

Post-lecture subjective outcome evaluation of a university subject on leadership and intrapersonal development

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Abstract

“Tomorrow’s Leaders” is a subject attempting to promote leadership and intrapersonal development in university students at The Hong Kong Polytechnic University. In the second semester of the 2012/13 academic year, a total of 1,002 students took the subject. Students were invited to complete a post-lecture subjective outcome evaluation form at the end of each lecture for 13 weeks to gauge their perceptions of the lecture. Factor analysis showed that three factors were abstracted from the scale (i.e., subject, teacher, and lecture attributes). Descriptive statistics revealed that students generally held positive perceptions of the three attributes, providing evidence for the favorable evaluation of the course. Multiple regression analyses showed that subject, teacher, and lecture attributes were significant predictors of students’ global evaluation of the teacher and lecture. Theoretical and practical implications of the findings on the promotion of holistic development in university students are discussed.

Keywords: Subjective outcome evaluation; intrapersonal development; leadership; university students; Chinese adolescents

Introduction

Adolescent problems have been observed by researchers, educators, and employers in the global context. Some of them include mental health problems and lack of interpersonal skills. For example, Eisenberg and colleagues (1) conducted a study in the US and reported that 15.6% of university students suffered from depression or anxiety disorders. These problems are not limited to students in the West. Mental health issues such as stress and anxiety problems are also common among University students in Hong Kong (2). In terms of interpersonal skills, employers complained that graduates nowadays lack basic skills needed for the workplace. They have problems dealing with clients and have trouble

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working independently (3). Anwar (4) pointed out that graduate students lack soft skills including communication, conflict and task management skills and suggested that tertiary education should focus on designing curriculum that would enable more effective university-to-work transition.

In order to better prepare graduates for employability and lifelong learning, Shek (5) developed a subject "Tomorrow's Leaders" aiming to nurture intrapersonal and interpersonal competencies, as well as leadership skills in students (6). The subject was piloted twice in the 2010/11 and 2011/12 academic years. With the inception of the new 4-Year undergraduate curriculum in 2012/13, "Tomorrow's Leaders" became a subject that students can take to fulfill the "Leadership and Intrapersonal Development" requirements, with roughly 2,000+ students taking this subject every year. Given the far-reaching goals of the subject in the promotion of leadership and intrapersonal development, there is a need to investigate whether students perceived that the intended learning outcomes were met, and to obtain their feedback on the teacher and the lecture itself. Among the various methods of evaluation employed, subjective outcome evaluation was used to evaluate the effectiveness of "Tomorrow's Leaders."

Subjective outcome evaluation is a method that is widely used for evaluating human services. Typically, participants are given a feedback questionnaire to complete at the end of the services to gauge clients' perceptions and satisfaction toward the program (7). In the higher educational sector, instruments have been developed and used to measure student satisfaction (8). Student satisfaction refers to students' overall subjective evaluation and experience of a service. "To grasp the complexity of the learning experience, it is important to understand the factors that contribute to student satisfaction" (9).

There are several strengths for conducting subjective outcome evaluation in an educational setting. First, evaluation serves as an indication to course developers about whether the messages embedded in the course are received by the students. As pointed out by Jackson et al. (10), "students are an obvious and convenient choice for raters; their candid reactions can be a beneficial aid in refining course structure and teaching styles" (p. 580). Second, feedback collected may provide valuable insights to

educators and researchers which may not be apparent when the course was first developed. Third, as subjective outcome is a rapid assessment tool which may be administered relatively conveniently in either classroom settings or over the Internet, it is a cost-effective method of evaluation (11). Given the value of conducting subjective outcome evaluation, the present paper illustrates the use of subjective outcome evaluation in the higher educational sector, particularly for a university subject on leadership and intrapersonal development entitled "Tomorrow's Leaders" at The Hong Kong Polytechnic University.

Studies have shown that teaching effectiveness and student satisfaction are influenced by course and teacher characteristics (12, 13). Many scholars have attempted to identify dimensions of effective teaching. Feldman (14) synthesized an extensive body of research and delineated characteristics associated with effective teaching, including teachers' knowledge of the subject matter, organization of the course, clarity, the nature and value of the course materials. Marsh (15) also identified factors conducive to successful teaching including learning/value, enthusiasm, organization, group interaction, individual rapport, breadth of coverage, examinations and grading, assignments, and workload. A learning environment characterized with good teaching, clear expectations and goals, as well as freedom to pursue students' individual interests have been shown to increase students' satisfaction toward the subject (16). Although different dimensions have been proposed by scholars, they may be represented by three general categories, including the course, the lecture/classroom, and the teacher. Based on this conceptualization, Shek and Sun (17) developed the subjective outcome evaluation form to solicit students' feedback on the subject, teacher, and lecture attributes of "Tomorrow's Leaders."

