



**Final Report of Project**

Project No. : 2008 / 0107

**Part A**

Project Title: Promoting a collaborative teaching approach to inquiry project-based learning with Web 2.0  
at upper primary levels

Name of Organization/School: The University of Hong Kong

Project Period: From 04/09 (month/year) to 01/12 (month/year)

**Part B**

*Please read the **Guidelines to Completion of Final Report of Quality Education Fund Projects** before completing this part of the report.*

Please use separate A4-size sheets to provide an overall report with regard to the following aspects:

1. Attainment of objectives
2. Project impact on learning effectiveness, professional development and school development
3. Cost-effectiveness – a self-evaluation against clear indicators and measures
4. Deliverables and modes of dissemination; responses to dissemination
5. Activity list
6. Difficulties encountered and solutions adopted



### 1. Attainment of Objectives

The following items should be included in the evaluation of the attainment of each of the project objectives stated in the project proposal

Goal and objective statement	Activities related to the objective	Extent of attainment of the objective	Evidence or indicators of having achieved the objective	Reasons for not being able to achieve the objective, if applicable
<p>To promote and support inquiry PjBL in collaborative teaching approach which brings together different groups of teaching staff (e.g., General Studies, IT, Library, and Language) in equipping primary students with the knowledge and skills essential for them to engage in such teaching approach actively and confidently</p>	<ul style="list-style-type: none"> <li>i. <b>Implemented</b> the collaborative inquiry PBL approach in <b>4 local primary schools</b> with students having top, average and low academic performance.</li> <li>ii. Conducted <b>6 training workshops</b> and produced <b>3 teaching guides</b> for the teachers to equip them with essential knowledge and skills to guide students' through collaborative inquiry PjBL using web 2.0 technologies (i.e. Google Sites in our project).</li> <li>iii. <b>4 rounds of school visit and 8 school-based meetings</b> with subject teachers and curriculum leads were held <b>on a regular basis</b> to support teachers for guiding their student through inquiry PjBL at the P4 level and (in addition with Web 2.0) at the P5 level</li> <li>iv. <b>11 subject-based meeting</b> with subject teachers from all four schools was held at HKU.</li> </ul>	<p>Fully achieved</p>	<ul style="list-style-type: none"> <li>a) The suggested teaching approach is implemented in classroom as scheduled.</li> <li>b) The 3 sets of teaching guides can be retrieved online (please refer to appendix item 1-3).</li> <li>c) Teachers reported that the implementation of such teaching increased the opportunities for them to communicate with one another, enhanced the integration of different subject areas, and provided more chances to determine effective teaching strategies.</li> </ul>	



**Continuance of Part 1: Attainment of Objectives**

Goal and objective statement	Activities related to the objective	Extent of attainment of the objective	Evidence or indicators of having achieved the objective	Reasons for not being able to achieve the objective, if applicable
<p>To cultivate information and media literacy of primary students through the application of inquiry PBL projects as enhanced by the use of Web 2.0 technologies;</p>	<p>i. Setup an agreement with Wisers for <b>sponsoring free subscription on WiseNews</b> and encourage <b>librarians</b> from <b>all four schools</b> to heighten their students' sensitivity towards the nature of the materials in the mass media (which includes the Internet)</p> <p>ii. Created an <b>online learning environment</b> on Google Sites for P5 students to co-construct their group projects and discuss their ideas among group members.</p> <p>iii. <b>2 workshops</b> on the use of Google Sites were held for the students to demonstrate some basic techniques of using and employing Google Sites (a web 2.0 technology) in their project works</p> <p>iv. <b>1 workshop</b> on the use of PBworks was held for teachers to demonstrate the feasibility of practicing collaborative teaching using Web 2.0 technologies</p>	<p>Fully achieved</p>	<p>a) Pre-test and post-test result demonstrated students possessed higher sensitivity and better understanding towards media literacy and information search</p> <p>b) Students demonstrated a satisfactory level of competency using Google Sites to share their resources and accomplish the project collaboratively.</p> <p>c) One conference paper has been published regarding the improvement in students' information literacy (item 13 in Appendix). The findings showed that students had a higher familiarity with information sources and information searching skills after the project.</p>	

