

The Implementation of Project-based Learning: A Study in Two Hong Kong Secondary English Classrooms

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Project-based learning (PBL) has been receiving more and more attention in recent years. In the English classroom, however, PBL is often looked upon as a taxing and daunting task. This study investigates the implementation of PBL in two Hong Kong secondary English classrooms. Data was collected from students' diary entries, post-project reflections, post-study interviews, as well as pre- and post-questionnaires. The results showed that PBL was generally well received by students, and that it opened up valuable learning opportunities that integrated content knowledge and language development. Students felt that they had benefited a great deal from the opportunities provided for them to take greater control of their learning, though they also noted problems in collaboration with others. The paper ends with some recommendations that would help interested teachers to implement PBL in their own classroom.

Project-based learning (PBL) is an instructional approach that contextualizes learning by presenting students with problems to solve or questions to answer. Beginning with a driving question, PBL is "an in-depth study of a particular topic ... an investigation – a piece of research that involves children in seeking answers to questions" (Katz & Chard, 2000, p. 2). Students are actively engaged in the process of research, during which they collect, analyze and

present their findings. PBL, which is collaborative by nature, develops cognitive skills, such as posing questions, developing a work plan, collecting and analyzing data, and drawing conclusions (Diaz-Rico, 2004). It takes advantage of students' capacity to work meaningfully with others, innate quest to learn, and need to be taken seriously.

PROJECT-BASED LEARNING

PBL has strong theoretical support from constructivist learning theory, which maintains that learners have an active role to play in constructing their own knowledge. In PBL learners are encouraged to make connections between their prior knowledge and new knowledge. When the new knowledge does not fit within their pre-existing framework, disequilibrium (Piaget, 1952) occurs, which provokes deeper thinking and learning, resulting in expansion of existing schema (Fosnot, 1996). Another theoretical support for PBL is based on social constructivism. Vygotsky (1978) maintains that when we use mediational means, such as verbal language and visual arts, to represent ideas and concepts, we are likely to reflect on and develop new perspectives. PBL, which culminates in learners' production of an artifact created out of different mediums, would enable students to develop reflectivity and broaden their perspectives. Vygotsky's zone of proximal development is particularly pertinent to PBL, since during the process of project learning, students interact with their peers, sometimes peers who are more knowledgeable. As Vann and Fairbairn (2003) say, students "learn best when challenged to work beyond their current levels, but to do so with support and assistance" (p. 11) – i.e. scaffolding.

As a pedagogical tool, PBL carries a myriad of benefits. It encourages learners to take responsibility for their learning and the results of their inquiry. During the process of collaborative learning, students may have different viewpoints. They have to learn to negotiate with others to set goals, to work out an action plan, and to divide their work. They also have to discuss what

information to collect and how to collect it, how to design instruments for gathering data, how to present and analyze information, and how to present the final product. All these involve higher-order thinking skills. PBL is thus an “excellent preparation for real life, and for real language use” (Diaz-Rico, 2004, p. 378). It places students in “realistic, contextualized problem-solving environments” that serve to “build bridges between phenomena in the classroom and real-life experiences” (Blumenfeld et al., 1991, p. 372). In terms of language learning, PBL provides students with “learning opportunities” that give them plenty of “access to favorable learning conditions ... likely to lead to an increase in language knowledge or skill” (Crabbe, 2003, p. 18). Students have to engage in meaningful communication to look into the project topic, to negotiate with their peers, to get things done, to collect data, to process and analyze data, etc. By encouraging learners to seek out learning opportunities, teachers provide a language-rich environment which not only enables learners to develop language skills but also helps foster learner autonomy. In the second or foreign language classroom, however, one major difficulty lies in finding ways to encourage and maximize the use of the target language. If students often switch to their mother tongue during PBL, the benefits in terms of learning the target language would be greatly reduced.

Despite the benefits PBL can bring to learners, this approach to learning is not without problems. One of the most thorny issues is how to get teachers to use PBL. With all innovative ideas in education, there is always the problem of teachers not adopting them in the classroom. Take Hong Kong as an example. Although PBL is considered an important component in the English language curriculum, as a pedagogical approach, it is often looked upon as taxing and daunting by practicing teachers (see Lee, Li & Lee, 1999). For one thing, there is a scarcity of tailor-made project materials that are suitable for Hong Kong students (see Allison & Lee, 1990; Lee, Li & Lee, 1999). Added to this is the fact that many teachers lack the experience and training to conduct PBL in their own classroom (see Lee, 2003), not to mention the fact that the majority may be discouraged by their existing heavy workload and the additional workload entailed by PBL. Another problem is that PBL

requires teachers to adopt roles they are not familiar with. For those who are used to a teacher-fronted style of teaching, using a project approach is particularly difficult, since the teacher has to play the role of the facilitator most of the time. In terms of organization and administration, project learning, which is likely to involve outside-the-classroom work, is doubly demanding for teachers. The complexity of preparation and organization involved in PBL can frustrate teachers, especially those with little experience in organizing projects.