Primarily, in terms of subject attributes, researchers (18, 19) found that when the course structure aligns with students' expectations and preferences, students reported higher levels of satisfaction. Course structure consists of two components: (1) course objectives or expectations; and (2) course infrastructure. According to Tinto (20), students' motivation was connected with enhanced learning outcomes of the course. Given the importance of subject attributes to students'

successful learning, careful consideration was put into the development of the teaching objectives and intended learning outcomes of the subject. Upon completion of the subject entitled “Tomorrow’s Leaders”, students are expected to: 1) understand and integrate theories, research and concepts on the basic qualities (particularly intrapersonal and interpersonal qualities) of effective leaders in the Chinese context; 2) develop self-awareness and understanding of oneself; 3) acquire interpersonal skills; 4) develop self-reflection skills in their learning; and 5) recognize the importance of an active pursuit of knowledge on intrapersonal and interpersonal leadership qualities.

In terms of teacher attributes, different scholars have identified factors such as care, expertise, interest in and concern for students to be positively associated with students’ academic effort and achievement (21, 22). Sander and colleagues (23) explored undergraduates’ expectations and preferences of teachers and found that teaching skills was ranked as the most important quality, followed by teacher approachability, knowledge, enthusiasm, and organization. Given the importance of teacher attributes to students’ learning experience, there is a need to evaluate students’ perceptions on their teachers.

Lecture attributes including the delivery of lecture and classroom atmosphere have been found to influence students’ interests, learning outcomes, and satisfaction toward the subject (24). For instance, Moos (25) identified relationship dimension within the classroom as one of the variables that contribute to effective teaching and learning. The dimension includes factors such as: (1) the extent to which students are involved in the classroom; (2) presence of a supportive learning climate; and (3) whether students experience affiliation and given the chance for peer interaction. According to Swan (26), students who experienced higher levels of interaction with peers and instructors were more satisfied and had higher levels of learning. Acknowledging this, lectures in “Tomorrow’s Leaders” are designed to facilitate experiential learning. Activities include simulation exercises, games, role plays, and discussions to foster students’ active participation and allow them to learn, apply, and reflect on their intrapersonal and interpersonal leadership qualities.

Methods

In the second semester of the 2012-13 academic year, “Tomorrow’s Leaders” was offered to 1,002 students across 14 classes. At the end of each lecture, students were invited to complete a subjective outcome evaluation form to evaluate the subject, lecture, and teacher attributes of that lecture. The questionnaire comprised of 16 items and two open-ended questions to gauge students’ perceptions. This scale was used previously. Research findings showed that the measure was valid and reliable (27).

The items assessed various areas of the lecture including the course design, classroom atmosphere, student participation and interaction in the class, opportunities for reflection, degree of helpfulness to personal development, lecturer’s mastery of materials, and teacher’s pedagogy. Respondents were required to rate on a 6-point Likert scale anchored at 1 (*strongly disagree*) to 6 (*strongly agree*). The items of the questionnaires are as follow:

- Item 1: The design of this lecture was very good.
- Item 2: The classroom atmosphere of this lecture was very pleasant
- Item 3: This lecture increased my awareness of the importance of self-development
- Item 4: This lecture has improved my problem-solving ability.
- Item 5: This lecture has improved my understanding of importance of attributes of successful leaders
- Item 6: This lecture has improved my interpersonal communication skills
- Item 7: There was much peer interaction amongst the students in this lecture.
- Item 8: This lecture has improved my critical thinking
- Item 9: There was much student participation in this lecture.
- Item 10: There were many opportunities for reflection in this lecture
- Item 11: This lecture is helpful to my personal development.

