

# Process evaluation of a positive youth development course in a university setting in Hong Kong

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## Abstract

To understand the implementation quality of a general education course at The Hong Kong Polytechnic University, process evaluation was carried out for 14 lectures, with each lecture being observed by two observers. Results showed that the average level of program adherence was high (85.71%). High implementation quality of the program in the areas of student interest, classroom control, use of interactive delivery method, use of strategies to enhance student motivation, opportunity for reflection, degree of achievement of the objectives, quality of preparation, overall implementation quality and success of implementation was observed. Results also showed that different aspects of the program implementation contributed to the high quality and success of the program. The present findings provide support for the implementation quality of the course in a university setting.

**Keywords:** Chinese adolescents; leadership; process evaluation; psychosocial competencies; university students.

## Introduction

In the field of education, when a course, such as a language enhancement program or life skills training program is

designed, one common question to be asked is whether the program is effective. There are many ways to evaluate the outcomes of an education program. For objective outcome evaluation, designs such as the one-group pretest-posttest designs or randomized group trials are commonly used. Subjective outcome evaluation or a client satisfaction approach is also routinely adopted to assess program effects. While it is important to evaluate outcomes of a program, it is equally important to examine the quality of program implementation (i.e., process evaluation). Nevertheless, in comparison to outcome evaluation, there are comparatively fewer studies on process evaluation in education and welfare settings.

Process evaluation is “the use of empirical data to assess the delivery of programs .... Process evaluation verifies what the program is, and whether or not it is delivered as intended to the targeted recipients and in the intended dosage” [(1), p. 40]. Unfortunately, a survey of the literature shows that there are few research studies documenting program implementation and procedures of fidelity. For example, with particular reference to public health studies, Linnan and Steckler (2) commented that there is “a plethora of reports about interventions that have successful outcomes. A limited number of studies, however, disentangle the factors that ensure successful outcomes, characterize the failure to achieve success, or attempt to document the steps involved in achieving successful implementation of an intervention” (p. 1). Domitrovich and Greenberg (3) further reported that among the effective prevention programs under review, only roughly one-fifth examined whether the effective intervention was related to outcomes. In a meta-analysis of evaluation studies of prevention programs, Dane and Schneider (4) found that only roughly one-quarter of the evaluation studies under review documented procedures of fidelity.

There are several reasons for conducting process evaluation (1). First, as program failures may be the result of undesirable implementation process, process evaluation can guard against Type III error (i.e., failure to find program effect because of failure to follow the program protocol). Second, process evaluation can give information about whether the intended targets receive the program. Third, process evaluation can give some ideas about whether the program is delivered as intended. In a study of factors associated with fidelity in substance use prevention curriculum guides, Ringwalt et al. (5) found that one-fifth of the workers implementing the program did not use the curriculum guide at all and only 15% of them followed very closely. Fourth, process evaluation can help to identify factors that contribute to program success. Finally, program developers can use process evaluation findings to understand how the developed program can be successfully implemented in human organizations and

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communities which are always complex in nature. Weinbach (6) also asserted that process evaluation provided some invaluable insights about a program that might be overlooked by the program developers and it explains how a program generally works.

A survey of the literature shows that there are many variables related to the outcomes of youth educational programs, such as varied teaching methods (i.e., use of a wide range of teaching methods that facilitate learning), participants' positive relationships with adults (e.g., worker), and dosage (7). For example, Harachi et al. (8) found that instructional strategies, such as proactive classroom management, cooperative learning methods, strategies to enhance student motivation, student involvement and participation, reading strategies, and interpersonal and problem-solving skills training were related to student social competencies. Similarly, Tobler et al. (9) showed that higher peer interaction was conducive to program success and that the delivery method instead of the program content determined the success of the program.

In a series of studies examining process evaluation of a positive youth development program in Hong Kong, Shek and Sun (10) showed that a number of factors facilitated program implementation: collaboration between school and social work agency, adequate support from social work agency, co-teaching, good preparation before teaching, varied teaching techniques, worksheets being handed in and kept in student folders, checking of student assignments, giving feedback, good communication, good debriefing, continuous assessment of student learning, good support from teaching assistant, good teacher-student relationship, good time management, briefing provided for untrained teachers and continuous quality improvement. On the other hand, there are several factors inhibiting program implementation. These include insufficient time to run the program, no periodic updating of the teaching materials, absence of long-term follow-up for students, resistance from program implementers because of additional coordination work and problems caused by the involvement of several parties in school.