### Continuance of part 1: Attainment of Objectives

Goal and objective statement	Activities related to the objective	Extent of attainment of the objective	Evidence or indicators of having achieved the objective	Reasons for not being able to achieve the objective, if applicable
<p>To further develop the new teaching and learning approach through formative assessment of students and action research of the project implementation;</p>	<p>i. <b>Developed and adopted various assessment tools</b> to monitor students' progress and to measure their development in twelve dimensions (original eight learning dimensions in the proposal) gained through inquiry PjBL</p> <p>ii. Provide <b>backup support</b> such as data analysis and assistance in research paper writing to <b>facilitate action research among teachers</b></p>	<p>Fully achieved</p>	<p>a) Improvements on students' learning dimensions were recorded. A survey based on the Hazari's scale (Hazari et al., 2009) has shown that students perceived that the pedagogy had positive influence on their learning motivation, group interaction and learning interest.</p> <p>b) Based on the active research during the project, teachers presented their experience findings in a conference and 2 QEF sharing seminars with assistance from the research team. A number of conference papers were produced by teachers.</p>	
<p>To propagate the application of an innovative and effective collaborative inquiry PjBL approach that promotes high-quality teaching and learning to local educators, as well as abroad.</p>	<p>i. A public project website to circulate information and disseminate project findings in symposia and seminars. As well, another internal project website is built for teachers to share some confidential materials. Both website are updated and monitored frequently.</p>	<p>Fully achieved</p>	<p>Public project website at <a href="http://qefpbl.pbworks.com/">http://qefpbl.pbworks.com/</a></p> <p>Internal project website is built using PBworks at: <a href="http://qefpbl.pbworks.com/">http://qefpbl.pbworks.com/</a></p>	

## 2. Project Impact on

The project brings a number of positive effects in regards to the following areas:

– *fostering students' development in their potential and specific abilities*

Inquiry project-based learning in collaborative approach was shown to foster students' development in 12 learning dimensions including reading, writing, subject knowledge, cognitive abilities, presentation skills, problem solving skills, information literacy, ICT skills, social and communication skills, self-directed learning, self-confidence and research skills. Collaborative teaching approach involves school administrators, subject teachers and school librarian as a teaching team to work together towards the development of students' knowledge and skills. Concluding the positive impact on students' learning experience and knowledge/skills attainment, a number of papers were written by some of the teachers and project investigators. Hui et al. (2010) acknowledged improvement in students' information literacy skills as they became increasingly familiar with the school library online catalog and WiseNews (an electronic news database) after the inquiry-based project. Law et al.'s (2010) findings indicate that, due to the collaborative approach, students showed significant progress in their Chinese writing skills in the General Studies inquiry-based project.

– *training students to better meet social demands*

As stated in EDB public information, students' are encouraged to achieve seven learning goals including responsibility, national identity, habit of reading, language skills, learning skills, breadth of knowledge and healthy lifestyle. Regarding the habit of reading, Hui et al. (2010) indicated that the school library online catalog had been more frequently used and the borrowing rate had increased after the implementation of the pedagogy, suggesting that students were able to develop a reading habit through the new learning style. In addition, students' language and learning skills (such as information literacy and media literacy), as well as their breadth of knowledge had shown to be improved. Law et al. (2010) indicated that the average word count of students' Chinese composition had increased from 257.36 to 316.69 characters after the implementation of the pedagogy, suggesting a significant improvement on students' writing ability. We are confident that the project identified a teaching approach which trained students to better meet the social demands.