- Item 12: The lecturer had a good mastery of the lecture materials
- Item 13: The lecturer used different methods to encourage students to learn.
- Item 14: The lecturer in this lecture was able to help students understand the knowledge covered in the lecture.
- Item 15: Overall speaking, I have very positive evaluation of the lecturer in this lecture
- Item 16: Overall speaking, I have very positive evaluation of this lecture

The evaluation form was designed with reference to a conceptual model where Items 1, 3, 4, 5, 6, 8, 10 and 11 were related to the subject attributes, Items 2, 7, 9 were related to the attributes of the lecture; and Items 12 to 14 related to attributes of teachers. Items 15 and 16 assessed the global evaluation of the teacher and lecture, respectively (27).

A total of 11,106 questionnaires were collected across the semester. Students were informed that the evaluation findings were used for educational and research purposes and confidentiality was emphasized. Informed consent was obtained from all students at the beginning of the semester. Students were given sufficient time to complete the questionnaires at the end of each lecture (Lecture 1 to Lecture 13). The following paper presents findings based on the quantitative data.

Data analyses

All analyses were conducted using IBM Statistical Package of Social Sciences Version 20.0. Descriptive statistical analyses were executed to comprehend students' perceptions towards the subject, lecture and teacher attributes. Factor analysis was conducted using the Lecture 1 data to examine the structure of Items 1 to 14 to support the three attributes identified (i.e., subject, teacher, and lecture attributes). Multiple regression analyses were conducted to investigate whether the 3 attributes were able to predict students' global evaluation of the teacher (Item 15) and the lecture (Item 16).

Results

A total of 11,106 participants completed the subjective outcome evaluation forms. The mean ratings and percentage findings based on the closed-ended questions are presented in Tables 1 and 2, respectively. Generally speaking, students held positive perceptions toward the subject. Overall mean scores ranged from 4.33 to 4.73. Regarding subject attributes, students were highly satisfied with the design of the lecture (88%), appreciated the chance for self-reflection (84%), and perceived the subject to be helpful to their personal development (84%). Concerning the lecture, students enjoyed interacting with their classmates (90%) and had active participation (91%). Students perceived the teacher to have good mastery of the materials (95%) and employed different teaching methods (96%).

Reliability analysis was conducted to examine the psychometric properties of the 14-item scale. Findings showed that the scale was internally consistent across all lectures; both alpha and mean inter-item correlation coefficients were acceptable (Table 2). Principal factor analysis with promax rotation was conducted to examine the factor structure of the scale. Three factors were meaningfully extracted, and accounted for 53.26% of the variance (see Table 3). The eigenvalues of the three factors were all above 1.0 (Factor 1: 8.51, Factor 2: 1.04, Factor 3: 1.24). Factor 1 was labeled Subject Attributes, composed of items 1, 3, 4, 5, 6, 8, 10 and 11, with loadings ranging from 0.72 to 0.85. The coefficient alpha and mean inter-item correlation of Subject Attributes were .92 and .58, respectively. Factor 2 was labeled Lecture Attributes with high factor loadings (ranging 0.82 to 0.86) mainly defined by items 2, 7, and 9. The coefficient alpha and inter-item correlation of Lecture Attributes were .81 and .59, respectively. Factor 3, was labeled Teacher Attributes mainly composed of items 12, 13 and 14, with factor loadings ranging from 0.80 to 0.84. The coefficient alpha and inter-item correlation of Teacher Attributes were .81 and .59, respectively.

Multiple regression analyses were performed to examine the impact of subject, teacher and lecture attributes on students' global satisfaction toward the teacher and lecture (see Table 4).