For the learners on the receiving end, PBL also presents a number of problems. For ESL/EFL students in particular, motivating them to do projects is not easy. Just as it is important to help and support teachers in implementing projects, it is equally if not more important to support students by motivating them and sustaining their interest throughout PBL. In Hong Kong, students are often characterized as passive and unmotivated in learning English (Farmer, 1994; Pierson, 1996; Tibbetts, 1991), with many of them preferring a traditional, transmissive style of instruction (Pierson, 1996; Rao, 2002). The emphasis on experiential learning through PBL opens up a totally new dimension for students (Carter & Thomas, 1986), which may be discomforting for them. In PBL, students are required to engage in active learning and can no longer be mere passive recipients of a body of knowledge imparted by teachers. They can no longer rely solely on the teachers; they have to manage their own projects and take responsibility for their own learning. In terms of the learning of English, they cannot simply regurgitate structural rules in English but have to use English to achieve different purposes. They have to practise a variety of life skills during project learning. And if these have to be carried out in English, it would present extra difficulties from the student point of view, particularly for students with poorer motivation and lower proficiency level. Putting aside the issue of the use of the target language, a fundamental problem in Hong Kong, as in other places where English language learning is intricately bound up with an exam-oriented culture, is that projects are often perceived as totally unconnected with examinations. Although students are aware that PBL is likely to result in less boring and

less conventional English lessons, the need to get good examination results may override the desire for more interesting learning experience. Hence, students may adopt a resistant and recalcitrant attitude towards PBL. If PBL is to be implemented successfully, therefore, more attention should be paid to the preparation and implementation of PBL from the student perspective, including the linguistic and cognitive demands presented by PBL, the complexity of project organization, and the need to motivate and support students throughout the project learning process.

THE STUDY

Rationale and Context

Given the importance of teacher and student support in PBL, it is thought that collaboration between school teachers and university teachers through a university-school partnership may provide a good impetus for the implementation of PBL. Such kind of partnership would bring benefits to all the three parties concerned, i.e., university teachers, school teachers and students. The opportunity to work with frontline teachers and students in the real classroom would give teacher educators (i.e., university teachers) first-hand knowledge of how PBL can be effectively implemented in the classroom. The help and support given to teachers would help them implement PBL more effectively, so that students on the receiving end could enjoy and benefit from the process of learning.

With this perspective in mind, in the summer of 2002, the researcher conducted an in-school staff development seminar on “Project work in the English classroom” in a secondary school in Hong Kong. After the seminar, a partnership was formed between the researcher and two English teachers teaching Form 3 (i.e., Grade 9) in the school. In Hong Kong, Form 5 students participate in a high-stake public examination (Hong Kong Certificate of Education Examination, known as HKCEE), and it is not uncommon for

teachers to start preparing students for HKCEE starting Form 4. Therefore, Form 3 is regarded as an “optimal” year for trying out innovative ideas, since students are not yet pressurized by HKCEE. The small number of teachers who participated in this study reflects the bottom-up approach of collaboration sought by the researcher, which involved entirely voluntary teacher participation. The two teachers in the study expressed a keen interest to find out more about the implementation of PBL in the classroom. It was clear to both the researcher and the teachers that the purpose of the partnership was to implement a project cycle in the two Form 3 classrooms that the two English teachers each taught in the academic year 2002-3.

The participating school is a Band One school, which implies that students generally belong to the high ability group, since Hong Kong secondary schools are streamed according to student abilities into three bands, Band 1 being the top. It is expected that students in Band One schools possess a good level of English proficiency, though the fact that the school is in the New Territories may suggest that the students’ English abilities may not be as good as those of their counterparts on the Hong Kong Island and in Kowloon (Hong Kong mainly comprises Hong Kong Island, Kowloon and the New Territories). The school is a subsidized Christian school, which uses English as the medium of instruction. All content subjects, including English, are taught in the medium of English. Altogether, 77 students (aged between 14 and 15) from two Form 3 (i.e. Grade 9) classes participated in the study. They were described by the participating teachers as co-operative learners in general but not particularly motivated and enthusiastic about learning English.

As for the two English teachers who participated in the partnership, at the time of the study they had 15 and 7 years of teaching experience respectively. Although they are professionally and subject trained, both claimed that they did not know much about PBL, and therefore would like to acquire hands-on experience through the partnership. The English curriculum in Hong Kong secondary schools recommends the task-based approach, and at the time of the study, the participating school was using a task-based coursebook produced by a local commercial publisher. Despite that, the two teachers

admitted that their teaching approach was rather traditional and they did not often engage their students in group work. Both teachers said they had done small projects with students before, which were more or less like “tasks,” and they were not entirely sure if the “projects” they had done were real projects and whether they did it in the “right” way.

The researcher is a teacher educator at a Hong Kong university, working with both pre-service and in-service English teachers. It was the first time she had conducted PBL in partnership with school teachers.