– *increasing students'/teachers' sense of achievement*

The result supported that the project was useful in fostering students' learning and teachers' teaching effectiveness. Impressive improvement was found in students learning interest and enthusiasm. Based on students' feedback, as inquiry project work required them to find the answer and solve the problem independently, it increased their sense of achievement and satisfaction alongside the project completion. In a survey which investigated the wiki's influence on students' learning, most participating students (79%) believed that "*I stayed on task more because of using the Wiki*". In an interview a student said, "*I prefer to use Google Sites than write on paper*". Furthermore, teachers also reported that the project enhanced their teaching effectiveness by increasing the communication between teachers and enhancing subject integration and thus resulted in better sense of achievement. For example, many teachers believed that their IT and information literacy have improved through the project which gave them more confidence on guiding students through the inquiry learning process. A GS teacher put it this way: "*Sometimes I want to train my students to be critical thinkers, but I don't have the expertise to provide them with effective tools and practical resources. With the Web 2.0 tools, students can engage in discussions within a group. Their interactions are now of a higher quality, and I believe this is a good way ahead to help students, especially for the stronger students to help weaker ones when doing group projects*". Hence, the suggested use of web 2.0 technologies has significant impact on teachers' teaching effectiveness.



– *increasing training opportunities for teachers and enhancing their professional development*

Teaching in collaborative approach increased the opportunities for teachers to communicate with one another. It enhanced better integration of subject areas, and provided more chances to determine effective teaching strategies. As a result, it enhanced teachers' teaching development through discussion. A teacher coordinator expressed his view that collaborative teaching approach allowed teachers to review their teaching schedule to better cater for their students' needs, *"because we have to work with the GS teachers in implementing the GS project, we teach PowerPoint earlier in our teaching schedule. In the past, we were very much bound by the teaching guidelines and taught PowerPoint in Primary 4. But now we feel that even Primary 3 students have the ability to handle the skills of using PowerPoint. So we have exercised our professional discretion of moving the teaching of this IT skill to an earlier stage"*.

– *improving learning atmosphere*

The student group interviews indicated that the project intervention in second year facilitated their peer learning and interpersonal relationship skills. The introduced teaching strategy using web 2.0 provided them a space to comment on each other's work. Essentially, students were presented with ample opportunities to evaluate others' work and reflect on their own, leading to improved quality of their writing. The group interviews revealed that students found the experience of using wiki for their English collaborative writing very rewarding due to its accessibility. One student noted, *"If we use Google Sites as the collaborative platform, we get to read the pieces of writing from other classes, exchange views and comment on our classmates' work. If we write on paper, we can only read a few pieces"*. In addition, the technological support of Google Sites has been shown to have positive impact on students' learning experience. A student who compared using wiki to the traditional learning approach remarked, *"Google Sites is better because we can easily locate all the information we need online"*. Chu et al. (2011) and Yu et al. (2011) found that students were very positive about and contented with the use of Google Sites, a wiki, to co-construct their General Studies group project in Chinese.

– *inducing collaboration with other schools / professional organizations.*

Teachers (especially subject teachers) were encouraged to collaborative with teachers from other schools. In our regular subject-based meetings, experience sharing seminars and some of the workshops, teachers and curriculum leaders from ALL four concerned school were invited to actively share their findings and experience. In particular, teachers from various subject areas were invited to share their practice and difficulties in their teachings during the subject-based meetings. Collaboration was induced via such experience exchanging. Such meetings have been found to be very fruitful for the development of teachers' professionalism. For example, a teacher expressed that *"in the meetings with teachers from different schools, I've learnt a lot during the discussion as well as the sharing. For example, when the teachers discussed how to set Chinese writing topics, although I am not teaching Chinese this year, I can still learn something new. And the discussions on what the students have learnt through inquiry project-based learning and which teaching methods worked and which did not have proven to be very fruitful to me too"*. Another comment from the participating teachers is *"I've learnt a lot from the sharing with teachers from other schools, but the most important thing that I feel I have gained is the need to bring back the messages and experiences from others to my own school to share with my colleagues so that they know what we are doing on the project. Thus, when I require their help on some tasks related to the project, at least they are aware of what I am doing. I've sharpened my coordination skills and communication skills here"*.



### 3. Cost-effectiveness

Grantees are required to complete the 'Budget Checklist' at Table 2 in this Annex and enclose it as an appendix of this report.