A review of literature further indicates that the following program attributes can affect the quality and success of the positive youth development program implementation (11):

1. *Student interest*: A good program usually arouses the interest of students.
2. *Active involvement of students*: There is a positive relationship between students' active involvement and achievement of program objectives.
3. *Classroom management*: Good classroom management is always a prerequisite for program success.
4. *Interactive delivery method*: Relative to didactic method, interactive delivery is more effective at achieving success in positive youth development programs.
5. *Strategies to enhance the motivation of students*: The use of varied learning strategies can motivate students to engage and lead to positive learning outcomes.
6. *Positive feedback*: The use of praise and encouragement can increase the motivation of students.
7. *Familiarity of implementers with the students*: When implementers are familiar with the students, it is easier to engage them.
8. *Reflective learning*: A higher level of reflection promotes deeper learning, which can lead to meaningful changes and growth among the students.
9. *Program goal attainment*: The goals in successful programs are usually attained.
10. *Time management*: Efficient time management in class always contributes to high program adherence and program success.
11. *Familiarity of program implementers with the implementation materials*: Familiarity with the materials ensures that the messages are conveyed effectively to the students.

In response to the worrying developmental issues in university students, a general education course entitled "Tomorrow's Leaders" was designed by the first author at The Hong Kong Polytechnic University (12, 13). The objectives of the course are: (a) to enable students to learn and integrate theories, research and concepts of the basic personal qualities (particularly intra- and interpersonal qualities) of effective leaders; (b) to train students to develop and reflect on their intra- and interpersonal qualities; (c) to promote the development of an active pursuit of knowledge on personal qualities in leadership amongst students. On successfully completing this subject, students will be able to: (a) understand and integrate theories, research and concepts on the basic qualities (particularly intra- and interpersonal qualities) of effective leaders in the Chinese context; (b) develop self-awareness and understanding of oneself; (c) acquire interpersonal skills; (d) develop self-reflection skills in their learning; and (e) recognize the importance of and practise active pursuit of knowledge on intra- and interpersonal leadership qualities. A pilot course was conducted to test out the developed curriculum, with a total of 268 students in four classes participating in the course.

To assess the effectiveness of the course, several evaluation mechanisms were used. In the first place, a one-group pretest-posttest design (n=50) was used to examine changes in the participants (14). Second, post-lecture subjective outcome evaluation was carried out. At the end of each lecture, students were invited to respond to a subjective outcome evaluation form on their perceptions of the lecture content and other views. A total of 2039 questionnaires were collected for the 14 lectures throughout the course. Third, at the end of the course, students were invited to respond to a subjective outcome evaluation form (15) including items assessing their perceptions of the course, the lecturer and their perceived effectiveness of the course (i.e., post-lecture subjective outcome evaluation). Fourth, qualitative evaluation was carried out by inviting the participating students to reflect on the course (n=189) and five focus group interviews were carried out.

Apart from the above evaluation methods focusing on program outcomes, to understand the implementation process

involved is equally important. Therefore, two research questions were asked in this study: (a) What was the overall implementation quality of the course entitled “Tomorrow’s Leaders” at The Hong Kong Polytechnic University?; (b) What were the correlates of program implementation quality and program success for this course? As such, the present study has two purposes: (a) to understand the program implementation quality in the implementation process in terms of program adherence, process factors, program quality and success; and (b) to explore factors contributing to the overall quality and success of the course.

## Methods

The proposed subject was piloted in the second term of the 2010/11 school year. The subject was offered to four classes, with a total of 268 students (65 in Class A, 68 in Class B, 66 in Class C and 69 in Class D). In these classes, process evaluation was conducted in 14 lectures. There were eight observers involved in the process evaluation. The observers were registered social workers with working experience in positive youth development programs. During the observations, each colleague observed how the lecture was carried out and completed a rating form covering four major areas, including background information, integration with the curriculum, program adherence and fidelity, and quality of program delivery independently. The observers evaluated the quality of delivery in terms of 13 areas including: student interest, student participation and involvement, classroom control, use of interactive delivery method, use of strategies to enhance student motivation, use of positive and supportive feedbacks, instructors’ familiarity with the students, opportunity for reflection, degree of achievement of the objectives, time management, quality of preparation, overall implementation quality, and success of implementation (see Appendix 1). For program adherence and fidelity, the observers rated the degree of adherence and recorded the time used to implement the unit. The observation form has been used in several process evaluation studies in Hong Kong (16–18). The observers were required not to discuss with each other during the process so that they would be “blind” to the ratings of the partner when they completed the observation forms.