Procedure

About three months before commencement of the project cycle, the researcher began her negotiations with the participating teachers, mainly with one of the teachers, referred to as the coordinating teacher in the rest of the paper. The discussions focused on the following:

1) Time frame

It was agreed that about 4 weeks would be spent on the project, beginning the second term of the school year (i.e., January 2003).

2) The project topic

Upon the coordinating teacher’s suggestion, a topic from the English coursebook (“Healthy lifestyle”) was chosen as the project topic. The main reason is that the other teachers teaching the same form not using a project approach would continue teaching using the coursebook. Instead of asking all students to work on the same topic, it was decided that each group would work on a different sub-topic – namely, “Diet,” “Exercise,” “Leisure and relaxation,” “Sleep,” “Stress,” and “Social relationship”.

3) Materials design

The project materials were drafted by the researcher, read by the coordinating teacher, and revised based on her comments and suggestions (the project materials consisted of 16 worksheets, a few handouts that

helped explain the project requirements and evaluation - see Appendices 1 and 2). Although it was suggested that the teachers could share the materials writing, the idea was turned down by the teachers on the grounds that they had no experience in project materials writing and that they were too busy with their teaching.

4) Evaluation criteria.

Finally, the evaluation criteria and instruments were developed by the researcher, read by the coordinating teacher and revised based on her comments (see an example of evaluation form in Appendix 3).

Before the project commenced, each student was given a project file that contained all the above materials. The participating teachers then devoted a total of 24 lessons to the project, giving students explicit input on some relevant project-related skills, such as Internet research, drafting questionnaires, how to collate and present data, and how to give oral presentations. Class time was allocated for teachers to conduct project progress review, where the teachers conferenced with each project group two times to review student progress, to comment on their work, and to answer questions from students. To encourage students to engage in reflective learning, at three different stages (before, during and after the project) they were asked to enter notes into their learner diaries (see Appendix 4). At the end of the project cycle, students were also asked to reflect on their learning process through an in-class group discussion (see worksheet in Appendix 5). Outside class, students conducted a questionnaire survey (either with schoolmates or outsiders) on their chosen topic as well as follow-up interviews with teachers to solicit their views of the topic.

Data

This paper aims to ascertain the effects of the project cycle on students' views of PBL as well as their perceptions and attitude regarding learning and English language learning. Both qualitative and quantitative data was

collected to throw light on the student perspective. The qualitative data consists of 1) students' individual reflections in their diary entries (Appendix 4); 2) student reflections (held in the form of oral discussion in their project group and summarized afterwards) (Appendix 5); and 3) interviews (in Cantonese) (see Appendix 6 for interview guide). Both the quantitative and qualitative data was collected from the 77 students participating in the study, except for the interviews, which were conducted with a random selection of 15 students. The quantitative data comprises the pre- and post-questionnaires (see Appendix 7) that asked about 1) students' attitude to project learning, 2) their learning of English and 3) their self-perception before and after the project respectively (Appendix 7). The learner diary data and post-study reflections were compiled and categorized according to the themes that arose. The interview data was translated, transcribed and categorized. The questionnaire data was analyzed using SPSS. Statistical testing (paired T-test) was performed on the pre- and post-questionnaires to find out if there was any significant differences between them.

RESULTS

This section first presents the qualitative data gathered from students' learner diaries, post-study reflections and the interviews, then followed by data from the questionnaires. Since there are overlaps between the different kinds of qualitative data, salient findings gathered from these three sources are summarized and presented.

Qualitative Data

What Students Enjoyed Most

From the learner diaries students wrote at the end of the project, the things students enjoyed most were:

The Implementation of Project-based Learning

- 1) Conducting questionnaire survey with classmates and interview with teachers (58%)
- 2) English language learning experience – e.g., learning new vocabulary, using English to ask questions (19%)
- 3) Group discussions – i.e. sharing ideas and thoughts in group discussions (15%)
- 4) Team work (8%)

The results gathered from their post-study reflections largely corroborate the results collected from the learner diaries. 66% of the students said they enjoyed the interviews most, followed by oral presentations (17%) and group discussions (17%). One student said in the post-study interview:

I didn't have any chance to speak English outside the classroom, and the interviews were fun.

Similarly, holding discussions in English was considered an exciting experience for them. One student remarked:

I like to express myself in English more.

What Students Enjoyed Least

From the learner diaries collected at the end of the study, the things students enjoyed least include:

- 1) Collecting data and analyzing data (85%)
- 2) Speaking in English (7%)
- 3) Team work (4%)
- 4) PBL being time-consuming (3%)

From the post-study reflections held in class, the results show that students

enjoyed the following least: data collection and analysis (58%); oral presentations (17%), interviews (17%) and group discussion (8%). The findings support those obtained in the learner diaries in that students did not quite enjoy the project process that involved data collection and analysis. In the post-study interview, one student said:

Turning data into words was very boring.

Another student commented on the meticulous nature of data interpretation:

If we made any mistake in calculation, we had to do it again.