<b>Budget Items</b> <i>(Based on Schedule II of Agreement)</i>	<b>Approved Budget</b> <b>(a)</b>	<b>Actual Expense</b> <b>(b)</b>	<b>Change</b> <b>[(b)-(a)]/(a)</b> +/- %
Staff Cost	HK\$1,310,662.50	HK\$1,239,388.62	-0.054%
General Expenses	HK\$64,980.00	HK\$71,560.95	+0.101%
Equipment	HK\$56,400.00	HK\$57,076.90	+0.012%
Service	HK\$1,541,857.50	HK\$1,535,673.90	-0.004%
Works	HK\$0.00	HK\$0.00	

The resources are fully utilized in implementing the project. No equipment was left idle and no excessive workforce was found. The teaching supplies and students' work markers in budgeted item *service* were found effectively reduced the teaching reliefs for PI and the grading work for the research team. Furthermore, as stated in section 1, the research team in budget item *staff cost* successfully facilitated teachers' professional development.

In terms of sustainability of the learning programme and materials, the project proved inquiry project-based learning with Web 2.0 in collaborative approach is a feasible and effective teaching approach. It brings significant and long-term effect towards students' learning.

Furthermore, a number of guiding materials (3 sets of teaching guides, a project website, and a book product which captures the project essence) are developed to support replication by other schools. These guiding materials are highly sustainable and are ready for use. To attain these materials, resources in budget item *service* and *general expenses* are deemed important.

As well, those developed guiding material require no injection of resources when the project is replicated by other schools. In effect, more than 50% of the project expense is contributed into the actual implementation of the teaching pedagogy and the development of sustainable guiding materials.

#### 4. Deliverables and Modes of Dissemination

The following items should be included in the evaluation of each of the project deliverables and their value for dissemination

Item description (e.g. type, title, quantity, etc.)	Evaluation of the quality and dissemination value of the item	Dissemination activities conducted (e.g. mode, date, etc.) and responses	Is it worthwhile and feasible for the item to be widely disseminated by the QEF? If yes, please suggest the mode(s) of dissemination.
<p><b>A public project website</b> <a href="http://qefpbl.pbworks.com/">http://qefpbl.pbworks.com/</a></p> <p>Contains links to the related publications as well as powerpoints used by teachers the project team in 2 QEF sharing seminars. Examples of students' work on Google Sites were captured in the powerpoints, together with students' and teachers' opinions regarding the new pedagogy.</p>	<p>It serves as an exemplar of good practices which can be accessed at any later time for reference to what has taken place in each of the phases of the study and for adaptation by schools.</p> <p>In addition, the examples of students' work in the sharing powerpoints will provide concrete ideas to the public on how the project was actually carried out in schools.</p>	<p>The public project website is open to everyone from October 2010.</p>	<p>Promotion of the website to all schools and teachers during QEF seminar is suggested.</p>
<p><b>An internal project website</b> <a href="http://qefpbl.pbworks.com/">http://qefpbl.pbworks.com/</a></p> <p>Contains timelines of the project implementation, a summary of teachers' comments on the experience in the project and links to students' projects on Google Sites. Meeting minutes and other resources are also included.</p>	<p>It serves as an online collaboration and communication hub between the participating teachers and the project team.</p>	<p>The internal project website is shared among ALL participated schools, principals and teachers throughout the project period.</p>	<p>The internal website contains links to students' projects and the actual implementation timeline. This information will be of great value and help for other educators hoping to replicate the pedagogy. The website could be open to anyone provided that approval is granted by the concerned parties.</p>