Table 1. Mean ratings by the students from Lecture 1 to Lecture 13

Item	Lecture													Mean
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	
1. The design of this lecture was very good.	4.30	4.34	4.59	4.45	4.72	4.52	4.58	4.57	4.50	4.52	4.48	4.42	4.47	4.50
2. The classroom atmosphere of this lecture was very pleasant.	4.44	4.32	4.71	4.48	4.65	4.51	4.55	4.63	4.56	4.57	4.49	4.38	4.49	4.52
3. This lecture increased my awareness of the importance of self-development	4.18	4.35	4.28	4.40	4.68	4.49	4.58	4.57	4.55	4.52	4.45	4.46	4.45	4.46
4. This lecture has improved my problem-solving ability	3.84	4.02	4.47	4.30	4.60	4.36	4.35	4.40	4.47	4.51	4.42	4.35	4.43	4.35
5. This lecture has improved my understanding of importance of attributes of successful leaders (e.g., critical thinking, moral competence)	4.34	4.67	4.39	4.31	4.52	4.63	4.65	4.72	4.56	4.58	4.50	4.51	4.44	4.52
6. This lecture has improved my interpersonal communication skills.	4.17	4.14	4.36	4.40	4.35	4.40	4.37	4.49	4.63	4.66	4.46	4.31	4.37	4.39
7. There was much peer interaction amongst the students in this lecture.	4.51	4.38	4.73	4.53	4.54	4.61	4.44	4.72	4.63	4.62	4.47	4.24	4.40	4.52
8. This lecture has improved my critical thinking.	3.92	4.04	4.47	4.17	4.39	4.50	4.45	4.43	4.42	4.43	4.35	4.34	4.35	4.33
9. There was much student participation in this lecture.	4.52	4.42	4.80	4.62	4.61	4.67	4.45	4.72	4.70	4.66	4.55	4.30	4.46	4.58
10. There were many opportunities for reflection in this lecture.	4.20	4.35	4.35	4.40	4.84	4.57	4.70	4.62	4.56	4.51	4.42	4.44	4.48	4.50
11. This lecture is helpful to my personal development.	4.17	4.37	4.40	4.44	4.79	4.62	4.70	4.63	4.60	4.60	4.51	4.51	4.54	4.53
12. The lecturer had a good mastery of the lecture material.	4.76	4.65	4.77	4.70	4.85	4.77	4.77	4.80	4.73	4.72	4.65	4.60	4.66	4.73
13. The lecturer used different methods to encourage students to learn.	4.73	4.55	4.81	4.65	4.82	4.74	4.71	4.77	4.74	4.73	4.62	4.53	4.62	4.69
14. The lecturer in this lecture was able to help students understand the knowledge covered in the lecture.	4.55	4.57	4.68	4.64	4.79	4.73	4.73	4.73	4.74	4.71	4.62	4.59	4.62	4.67
15. Overall speaking, I have very positive evaluation of the lecturer in this lecture.	4.70	4.61	4.78	4.70	4.88	4.78	4.80	4.82	4.77	4.74	4.65	4.62	4.67	4.73
16. Overall speaking, I have very positive evaluation of this lecture.	4.45	4.48	4.71	4.58	4.84	4.72	4.73	4.76	4.71	4.69	4.60	4.56	4.63	4.65
Number of questionnaires collected	929	893	905	890	850	799	845	776	764	837	894	877	847	11,106

The linear combination of the three variables significantly predicted students' level of satisfaction toward the teacher, $F(3, 10891) = 6527.74, p < .001$. This model explained 64.3% of the variance toward the prediction of overall teacher satisfaction. All three variables significantly predicted overall satisfaction toward the teacher. Teacher attributes ($\beta = .56, t(10894) = 18.50, p < .001$) had the highest predictive effect on overall satisfaction of teacher, as compared

with subject ($\beta = .18, t(10894) = 12.73, p < .001$) and lecture attributes ($\beta = .12, t(10894) = 62.79, p < .001$). In addition, the three variables also predicted students' overall satisfaction toward the lecture, $F(3, 10859) = 6694.43, p < .001$, accounting for 64.9% of the variance. All three attributes were significant predictors of students' overall lecture satisfaction, with subject attribute ($\beta = .44, t(10862) = 44.51, p < .001$) being most predictive of overall lecture

satisfaction, as compared with teacher ($\beta = .30$, $t(10862) = 15.48, p < .001$) attributes. $t(10862) = 33.30, p < .001$) and lecture ($\beta = .14$,

Table 2. Percentage findings and reliabilities based on subjective outcome evaluation of each lecture