The results are not surprising, since 'data' often tends to be a less interesting aspect of project. While some students welcomed and enjoyed the opportunities to speak in English, some students did not like it. The same is true for team work.

What Students Thought They Had Learnt

From the in-class post-study reflections, students said that they had learnt the following:

- 1) Project skills – e.g. interviewing (41%)
- 2) Knowledge about the project topic (25%)
- 3) English – e.g. vocabulary and grammar (17%)
- 4) Collaboration skills (17%)

In the interviews, the students were invited to elaborate on the things they had learnt. They thought they had learnt a number of different skills from the project, including communication skills, collaboration skills, interview skills, problem-solving skills, IT skills, interview skills, language skills (mainly grammar, speaking and writing) as well as knowledge related to their project topic. Some students, for example, noted that they had learnt some useful

The Implementation of Project-based Learning

vocabulary about the project topic – e.g. *insomnia* and *obesity*. Others remarked that their confidence was enhanced as a result of the project experience. On the whole, the students felt that they had learnt how to communicate with others and how to resolve different opinions. One group of students remarked that through the project experience, they discovered their strengths. For instance, before doing the project, they did not think that they would have the ability to finish it. One student said in the post-study interview:

We came to know our strengths and weaknesses better through our collaboration.

The Learning of English

When asked how the project lessons differed from their normal English lessons, about one-third of the students interviewed said that the project lessons were more student-centered and more practical than their normal lessons. Also, another one-third of the students said that learning was more interactive. Two students noted that there was not enough emphasis on grammar, though they had more opportunities to practice oral English. In the learner diaries, a large number of students reported favorably on the language learning aspect, as shown in the following comment:

It helped me to improve my English and I am not afraid to speak English after this project.

Although two students remarked that it was not easy to complete the learner diaries as they were not used to expressing their feelings and thoughts in writing, the fact that the learner diaries generally grew in length might suggest that through practice students became more fluent in writing in English.

Problems Arising from Project Learning

Despite the benefits, the students were aware of the problems they faced during the project learning process. The problem raised most frequently during the interviews relates to co-operation. There were at times arguments, and students were aware that people with different personalities might not work very well together. Also they realized that it was hard to resolve differences in opinions. Some said that some of the group members were not co-operative, some were late for meetings, some were forgetful, and some were difficult to work with. Division of work was not always easy, and as a result, some students did more work and some less. One student noted in the learner diary:

Some group members were not really committed to this project.

Another student wrote:

The division of work was not evenly distributed.

Two students commented on the difficulty to use English to express their opinions in group discussions. In fact, the two teachers remarked that initially, students often tended to switch back to their mother tongue during group discussions in class, and they had to be constantly reminded to use English. As time went by, students seemed more accustomed to holding discussions in English, so the teachers did not have to remind them as frequently as before.

Importance of Teacher's Help

From the students' comments, it is clear that students appreciated the help and guidance from the teacher. One student said in the post-study interview that their teacher *acted as an adviser and gave a lot of clear instructions and suggestions*. Another student, in particular, noted that the amount of help provided by the teacher was just right, since the teacher *did not get involved*

The Implementation of Project-based Learning

much and let students help themselves.

Other Comments on the Project

Although most students thought that the project topic was relevant, useful and interesting, one student commented that there were too few choices for students. Another student suggested that students be given more autonomy in the choice of topic. Regarding the project materials, the responses were generally positive. Students remarked on the usefulness of the learner diaries, the evaluation forms with criteria provided in advance, the suggested web sites, and the input on how to present data and how to give an oral presentation. One student said:

The materials are very comprehensive.

Another student commented on the overall usefulness of the project materials:

It helped us prepare our project.

However, a few students said that the suggested web sites provided too general information about the project topic, and that the Internet resources were not sufficient. Several students pointed out that the project schedule was too tight, and that there was not enough time to cover all the materials. As for the project evaluation, most of the students expressed a great deal of satisfaction with the evaluation mechanisms. Some of them especially appreciated the project progress reviews held in class and the learner diaries. One student said in the post-study interview:

The review helped us check what we had done and it was useful.

The learner diaries, according to another student, could help them reflect on what they had done and learnt, reminding them of the progress of their work.

However, when asked if they would like to do more English projects, only two groups answered in the positive. The main reason was that they felt they would need to spend more time revising their homework. Although project work could be interesting, some felt that one project per year would be enough, since other subjects also require them to do projects. Overall, the students exhibited favourable attitude towards project learning in the English classroom. Their concerns were mainly time and workload.

Questionnaire Data

We shall now turn to the questionnaire data, which serves to supplement the qualitative data presented above. Results obtained from Questions 1 and 2 in the questionnaire (see Appendix 7) show that the large majority students had done projects before. 84.4% said they had done projects in the English classroom and 93.5% said they had done projects in other subjects. How projects were defined by students and how they were actually carried out in the classroom, however, was not known. Interestingly, while the two teachers confessed they did not know much about PBL and participated in the partnership with a view to gaining first-hand experience in PBL, the majority of the students claimed to have done projects before. The two participating teachers remarked that the projects students claimed to have done were likely to be small-scale projects that resembled extended tasks that required students to communicate and get things done in English in the classroom, e.g. conducting a survey and giving an oral presentation afterwards.