### Continuance of Part 4: Deliverables and Modes of Dissemination

Item description (e.g. type, title, quantity, etc.)	Evaluation of the quality and dissemination value of the item	Dissemination activities conducted (e.g. mode, date, etc.) and responses	Is it worthwhile and feasible for the item to be widely disseminated by the QEF? If yes, please suggest the mode(s) of dissemination.
<p><b>6 academic conference papers</b> <i>(For title, please refer to appendix item 4-10)</i></p> <p><b>5 seminar papers</b> <i>(For title, please refer to appendix item 11-15)</i></p>	<p>The papers are of high quality with ideas supported with both quantitative and qualitative data. They are of great dissemination value as first-hand experience in implementing the innovative pedagogy is recorded and discussed.</p>	<p>All of the papers are uploaded to the public project website and are open to everyone.</p>	<p>Promotion of the website containing all of the papers to all schools and teachers during QEF seminar is suggested.</p>
<p><b>3 sets of teaching guide titled:</b> <i>探究式學習教師手冊：小四常識科專題研習, 探究式學習教師手冊：小五常識科專題研習及英文科協同寫作 和 探究式學習學生筆記：Google Sites 使用手冊 (written in Chinese)</i></p> <p>The guides are designed in particular for on-the-job primary 4 and 5 teachers respectively. They provided some hands-on guide and hints on how to implement inquiry-learning and facilitate students collaborative wiring using Web 2.0</p>	<p>The teaching schedules and recommendations included in the teaching guides are designed to best fit the Hong Kong education curriculum. The teaching guides are hence most relevant to Hong Kong primary teachers.</p> <p>The Google Sites User guide provided step-by-step teaching on how to use Google Sites. In particular, the handbook is written in Chinese, making it an easily accessible handbook for Hong Kong primary students.</p>	<p>Distributed to 4 participating schools and 62 concerned teachers on request in 8/2010. Teachers indicated that these teaching guides are useful material to refer to when implementing the project.</p> <p>Soft-copy is uploaded onto the public website for easy dissemination.</p>	<p>The circulation of the 3 teaching guides among Hong Kong primary schools is recommended.</p>



#### Continuance of Part 4: Deliverables and Modes of Dissemination

Item description (e.g. type, title, quantity, etc.)	Evaluation of the quality and dissemination value of the item	Dissemination activities conducted (e.g. mode, date, etc.) and responses	Is it worthwhile and feasible for the item to be widely disseminated by the QEF? If yes, please suggest the mode(s) of dissemination.
<p>500 copies of a <b>book</b> titled “Developing upper primary students’ 21<sup>st</sup> century skills: inquiry learning through collaborative teaching and Web 2.0 technology”</p> <p>It introduced (1) the teaching theories behind the project, (2) how the suggested pedagogy relates to the EDB curriculum and education roadmap and (3) the detailed description on how to carry out the three core ideas of the pedagogy (inquiry PjBL, collaborative teaching and the use of web 2.0 technologies).</p>	<p>This book captured the project essence included both theoretical and practical elements.</p> <p>It is well-written and in a fine structure targeting ALL education researchers and teaching practitioners worldwide.</p>	<p>Positive comments have been received from educators, librarians and researchers from over 20 countries.</p> <p>The books have been distributed widely among both local and global education institutions. Around 50 copies of the book were given to local primary schools for teachers’ and librarians’ reference. 50 copies were distributed to researchers and educators in Hong Kong. Another 200 copies were sent to scholars, teachers and librarians from different parts of the worlds who are interested in the new pedagogy. Around 40 copies were given to some interested undergraduate and postgraduate students in the University of Hong Kong.</p> <p>To maximize the dissemination of the book, a seminar targeting to school librarians, teachers, principals and researchers will be held in the University of Hong Kong. Another knowledge exchange seminar will be held directing to parents, with an objective to share with parents about the new pedagogy and discuss their role within it. The remaining copies of the book will be distributed in these seminars.</p>	<p>An e-book version might be considered for wider dissemination. For the e-version, please refer to:</p> <p><a href="http://web.hku.hk/~samchu/docs/Chu-2012-Developing-upper-primary-students-21st-century-skills.pdf">http://web.hku.hk/~samchu/docs/Chu-2012-Developing-upper-primary-students-21st-century-skills.pdf</a></p>

#### 5. Activity List

Particulars of activities conducted during the project period such as types of activities, brief descriptions of the

activities, number of participants and feedback from participants should be reported