Item	Lecture													Mean
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	
1. The design of this lecture was very good.	88.1	89.3	95.6	92.8	96.2	95.4	95.7	95.9	94.0	94.4	94.2	94.3	94.1	88.2
2. The classroom atmosphere of this lecture was very pleasant.	88.1	88.1	95.0	90.8	94.1	92.7	93.3	95.9	93.7	93.7	93.2	92.4	93.4	88.2
3. This lecture increased my awareness of the importance of self-development	84.9	88.4	87.2	89.8	94.2	92.5	93.4	94.8	92.5	93.1	92.5	93.0	91.8	84.9
4. This lecture has improved my problem-solving ability	70.3	76.1	91.7	85.3	92.6	88.7	88.8	90.5	90.8	91.6	90.9	90.9	92.5	70.3
5. This lecture has improved my understanding of importance of attributes of successful leaders (e.g., critical thinking, moral competence)	88.1	94.5	88.7	86.5	90.0	93.7	93.7	96.0	93.3	93.7	93.2	93.7	91.3	88.1
6. This lecture has improved my interpersonal communication skills.	82.0	80.2	87.6	87.5	87.3	91.0	89.5	92.9	92.9	94.5	91.9	89.4	89.0	82.0
7. There was much peer interaction amongst the students in this lecture.	89.8	87.4	93.9	91.2	91.3	93.8	89.6	95.1	93.3	93.3	91.7	86.1	89.3	89.8
8. This lecture has improved my critical thinking.	74.1	77.4	89.1	83.2	88.3	91.7	90.3	90.2	91.3	91.4	89.9	90.8	89.4	74.1
9. There was much student participation in this lecture.	91.0	89.7	95.8	93.9	94.3	95.9	91.0	96.4	96.1	95.8	93.9	88.7	91.7	91.0
10. There were many opportunities for reflection in this lecture.	83.9	89.5	88.2	90.1	96.3	92.7	95.6	94.8	93.3	91.9	91.6	93.0	93.3	83.9
11. This lecture is helpful to my personal development.	83.8	88.9	87.7	89.9	95.0	93.6	96.0	94.2	93.6	94.4	93.2	94.6	93.5	83.8
12. The lecturer had a good mastery of the lecture material.	95.4	94.9	96.3	95.8	96.3	96.9	96.8	97.4	96.7	96.9	95.0	96.6	96.4	95.4
13. The lecturer used different methods to encourage students to learn.	95.8	93.6	96.5	95.4	96.5	96.9	96.6	97.4	95.9	96.3	95.7	94.2	94.7	95.8
14. The lecturer in this lecture was able to help students understand the knowledge covered in the lecture.	93.9	94.8	95.8	95.6	96.5	96.6	96.9	96.1	96.7	96.3	96.1	95.8	95.8	93.9
15. Overall speaking, I have very positive evaluation of the lecturer in this lecture.	96.8	94.7	96.8	96.3	96.8	96.7	97.5	97.4	96.7	96.3	96.2	95.5	96.7	96.8
16. Overall speaking, I have very positive evaluation of this lecture.	90.5	90.5	95.1	92.8	96.0	96.0	96.4	96.1	95.8	95.4	95.2	94.9	95.4	90.5
Coefficient alpha for the 16-item scale	.94	.94	.95	.95	.95	.96	.95	.96	.96	.96	.96	.96	.97	.95
Mean inter-item correlation	.50	.51	.55	.55	.57	.57	.57	.59	.61	.63	.63	.61	.65	.58
Number of questionnaires collected	929	893	905	890	850	799	845	776	764	837	894	877	847	11,106

Note: The cumulative percentage based on "Strongly Agree", "Agree", and "Slightly Agree" for an item is presented for each lecture.

Table 3. Pattern matrix for the 14 items on different aspects of the lecture

Item	Subject Attributes	Lecture Attributes	Teacher Attributes
1. The design of this lecture was very good.	.742	.643	.618
2. The classroom atmosphere of this lecture was very pleasant.	.606	.816	.530
3. This lecture increased my awareness of the importance of self-development	.814	.507	.572
4. This lecture has improved my problem-solving ability	.850	.466	.454
5. This lecture has improved my understanding of importance of attributes of successful leaders (e.g., critical thinking, moral competence)	.745	.460	.536
6. This lecture has improved my interpersonal communication skills.	.784	.622	.485
7. There was much peer interaction amongst the students in this lecture.	.518	.852	.453
8. This lecture has improved my critical thinking.	.822	.526	.474
9. There was much student participation in this lecture.	.496	.855	.504
10. There were many opportunities for reflection in this lecture.	.718	.533	.579
11. This lecture is helpful to my personal development.	.827	.508	.586
12. The lecturer had a good mastery of the lecture material.	.439	.454	.797
13. The lecturer used different methods to encourage students to learn.	.524	.440	.843
14. The lecturer in this lecture was able to help students understand the knowledge covered in the lecture.	.600	.477	.841
Eigenvalue	8.51	1.04	1.24
Variance Explained (%)	53.26	6.49	7.74