Table 1 presents the results of the pre- and post-questionnaires, in terms of the means and the combined percentages for 'strongly agree' ('1' on likert scale) and 'agree' ('2' on likert scale). The questionnaire data shows that before the project started, the students were already well-disposed towards language learning and project learning. A quick look at the average means show that the results tended to skew towards the agreement side (average mean in the region of 2). Students tended to be more neutral in their self-evaluation of the following (average mean in the region of 3): their own oral

TABLE 1
Results of Pre- and Post-Questionnaires

Statement	Pre (M)	Post (M)	Pre (SA & A-%)	Post (SA & A-%)	Sig
1. I enjoy English lessons.	2.74	2.45	40.3	58.4	.001*
2. I like group work in English lessons.	2.47	2.30	59.8	66.2	.170
3. I like to take part in project learning in the English classroom.	2.75	2.49	46.8	59.7	.016*
4. I like my teacher to do most of the talking in English lessons.	2.81	2.75	42.9	42.9	.699
5. I believe grammar is the most important aspect of English lessons.	2.29	2.00	70.1	75.3	.011*
6. I like to speak English in English lessons.	2.91	2.52	31.2	54.5	.000*
7. I think I am able to use English effectively outside the classroom.	2.79	2.68	33.8	40.3	.219
8. I believe project learning is enjoyable.	2.66	2.40	50.6	61.0	.011*
9. I think my oral English is good.	3.05	3.04	20.8	28.2	.877
10. I think my English is good overall.	3.27	3.15	11.7	18.2	.261
11. I believe project learning can help me improve my English.	2.52	2.13	56.0	78.9	.000*
12. I believe project learning can make the learning of English more meaningful.	2.45	2.18	61.0	71.4	.017*
13. I think I can work well with others.	2.32	2.10	68.8	84.4	.003*
14. I think I am an independent learner.	3.00	2.61	26.7	45.5	.000*
15. I think I am a good learner in general.	2.88	2.61	28.9	40.3	.004*
16. I believe project learning can make the learning of English more interesting.	2.41	2.19	58.5	75.3	.083
17. In project learning, it is hard to find out how much I have learnt.	2.86	2.90	29.9	28.6	.724
18. In project learning, it is hard to find out how well I have learnt.	2.87	2.87	28.6	24.7	1.000
19. I think it is hard to work with others to produce a project.	3.44	3.43	11.7	14.3	.902
20. Although project work could be demanding in terms of time and student effort, I believe it is a worthwhile learning experience.	2.55	2.44	44.2	52.0	.288

M = Mean; SA = Strong agree; A = Agree; Sig = Significance (2-tailed)

ability (#9), their overall English ability (#10), as an independent learner (#14), their collaboration with others (#19). Statistical testing (paired T-tests)

has yielded significant results ($p < .05$) for a number of pre- and post-questionnaire statements, suggesting that at the end of this study students became more positive in terms of the following (see p value marked with an * in Table 1):

- a. Attitude to learning English
 - I enjoy English lessons (#1)*
 - I like to speak English in English lessons (#6)*
- b. Attitude to project learning
 - I like to take part in project learning in the English classroom (#3)*
 - I believe project learning is enjoyable (#8)*
 - I believe project learning can help me improve my English (#11)*
 - I believe project learning can make the learning of English more meaningful (#12)*
- c. Self-perception as learner
 - I think I can work well with others (#13)*
 - I think I am an independent learner (#14)*
 - I think I am a good learner in general (#15)*

For most of the other statements, although the differences between the pre- and post-questionnaire results are insignificant statistically, the descriptive statistics suggest a tendency towards a more positive attitude at the end of the project in the following areas:

- I like group work in English lessons (#2)*
- I think I am able to use English effectively outside the classroom (#7)*
- I think my oral English is good (#9)*
- I think my English is good overall (#10)*
- I believe project learning can make the learning of English more interesting (#16)*
- In project learning, it is hard to find out how much I have learnt*

(#17)

In project learning, it is hard to find out how well I have learnt

(#18)

I think it is hard to work with others to produce a project (#19)

Although project work could be demanding in terms of time and student effort, I believe it is a worthwhile learning experience (#20)

The above results suggest that the students' project learning experience seemed to have developed in them a greater interest in English lessons, in speaking English, in project learning itself, and in their self-perception as language learners. In particular, the experience might have reinforced their self-perception as independent learners. However, it must be noted that before the project commenced, these students already exhibited a generally positive attitude to the above-mentioned constructs investigated. It can be concluded that these students, who generally did well in learning English and who had some experience doing smaller "projects" (mainly in-class tasks involving communication in English), responded positively to a project cycle that involved a project of a larger scale, and in particular, a project that required them to use English outside the classroom.