Types of activities (e.g., seminar, performance, etc.)	Brief description (e.g., date, theme, venue, etc.)	No. of participants				Feedback from participants
		schools	teachers	students	others (Please specify)	
Regular meeting with school teachers	To monitor the quality of project activities and to gain more understanding about teachers' teaching difficulties, 18 meetings were held at <i>HKU</i> . The date are as the following:					The meetings were deemed essential in implementing and monitoring the project. Although feedback towards the regular meeting was not collected, teachers were encouraged to raise their concerns and difficulties during the meetings. The research team would then offer their help in resolving problems. With regard to such support, some teachers reflected that it helped them to implement the project effectively.
	October 15, 2009		9			
	November 5, 2009		7			
	December 17, 2009		4			
	January 14, 2010		9			
	February 11, 2010		8			
	March 4, 2010		6			
	April 22, 2010		6			
	May 13, 2010		7			
	June 17, 2010		8			
	September 2, 2010	4	8			
	October 7, 2010		6			
	November 18, 2010		7			
	December 2, 2010		4			
	February 17, 2011		4			
	April 14, 2011		4			
	May 19, 2011		7			
	June 16, 2011		8			
July 17, 2011		8				
Project team meetings	To evaluate the project progress and quality, plus to discuss about the 12 meetings were held regularly at <i>HKU</i> . The date are as the following:				(Research team)	The team agreed that the research team meetings were important for them to ensure that the project is implemented according to the proposed timeline.
	October 27, 2009				7	



	December 14, 2009				6	
	March 2, 2010				3	
	May 4, 2010				6	
	May 25, 2010				6	
	June 22, 2010				6	
	July 23, 2010				5	
	September 3, 2010				7	
	October 4, 2010				7	
	November 5, 2010				6	
	November 25, 2010				6	
	March 1, 2011				4	
Meeting with subject teachers	To promote the collaboration between teachers from different schools, 11 meetings were held at <i>HKU</i> . The date are as the following:					Teachers found the meetings were useful in sharing ideas on the project implementation. They also thought it was beneficial for them to share their teaching materials with other teachers.
	March 18, 2010	4	12			
	April 15, 2010	4	~30			
	October 14, 2010	4	12			
	November 4, 2010	4	11			
	January 6, 2011	4	6			
	January 20, 2011	4	10			
	March 31, 2011	4	12			
	April 14, 2011	3	4			
	May 19, 2011	3	7			
	June 16, 2011	4	8			
	July 7, 2011	4	8			

School Visit	To gain more understanding about the project implementation, the project team visited the participated schools and had meetings with their teachers at the mid-stage of the project					Teachers welcomed the school visits as this not only facilitated the project team to gain a better understanding on the actual learning environment of the
--------------	---	--	--	--	--	--



	STFA Wu Siu Kui Memorial Primary School					students, but also allowed the project team and the teachers to discuss about how the pedagogy can be carried out under the school's specific setting.
	January 22, 2010	1	13			
	June 24, 2010		13			
	August 27, 2010		18			
	CCC Kei Faat Primary School					
	January 28, 2010	1	8			
	July 8, 2010		8			
	August 24, 2010		13			
	Cheung Chau Sacred Heart School					
	February 1, 2010	1	10			
	July 16, 2010		15			
	August 25, 2010		15			
	Canossa Primary School					
	February 8, 2010	1	10			
	July 13, 2010		15			
	August 26, 2010		18			
Workshops on Media Education	Four workshops were held to equip teachers with basic understanding of media education.					Positive feedbacks were received about the workshop in regard to its usefulness.
	January 13, 2010 STFA Wu Siu Kui Memorial Primary School	1	45			
	January 29, 2010 Media Education Cheung Chau Sacred Heart School	1	~10			
	February 4, 2010 Media Education CCC Kei Faat Primary School	1	6			
	February 6, 2010 Media Education Canossa Primary School	1	40			
	January 28, 2010 CCC Kei Faat Primary School	1	7			
Workshops on Information & IT Literacy	February 1, 2010 Cheung Chau Sacred Heart School	1	10			Positive feedbacks were received about the workshop in regard to its usefulness.



