup>

Student final course grade was recoded as: F=1; D=2; D+=3; C=4; C+=5; B=6; B+=7; A=8; A+=9; <sup>a</sup>p<0.001.

study compared 2 years' outcomes directly. Third, the present study investigated multiple domains of student evaluation, including views towards subject attributes, teacher attributes, and benefits of the subject. Fourth, besides students' subjective outcome evaluation based on SFQ ratings, the study also considered academic achievement as reflected by students' final scores in the subject, which may objectively assess students' learning effectiveness in the subject.

In terms of students' general perception of the Tomorrow's Leaders subject in 2012/2013 and 2013/2014 academic years, results revealed that respondents overall gave positive feedback regarding the subject (e.g. learning experience), teacher attributes (e.g. teaching of the staff member), and benefits of the subject in the 2 academic years. These results are consistent with previous findings based on other evaluation mechanisms [27]. Furthermore, majority of the students regarded the subject as having promoted their reflection skills and self-understanding. Echoing previous evaluation findings, the present study provides further evidence that this subject is well received by university students and contributes to students' positive development.

More importantly, the present study showed that subjective outcome evaluations were significantly correlated with objective outcome as reflected by students' academic achievement. As noted by Akiri [28], students' academic performance is the key indicator to demonstrate the effectiveness of one subject. Much empirical research found students' academic performance significantly linked to course effectiveness [29–31]. It is noteworthy that a criterion-referenced grading system was adopted in this subject, which makes sure that students' academic grade can truly reflect their leaning achievement in terms of the intended learning outcomes. Taken together, the positive associations among subjective outcome evaluations and the objective outcome indicator observed in current study not only further prove the reliability of subjective outcome evaluation, but also convince the effectiveness of the Tomorrow's Leaders subject.

Despite the overall positive findings of course evaluation in past 2 years, cross-year comparison on the results of SFQ revealed a slightly lower evaluation for subject attributes and teacher attributes in 2013/2014 academic year. One potential explanation for this change is that new teaching staff was involved in teaching the subject in 2013/2014 academic year. As Clough [32] stated, “teachers exert the greatest influence in the classroom through the way in which they engage students in the curriculum” and “teachers are the key to students' success at learning through inquiry” (p. 2), newly recruited teachers might not be so experienced in delivering the course materials, thus leading to relatively lower SFQ scores in 2013/2014 year. It should be noted that such potential weakness of new teaching staff may not be great, as perceived benefits of the subject in 2013/2014 year were as high as that in 2012/2013 year, and effect size of changes in perceptions of subject attributes and teacher attributes was small.

Nevertheless, effective teaching should be always emphasized in curriculum implementation, especially considering the unique predicting effect of “teacher attributes” on students' objective academic achievement in the subject found in present study and previous research [24]. This finding is consistent with the well-known influence of teachers on youth development [33–35]. Teachers play a role as the bridge between course itself and students, therefore effective teaching could ensure the well-designed course materials to be well received by students, and then lead to intended outcomes. In other words, high quality subject itself is not sufficient to foster learning achievement, but instead, effective teaching is the key element [32]. This could explain why “subject attributes” and “perceived benefits” did not significantly predict students' course grade after controlling for the effect of “teacher attributes”. As such, to promote the success of the Tomorrow's Leaders subject, teaching staff especially those newly involved should strengthen characteristics leading to effective teaching, such as supportive attitude and feedback, good time management, well-preparation and personal engagement [19, 34].

With regard to faculty differences in SFQ scores, previous research based on data collected from one semester revealed that students coming from FHSS and FAST had highest evaluations while students from FCE had lowest ratings [25]. Based on four semester's data, the present study also found lowest ratings among students in FCE. However, different from previous studies, the present study found the highest evaluations in students from FAST and FENG. As subject content was the same and teaching staff was assigned randomly, the faculty differences in SFQ

ratings may be largely due to student characteristics. For example, student motivation or interest may affect their ratings for the subject [36, 37]. As the subject was compulsory, it is possible that not all attending students were interested in the subject and had motivation to achieve the designed learning goals. To verify this speculation, future research could compare students from different faculties regarding their motivation/interest in studying general education subjects such as Tomorrow's Leaders, and then investigate to what extent students' leaning motivation/interest affects their subjective outcome evaluation for the subject. Besides, the interactive teaching and learning approaches incorporated in the subject might be particularly attractive to some students, thus lead to their higher ratings for the subject. For example, for students in FENG or FAST, their major subjects such as applied mathematics and computer science often adopt pure theory teaching [38], in contrast, Tomorrow's Leader subject may be much more interesting to them.

The current study has several limitations. First, the study only collected quantitative data, which could not display the detailed and narrative information of the students' perceptions of the subject. Future studies may combine qualitative evaluation such as focus group interview and classroom observation to comprehensively understand effectiveness of the subject [39]. Second, the study only included one objective indicator, students' final grades, which may not reflect the full picture of students' objective achievement. Future research may contain more objective indicators, such as measures on positive youth development and students' application of knowledge in daily lives. Third, the study was based on 2-year evaluation data. To understand the long-term effectiveness of the subject, future research may use longitudinal design to track the development and changes among students. Fourth, the present study compared SFQ scores based on faculty which comprises several departments. To better understand potentially different views towards the subject among students in different disciplines, future research could carry out comparisons based on department or discipline. Fifth, although the correlation between the subjective ratings and objective grade was significant, the effect size was small.

Despite these limitations, the present study demonstrates the effectiveness of the Tomorrow's Leaders subject based on students' subjective evaluations over 2 years. The findings are basically in line with those evaluation studies which suggest that the subject is able to promote holistic development of university students [40, 41]. Furthermore, the findings are consistent with the findings that there is an intimate relationship between

subjective outcome evaluation ratings and objective outcome evaluation [42].

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