Interestingly, the results in two specific statements may indicate that the students' project learning experience might not have changed their beliefs about language learning in two respects. First, in the statement *I believe grammar is the most important aspect of English lessons* (#5), a significant difference was found between the pre- and post-questionnaire data, where 70.1% of students agreed and strongly agreed with the statement in the pre-questionnaire, compared with 75.3% in the post-questionnaire. The average means (pre 2.29; post 2.00) suggest that students agreed that grammar is the most important aspect of English lessons both at the beginning and the end of the project. The finding could indicate that the traditional belief that grammar is the most important aspect of language learning was not changed as a result of the project experience. This was borne out in the interview data, where students commented on the insufficient grammar coverage during the project

cycle. At the end of the project, more students believed that grammar was important. The result could be explained by the fact that since grammar was not the major focus of the project lessons, some students might feel that inadequate emphasis was given to grammar during the project lessons. In another statement *I like my teacher to do most of the talking in English lessons* (#4), the percentages for 'strongly agree' and 'agree' remained the same in the pre- and post-questionnaires, though the average means (pre- 2.81; post- 2.75) may suggest that students felt more strongly about this at the end of the study. This seems to contradict the qualitative data that suggests students enjoyed the project lessons and found them more student-centered. However, in the absence of statistically significant result, no definite conclusion can be drawn.

DISCUSSION AND IMPLICATIONS

The findings suggest that project learning opened up a new experience for the students. They had a chance to engage in a relatively large-scale project that focused on both the process and product of learning. They were also given the opportunity to leave their classroom to interview strangers and teachers in English and to take greater responsibility for their learning. During the process, they experienced using English as a real language, both in a purposeful and meaningful manner. The collaborative learning experience provided by the project made students realize that working together and taking control of their own learning could be fun, challenging and fulfilling.

Since the study involved only two secondary classrooms, the results cannot be generalized. The simple fact that PBL was generally well received by the students in the study does not necessarily mean that it would be equally well received in other secondary classrooms in Hong Kong or in other ESL / EFL context. It must be noted that the relative success of the study could be put down to a number of factors, such as students' positive attitude to PBL to begin with, their generally good English proficiency, the fact that the students

were well-behaved (and hence discipline was not a problem), and that they were not yet faced with pressure from public examinations. Can PBL be effectively implemented in less favorable learning environment, such as noisy classrooms where students exhibit behavioral problems, or in classrooms with students of lower English proficiency and poorer motivation? How can teachers support student learning in these classrooms, and how can they encourage and maximize the use of English among students? These significant questions are left unanswered. Further research has to be carried out in a variety of settings to find out how PBL can be implemented and how different problems can be resolved.

Nonetheless, the study has shown that project-based learning could be successfully integrated in the English classroom. Although the sample in the study was small (and hence generalizations impossible), the following recommendations could serve as some general principles for teachers who would like to experiment with PBL in similar contexts.

Planning for PBL

The teacher plays a crucial role in PBL long before its start. In the present study, the two participating teachers formed a partnership with the researcher several months before the project cycle began. A great deal of time was then spent on discussion and negotiation (including project topic and the timing of the project), and most importantly, on preparation for the project materials as well as the evaluation criteria. Indeed, students need carefully designed materials to support their learning. The success of projects, according to Hedge (2000), hinges on a range of factors, including availability of time and flexibility of timetabling, which requires advance planning. In the study, before the commencement of the project, materials were drafted, evaluation criteria were worked out, administrative details were considered, and it turned out that students appreciated teachers' effort. The study has demonstrated that careful planning and adequate preparatory work on the part of the teacher are crucial to the success of project-based learning (see Lee, 2002).

Guided Implementation

The results of the study indicate that though students are asked to take greater control in project learning, teachers should not relinquish their responsibility but should give clear guidance and support student learning throughout the process (Fried-Booth, 1982). In this study, the teachers gave students a great deal of help throughout the project. Project lessons were assigned, time was provided for students to draft questionnaires in class, and ongoing feedback was provided to students (e.g., during project progress review conferences). Instead of giving students a topic and leaving them all on their own, the teachers played the role of a facilitator who encouraged and guided students, rather than an authoritarian figure who directed and commanded. Diaz-Rico (2004) rightly says, “The challenge of the teacher is to build within students the desire and skills to become self-directed learners and then to fade into the background to take on such roles as supporter, colleague, clarifier, and reminder of deadlines” (p. 395).

Opportunities for Learning Outside the Classroom

In this study, many students said that they enjoyed the questionnaire survey and interviews conducted outside the classroom. Without being aware of it, through preparing for and actually conducting the survey and interviews, students practiced an array of life skills, such as advance planning, time management and problem-solving. They also used English for genuine communication and had their confidence boosted. The study has shown that it would be useful if the teaching and learning of English could transcend the confines of the classroom, so that students could experience integrative learning outside the classroom. When students can reach out to people outside the classroom and use English to find answers to questions, they would find language learning a practical, useful and interesting experience.