## Results

For every lecture, the mean ratings for each item by the two independent observers were first calculated. To obtain an overall picture, scores for each item across all lectures were further averaged. The 13-item process evaluation scale was found to be internally consistent (Cronbach’s  $\alpha=0.94$ , mean inter-item correlation=0.55). Regarding the ratings for the quality of delivery, results in Table 1 revealed that the quality of implementation as assessed by the two observers was generally high. A further examination of the table showed that except for familiarity with the students, the mean ratings in different areas were generally high. Both observers regarded the program implementation as successful. In particular, the average overall adherence to the developed curriculum was 85.71%, indicating rather high program fidelity. For units where modifications had been made, the observers regarded the changes as reasonable. As the ratings of the observers were averaged, it is necessary to know whether the ratings were reliable. Based on the overall adherence ratings across the 14 lectures, Pearson correlation analyses showed that the ratings across the two observers in the observed lecture ( $n=14$ ) were moderately correlated (Spearman’s  $r=0.56$ ,  $p<0.05$ ).

Concerning correlates of program implementation quality and program success (Table 2), results showed that except student participation and involvement and familiarity with students, student interest, classroom control, use of interactive delivery method, use of strategies to enhance student motivation, use of positive and supportive feedbacks, opportunity for reflection, degree of achievement of the objectives, time management, and quality of preparation were significantly related to overall implementation quality and/or success of implementation. In view of the small sample size, the findings could be regarded as robust.

## Discussion

This paper attempts to examine program adherence and quality of implementation of a general education course

**Table 1** Descriptive findings on the different dimensions of process evaluation.

Item and adherence	Mean rating by Rater 1 across 14 lectures under observation	Mean rating by Rater 2 across 14 lectures under observation	Overall mean rating
1. Student interest	5.43	5.07	5.25
2. Student participation and involvement	5.43	5.14	5.29
3. Classroom management	5.57	5.29	5.43
4. Interactive delivery method	5.29	5.71	5.50
5. Strategies to enhance student motivation	4.93	5.29	5.51
6. Use of positive and supportive feedbacks	5.00	5.36	5.18
7. Lecturer’s familiarity with the students	4.29	4.57	4.43
8. Opportunities for reflection	5.64	5.36	5.50
9. Achievement of lecture objectives	5.29	5.21	5.25
10. Time management	5.21	5.00	5.11
11. Lecture preparation	5.64	5.57	5.61
12. Overall implementation quality	5.36	5.43	5.39
13. Success of implementation	5.21	5.21	5.21
Adherence	83.43	88.00	85.71

For items 1–13, a seven-point (1–7) rating scale is used, with a higher score indicating better implementation quality.

**Table 2** Correlation between different dimensions of program implementation and adherence and overall program implementation quality and success.

Measures	Overall implementation quality	Overall implementation success
1. Student interest	0.24 ns	0.62 <sup>a</sup>
2. Student participation and involvement	0.04 ns	0.45 ns
3. Classroom management	0.63 <sup>a</sup>	0.67 <sup>b</sup>
4. Interactive delivery method	0.46 ns	0.55 <sup>a</sup>
5. Strategies to enhance student motivation	0.69 <sup>b</sup>	0.79 <sup>b</sup>
6. Use of positive and supportive feedback	0.61 <sup>a</sup>	0.55 <sup>a</sup>
7. Lecturer's familiarity with the students	0.30 ns	0.47 ns
8. Opportunities for reflection	0.62 <sup>a</sup>	0.39 ns
9. Achievement of lecture objectives	0.82 <sup>c</sup>	0.83 <sup>c</sup>
10. Time management	0.76 <sup>b</sup>	0.58 <sup>a</sup>
11. Lecture preparation	0.63 <sup>a</sup>	0.39 ns
12. Adherence	0.78 <sup>b</sup>	0.70 <sup>a</sup>

<sup>a</sup> $p < 0.05$ . <sup>b</sup> $p < 0.01$ . <sup>c</sup>ns, not significant.

entitled “Tomorrow’s Leaders” offered at The Hong Kong Polytechnic University via systematic observations of 14 lectures delivered in four classes of students. Despite the small number of observations ( $n=14$  lectures), the 13-item rating scale for process evaluation was found to be highly reliable. For the descriptive findings, two conclusions can be drawn. First, results showed that the overall degree of adherence to the teaching units assessed by the two observers was on the high side. Second, the two observers perceived that the objectives of the units implemented could be achieved and the overall quality of implementation was high. Different aspects of the program were perceived to be very positive, including students’ interest and involvement, classroom management and teaching strategies used by the instructors, and students’ reflection in the course. Nevertheless, there were three areas that had relative low mean scores. The first area was the use of positive and supportive feedbacks. Second, the mean rating in time management was relatively low. The third area was teacher’s familiarity with the students. Obviously, these issues are useful reference points for program refinement and design of training provided to the instructors before they implement the program.