Table 4. Predictors of global evaluation of teacher and lecture

Analyses	Lecture													
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	Overall
DV: Global perception of the Teacher														
Subject	.18	.23	.21	.16	.22	.19	.25	.14	.09	.23	.19	.24	.15	.18
Lecture	.18	.12	.16	.18	.08	.16	.03	.16	.17	.09	.02	-.02	.14	.12
Teacher	.48	.51	.50	.52	.57	.51	.57	.59	.60	.56	.65	.65	.59	.56
R Square	.54	.60	.63	.63	.65	.63	.64	.68	.64	.68	.68	.69	.68	.64
DV: Global perception of the Lecture														
Subject	.49	.50	.37	.50	.47	.30	.42	.32	.39	.41	.38	.59	.41	.44
Lecture	.19	.09	.25	.14	.16	.22	.14	.22	.14	.10	.13	-.04	.10	.14
Teacher	.22	.26	.27	.23	.25	.36	.32	.37	.33	.37	.37	.29	.37	.30
R Square	.62	.58	.64	.64	.65	.65	.65	.68	.65	.68	.68	.64	.69	.65
Number of questionnaires collected	929	893	905	890	850	799	845	776	764	837	894	877	847	11,106

Note: All $p < .001$.

Discussion

There were three objectives of the study. First, it attempted to investigate students' perceptions toward

the subject, teacher, and lecture of a university subject "Tomorrow's Leaders." Second, the study examined reliability of the subjective outcome evaluation form. Third, it examined the relative impact of the subject,

teacher and lecture attributes on students' overall evaluation of the teacher and lecture. There are three strengths of this study. First, a large sample size was employed. Second, post-lecture evaluation was examined over a series of lectures. Third, as few studies have been conducted to examine post-lecture evaluation of credit-bearing leadership subjects, this is a pioneer attempt in the field.

Generally speaking, findings collected using the subjective outcome evaluation form revealed that students had positive perceptions toward the subject, teacher, and lecture attributes. Students reported that the subject was well designed and had positive impact on their development in terms of leadership as well as intrapersonal and interpersonal competencies. Moreover, they had the opportunity to engage in self-reflection. Students participated actively in class and interacted with their peers. They also appreciated the teachers' use of different pedagogical methods and effort to help students learn and engage in the lectures. These findings are consistent with previous studies conducted by Shek and colleagues (27,28) using similar evaluation methods. These findings provide sound evidence for the effectiveness of the subject in promoting undergraduates' holistic development and enhancement of students' interpersonal and interpersonal competencies and leadership skills.

Aleamoni (29) observed that most faculty or student generated rating forms have not been developed meticulously by professionals, and warned that the reliabilities of such scales are low and any results yielded from such forms should be negated completely. As the subjective outcome evaluation scale used in the current study yielded high reliabilities, it is suggested that the findings can be interpreted in a reliable manner. Furthermore, according to Algozzine and colleagues (30), if student evaluations are to be used to improve instruction, it is unlikely that an overall rating will provide useful information. The authors asserted that "grouping items by factors may be the best method of providing meaningful feedback to instructors... reporting a global score does not provide specific feedback that would allow an instructor to change specific behaviors" (p. 135). As such, another aim of the study was to examine the factor structure of the subjective outcome evaluation scale. Our results provide strong

evidence for the three factor structure (i.e., subject, teacher, and lecture) of the evaluation tool. In fact, Berkel et al. (31) criticized that existing "program evaluations have rarely examined more than one dimension in a single study and thus have not untangled possible relations between them" (p. 24). In response to Berkel and colleagues' (31) criticism, the present subjective outcome evaluation form is a useful tool for researchers to conduct studies to investigate the relations between subject, teacher, and lecture attributes.

Another aim of the study is to examine whether the subject, teacher, and lecture attributes predicted students' overall satisfaction toward their teacher and the subject. Findings revealed that all three factors positively predicted students' global evaluation of their teacher and subject, highlighting the importance of these attributes. First, subject attributes yielded as a significant predictor of students' global evaluation of both the teacher and subject. These findings are in line with overseas studies which highlight the importance of curricular design to students' learning. Karns (32) examined undergraduate students' preferences of learning activities and found that students nowadays value activities that are challenging, enjoyable, and applicable to real world settings. It is suggested that value-added learning activities are those that give students "opportunities to express themselves, to make decisions, to enjoy the camaraderie of their peers, and to improve their employability ... (teachers should) help students see the alignment between the course design [learning goals and learning activities] and the students' own goals for their futures" (p. 170).