Focusing on Process of Learning

In this study, students were provided with different opportunities to reflect on the process of learning – e.g. putting down their thoughts in their learner diaries, meeting with the teacher to review the progress of work, discussing in small group to reflect on the project experience. Although initially the idea of diary writing might have seemed intimidating, students realized that they were able to expand their diary entries as they progressed. The opportunity to reflect on the process of learning through group discussions also made students become more aware of their own strengths and weaknesses. More importantly, the study has shown that the students' sense of achievement did not emanate entirely from the final product, but rather the enjoyment and satisfaction they gained from the process itself – e.g., through working with their peers, and through resolving conflicts and reaching compromises. It is important that in PBL teachers focus not only on the product but also the process of learning. In particular, reflective learning has a significant role to play. As stated by Diaz-Rico (2004), "Reflection during and after the project is essential, because it is largely through reflection that people learn and develop" (p. 379). It is, therefore, recommended, that reflective assignments be built into the process of PBL, so that students learn to develop reflective thinking and take a greater responsibility for their own learning.

Learner Choice and Involvement

In this study, the project topic (as well as the sub-topics) was chosen for the students, the criteria were generated by the researcher and the participating teachers, and as a result, students did not take an active role in the pre-project stage. The findings show that while some students liked this, others might have preferred a greater control over the choice of project topics and/or the evaluation criteria. It is suggested that with more mature and/or advanced learners, or with those students with experience in PBL, the teacher could negotiate the project topic as well as the evaluation criteria with students and

let them take greater control of their own learning.

Enhancing Student Collaboration

Since collaboration is crucial to PBL, it is important that ways be found to enhance student collaboration. As indicated in the study, students do not always agree and there could be complaints of unequal division of work. Teachers need to consider carefully how best to group students, whether on the basis of friendship, language proficiency, or other criteria. It is also important to monitor student collaboration through periodical reviews, observations and conferencing with students. It would help if teachers state emphatically at the beginning and remind students throughout the process that every group member has to contribute to the project, and that ways be sought to recognize individual student contribution. For example, teachers could make students put down names for aspects of work they have done, and both individual and group scores could be awarded to students in oral presentations and/or written products. Whatever method is used, it is crucial that a collaborative rather than competitive atmosphere be established so that students learn to collaborate with each other to enhance the effectiveness of their work.

Providing Language Support

PBL in the second / foreign language classroom has to take into account the linguistic dimension that brings difficulties or pose obstacles to the learning process. In the study, the students were able to communicate in English, given their proficiency level and motivation, and in the end they felt they had benefited from the process. With the teacher's supervision and monitoring, they were able to adhere to the use of the target language during in-class group discussions and interviews outside the classroom. Nonetheless, it is important for the teacher to provide language support throughout the project – e.g. by giving explicit language input at the pre-project stage, and

by providing feedback on students' use of language during the project. With less proficient and/or less motivated learners, it is envisaged that encouraging students to use English would be very difficult, especially in cases where students are extremely weak in English, have no motivation to learn, or have discipline / behavioral problems. In such "uncongenial" learning environment, the teacher has to take extra care to make sure that sufficient language support is provided for students. The project may have to be broken down into small, manageable tasks, and ongoing monitoring is doubly necessary to make sure that students can follow the process, do as many things as possible in English, and reap maximum benefits in terms of language learning.

CONCLUSION

PBL may be regarded as one of the latest fads in language teaching. Teachers and students tend to be leery of the value of project learning, thinking that it is time-consuming and not cost-effective. This study has demonstrated that through teachers' careful planning and guided implementation, students can be empowered to produce projects independently. They can develop the knowledge, skills and personal qualities that they will need later in life. When it is appropriately used, project-based learning can motivate students to learn, help them see the practical relevance of their work, and add meaning and purpose to their mundane school assignments.

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APPENDIX 1

Project Assignment Sheet

Project topic

Are you living a healthy life? Do you want to have a healthy lifestyle? What is a healthy lifestyle?

You and your classmates are going to work in a group of 6-7 to produce a project on ONE of the following topics:

- ◆ Diet
- ◆ Exercise
- ◆ Leisure and relaxation
- ◆ Sleep
- ◆ Stress
- ◆ Social relationship

Project products

Your group is to produce a booklet consisting of the following (* refers to individual work; the rest is all group work):

1. A cover page (including project title) + a contents page
2. An introductory section
 - a. Paragraph(s) containing background information about 'healthy lifestyle'