Regarding the correlates of program implementation quality and success, results showed that except student participation and involvement and familiarity with the students, all nine aspects were correlated with overall implementation quality or program success. There are several points that should be noted when the findings are interpreted. First, because of the relatively large class size and time constraint, student participation and familiarity with the students may not vary a lot (i.e., spread of the scores may not be great), therefore contributing to the non-significant findings. Second, the magnitude of the non-significant correlation coefficients was not small. Third, in view of the small sample size, the findings could be regarded as impressive. Finally, these findings are consistent with the existing literature on process evaluation (16–18).

There are several limitations of the study. First, only 14 lectures were observed. Obviously, it would be desirable to include more lectures for observations in future. Second,

different observers were involved in this study, and it would be helpful if the same two observers could consistently participate in the observations. Nevertheless, it is noteworthy that inter-rater reliability of the two observers on program adherence was moderately high. The above two limitations were mainly because of manpower constraints in the pilot period, which could be improved with more resources available in further studies. Third, besides the evaluative dimensions adopted in this study, additional dimensions, such as the degree of collaborative learning and degree of care exercised by the instructor should be included. Finally, one must be cautious to generalize the present findings because observations were carried out at a single time point only. Apparently, observations at multiple time points would offer a more comprehensive picture regarding the implementation quality of this course. Despite these limitations, the present results in conjunction with previous research findings (16–18) suggest that the quality of implementation of “Tomorrow’s Leaders” was high and the course was able to promote psychosocial competencies in the students taking this course. Also, the study underscores the value of utilizing positive youth development programs in Hong Kong (19–25). Because there is a lack of programs promoting quality of life in Chinese adolescents (26, 27), the present study is a significant addition to the literature.

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## Conflict of interest statement

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## Appendix 1

### Assessment form for program adherence and program implementation quality

#### Program Adherence and Implementation Quality

Instructions:

1. Please fill in all the names of the activities and its expected duration in chronological order as specified in the curriculum manual.
2. Please tick 'none' if the activity was not carried out at all.  
Please tick 'all' if the activity was carried out with strict or high degree of adherence to the planned curriculum.  
Please tick 'part' if the activity was modified, and please specify the modifications, for instance: alteration of teaching strategies, omission of key points or role plays, discussions etc.

Activity	Adherence to planned curriculum			Original scheduled time, min	Actual time, min
	None	Part (estimated %) (specify modifications)	All		
1.					
2.					
3.					
4.					
5.					
6.					
7.					

Overall, the estimated degree of adherence to the planned curriculum is —%.

#### Assessment of curriculum delivery

1. STUDENT INTEREST						
How interested were the students in this unit?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
None or very few were interested			Half were interested		All or nearly all were interested	
2. STUDENT PARTICIPATION AND INVOLVEMENT						
To what extent did the students participate in class activities?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
None or very few participated			Half participated		All or nearly all actively participated	
3. CLASSROOM CONTROL						
To what extent was the class well controlled?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Very poorly controlled			In-between		Very well controlled	
4. INTERACTIVE DELIVERY METHOD						
How interactive was the delivery method?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Not interactive at all			Half interactive		Very interactive all the time	

<b>5. STRATEGIES TO ENHANCE STUDENT MOTIVATION</b>						
To what extent were motivating strategies used to motivate the students?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
No motivating strategies at all			Half the time			Motivating strategies all the time
<b>6. USE OF POSITIVE AND SUPPORTIVE FEEDBACKS</b>						
How often were positive and supportive feedbacks elicited from the students?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Not at all			Half the time			All or nearly all the time
<b>7. INSTRUCTORS' FAMILIARITY WITH THE STUDENTS (have to ask the instructors)</b>						
To what extent the instructor knew the students?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Not at all			Average			Very well
<b>8. OPPORTUNITY FOR REFLECTION</b>						
To what extent was reflection encouraged?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Not at all			Half the time			All or nearly all the time
<b>9. EVALUATION OF THE DEGREE OF ACHIEVEMENT OF THE OBJECTIVES</b>						
To what extent were the objectives achieved?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Not achieved at all			In-between			All or nearly achieved
<b>10. TIME MANAGEMENT</b>						
How well was the time managed?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Very poorly managed			In-between			Very well managed
<b>11. LESSON PREPARATION</b>						
How well was the lesson prepared?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Poorly prepared			In-between			Very well prepared
<b>12. OVERALL IMPLEMENTATION QUALITY</b>						
Overall, do you think the quality of implementation of this unit was high?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Very low			Average			Very high
<b>13. SUCCESS OF IMPLEMENTATION</b>						
Overall, do you think the implementation of the program was successful?						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5	6	7
Very unsuccessful			Average			Very successful

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