Indeed, a unique feature of the subject "Tomorrow's Leaders" is its emphasis on experiential learning (5). Activities are carefully designed to enable students to learn, apply, and reflect on their intrapersonal and interpersonal competencies. The significant relationships between the subject design and students' overall satisfaction provide evidence to support active and experiential learning pedagogies. Furthermore, the findings also showed that Hong Kong students value subjects that help them develop, learn to apply, and reflect on their intrapersonal and interpersonal skills, and preparing them for post-graduation life. This has important implications for the promotion of holistic development in

undergraduate students. Equipping students with self-directed and life-long learning attitudes and skills is complex and require deep learning.

Moreover, lecture attributes were found to predict students' overall satisfaction toward the teacher and lecture. According to Nerentz and Knop (33), the effectiveness of a course depends on how often students are engaged with the content. "Tomorrow's Leaders" encourage student participation and adopts an active pedagogy of cooperative learning, where students are assigned to work in small groups. It is believed that students will benefit and learn from interactions with his/her environment and peers (34). Cooperative learning methods "strive to create group situations that will foster support and feedback systems while developing decision making, problem solving, and moreover, general social interaction skills" (35, p. 5). This is closely aligned with the objectives of general education. Moreover, cooperative learning has important values for adolescents in this time and age, especially in Hong Kong. According to Shek's (36) analysis of ecological factors contributing to students' problem behaviors, there are many nuclear families (i.e., with few children) in Hong Kong, therefore youngsters lack the opportunity to practice their interpersonal skills (e.g., conflict resolution, communication, empathy) making them more vulnerable in face of adversities. As such, giving students the opportunity to cooperate and interact with others in a university setting is crucial for their healthy development.

Furthermore, teacher attributes were predictive of both subject and teacher evaluations. Riley (37) believed that high quality teaching can help students learn to their full potentials. Particularly, teachers should be well-qualified, caring, committed to teaching, and responsive. Indeed, our findings support the importance of teacher attributes (e.g., mastery of materials, use of encouragement and different teaching methods in class) to student learning. Prossner (38) argued that "quality teaching in higher education is teaching which affords high quality student learning" (p. 27). Student learning outcomes are a function of both students' and teachers' characteristics and approaches. Our present findings further contribute to provide a theoretical framework to understand and investigate high quality teaching

and learning by underscoring the important roles of subject, teacher, and lecture attributes.

In spite the positive findings and implications arising from this study, there are limitations to how one should interpret the present findings. As outcomes solicited are subjective in nature, it is important to collect objective outcome evaluation data. In order to investigate whether students had objective changes upon completion of the subject, a pre-test post-test experimental design should be adopted. Furthermore, as our study utilizes a quantitative methodology, a mixed methods design including qualitative methodologies such as focus groups, in-depth interviews, and reflections should be used to triangulate findings. Moreover, as students were the only informants, evaluations should also be conducted with teachers and peers to gain a better understanding of the impact of the subject based on different perspectives. Furthermore, as only internal consistency and factorial validity were included in this study, there is a need to understand other aspects of the psychometric properties of the scale. Lastly, as evaluation findings were collected at the end of each lecture, an overall evaluation of the learning outcomes of the course as a whole would provide additional evidence to support the subject effectiveness. In fact, other studies adopting different evaluation strategies have been published elsewhere to provide a more holistic picture (39-43).

Despite the above limitations, this study has unique contributions. First, the findings provided support for the effectiveness of the subject "Tomorrow's Leaders" in the promotion of holistic development and leadership in undergraduate students. Since "no university in Hong Kong requires undergraduate students to take courses on intra- and interpersonal development, civic responsibilities and citizenship..." (44, p. 570) with the exception of The Hong Kong Polytechnic University, other tertiary institutions may model after the subject and consider the inclusion of similar subjects in their general education curriculum. The promotion of leadership skills and the nurturing of intrapersonal and interpersonal competencies are crucial for students both locally and globally. Second, the subjective outcome evaluation scale supports a three-factor structure with high reliabilities. Thus, the subjective outcome evaluation form may be used as an

evaluation tool for similar programs. Lastly, findings from this study underscore the importance of curricular design, teachers and lecture environment on student learning to provide insight in the development and evaluation of subjects aimed at developing students' leadership, intrapersonal and interpersonal skills, in and outside of Hong Kong.

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