- b. *Individual self-evaluation of existing lifestyle (with reference to all the 6 focus areas) (see Worksheet 2)
 - c. Reasons for the chosen topic
 - 3. A questionnaire survey – on secondary students’ lifestyles in relation to your chosen topic
 - 4. Interviews with teachers – to find out their opinions about specific issues relating to students’ lifestyles arising from questionnaire findings
 - 5. *Personal reflection (see Worksheet 14) – based on
 - a. Questionnaire survey – e.g. Any surprising, interesting or unexpected findings? Any particularly meaningful data?
 - b. Interviews – e.g. Do you agree or disagree with the teachers’ views? Any interesting interview data?
 - c. Self-evaluation of lifestyle – a list of do’s and don’ts based on insights gained from the project investigation
- Your group is also to give an oral presentation to the class, choosing ONE aspect from the booklet.*

Overview of Project Lessons

Lesson	Lesson objectives / contents
1	Introduction to project
2	Introduction to project
3	◆ Language input
4	◆ Internet research
5	Questionnaire design (input)
6	Group work – draft questionnaire
7	How to collate data, present data graphically and annotate data
8	Peer review of draft questionnaire
9	◆ Preparing and conducting interviews
10	◆ Pilot questionnaire & finalize questionnaire
11	◆ Project progress review 1 ◆ Group discussion – analysis of and ways to present questionnaire data
12	◆ Project progress review 1 (cont’d) ◆ Group discussion – cont’d
13	Group work: draft interview questions
14	Peer review of questionnaire findings - identify areas for improvement
15	◆ Presenting interview results

The Implementation of Project-based Learning

16	◆ Giving oral presentations
17	◆ Project progress review 2 ◆ Group discussion – review of work done so far; collating and presenting interview data
18	◆ Project progress review 2 (cont'd) ◆ Group discussion– cont'd
19	Work on self-evaluation (do's and don'ts)
20	Oral presentation
21 & 22	Oral presentation
23	Oral presentation
24	Informal student feedback
	Project display

APPENDIX 2 Project Evaluation

The evaluation will be based on both the process and product of project learning, as well as group work and individual effort.

Each of you will get a common group score (150%) and an individual score (150%). The total score is 300%.

Common group score (i.e. each member in the group will get the same score)

Project booklet	100%
Oral presentation	30%
Process of learning (based on progress reviews)	20%
Total	150%

Individual score

Learner diary (included in the project booklet)	50%
Oral presentation	30%
Self-evaluation (Wksheet 2) + personal reflection	50%
Participation and effort (based on teacher observation)	20%
Total	150%

Grand total **300%**

**APPENDIX 3
Final Score Sheet**

Project topic: _____

Project booklet (100%)		Score	Comments			
Criteria		Score	Comments			
Content (30%)						
Organization (20%)						
Writing quality (30%)	Grammar (10%)					
	Vocabulary (10%)					
	Fluency (10%)					
Presentation (20%)	Layout (10%)					
	Originality % creativity (10%)					
Total project booklet score (100%)						
Oral presentation group score (30%)						
Process of learning group score (20%)						
Total group score (150%)						
Individual score		Name of student				
Learner diary (50%)						
Oral presentation (30%)						
Self-evaluation + personal reflection (50%)						
Participation & effort (20%)						
Total individual score (150%)						
Grand project total (300%)						

APPENDIX 4
Learner Diary

Name: _____

Project Topic: _____

Before the project

1. What are the things you know about the project topic?
2. What are the things you want to know about the topic?
3. What do you expect to learn from this project learning experience?
4. What problems do you think may arise during project learning?

During the project

5. How are you finding the project learning experience so far? What do you enjoy most? What do you enjoy least? Why?
6. Have you had any problems so far? List all the problems, and describe the actions, if any, you have taken to try to solve the problems.

Problems	Attempted solutions (if any)	Evaluation of outcomes

After the project

7. What have you learnt about the project topic?
8. What did you enjoy most about project learning? Why?
9. What did you enjoy least about project learning? Why?
10. How would you evaluate learning in a small group? Overall, was it a good experience? Why?
11. In your opinion, has the project learning experience helped you improve your English? Explain your answer.
12. Would you be happy to take part in another cycle of project learning in the English classroom? Why?

APPENDIX 5
Project Learning Experience: Group Discussion

In your own project group, discuss the following:

1. What aspects of the project did you enjoy most?
2. What aspects of the project did you enjoy least?
3. In your opinion, what have you learnt from the project?
4. Did you like working in this project group? What worked, and what did not work?
5. Has the project learning experience changed your views about the learning of English? In what ways?
6. Would you like to do some more projects for English? Why?

APPENDIX 6
Interview Guide

1. Did you enjoy the project learning experience? Why / why not?
2. What aspects of the project did you enjoy more, and what aspects did you enjoy less?
3. What did you think of the project topic? Is it interesting?
4. If you could freely choose a project topic, what possible areas would you pick?
5. Did you learn anything from the project? What?

The Implementation of Project-based Learning

17. In project learning, it is hard to find out how much I have learnt.	1	2	3	4	5
18. In project learning, it is hard to find out how well I have learnt.	1	2	3	4	5
19. I think it is hard to work with others to produce a project.	1	2	3	4	5
20. Although project work could be demanding in terms of time and student effort, I believe it is a worthwhile learning experience.	1	2	3	4	5