	February 6, 2010 Canossa Primary School	1	40			
	March 24, 2010 STFA Wu Siu Kui Memorial Primary School	1	45			
Workshops on teaching Collaborative Writing	Two workshops were held to deepen teachers' understanding in: <ul style="list-style-type: none"> <li>the writing process</li> <li>approaches to the teaching of writing</li> <li>the teacher's role</li> <li>effective strategy use</li> <li>quality written feedback</li> <li>peer editing and revision</li> </ul> <p>The date and venue were:</p>	4				English teachers from the participating schools reported that the workshop on English collaborative writing was very helpful for their preparation of teaching collaborative writing.
	July 2, 2010 HKU			~30		
	February 24, 2011 HKU			~20		
Workshops on the use of Google Sites	Five workshops were conducted to provide some hands-on training on the use of Google Sites.					Participants reflected that the workshop provided practical support in implementing the project at the second year intervention using Web 2.0 technology.
	August 24, 2010 CCC Kei Faat Primary School	1	13			
	August 25, 2010 Cheung Chau Sacred Heart School	1	15			
	August 26, 2010 Canossa Primary School	1	18			
	August 27, 2010 STFA Wu Siu Kui Memorial Primary School	1	18			
	April 2, 2011 HKU	4	20			
Focus group interview with teacher	Interviewed the involved teachers in a group setting to more gain understanding on the project implementation and difficulties from teachers' perspective.					Teachers' opinions in regards to the project were collected. In general, the project provided more opportunities for teachers to communicate and





	March 11, 2010 CCC Kei Faat Primary School	1	6			exchange their ideas with each other. It facilitated their teaching effectiveness.
	March 24, 2010 STFA Wu Siu Kui Memorial Primary School	1	10			
	March 25, 2010 Cheung Chau Sacred Heart School	1	6			
	March 29, 2010 Canossa Primary School	1	10			
	March 3, 2011 Canossa Primary School	1	10			
	March 22, 2011 Cheung Chau Sacred Heart School	1	8			
	March 24, 2011 CCC Kei Faat Primary School	1	7			
	March 29, 2011 STFA Wu Siu Kui Memorial Primary School	1	19			
Focus group interview with student	To collect students' opinion and feedback in regards to: <ul style="list-style-type: none"> <li>• media usage and information literacy</li> <li>• inquiry PjBL with collaborative learning approach</li> <li>• English collaborative writing using Google Sites</li> <li>• the difference between collaborative approach and the traditional method</li> <li>• Self-reflection on adopting GS Inquiry PjBL</li> </ul>					
	July 8, 2010 STFA Wu Siu Kui Memorial Primary School	1		8		
	July 9, 2010 CCC Kei Faat Primary School	1		10		
	July 9, 2010 Canossa Primary School	1		10		
	July 13, 2010 Cheung Chau Sacred Heart School	1		11		



	March 30, 2011 Canossa Primary School	1		9		
	March 31, 2011 STFA Wu Siu Kui Memorial Primary School	1		5		
	April 6, 2011 CCC Kei Faat Primary School	1		13		
	April 15, 2011 STFA Wu Siu Kui Memorial Primary School	1		6		
	June 10, 2011 STFA Wu Siu Kui Memorial Primary School	1		17		
	June 10, 2011 Canossa Primary School	1		5		
	June 13, 2011 Cheung Chau Sacred Heart School	1		11		
	June 20, 2011 CCC Kei Faat Primary School	1		9		
Individual interviews with teachers	With the aim to collect data regarding different teachers' views on the implementation of inquiry learning project					The teachers indicated that the project had helped them develop essential knowledge and techniques on guiding students carry out inquiry projects on Google Sites. They expressed an increase in confidence in helping their students develop 21 <sup>st</sup> century skills, such as critical thinking skills and interpersonal skills etc.
	June to July 2010 N/A (Phone interviews)	4	16			
	June 2011 N/A (Telephone interview)	4	3			
Seminar	To share the good practices from the project and to promote knowledge exchange among teachers, educators and researchers Two experience sharing seminars were held:					In the QEF Project Seminar held on 9 Oct 2011, teachers from the participating schools reported that the project had enhanced their professionalism. For example, a teacher reported that he was able to use Google
	October 9, 2010 HKU		~10	~60		



	June 30, 2011 HKU					7 teaching staff from universities or other educational organization and 3 postgraduate students	Sites to enhance collaboration among teachers in his school effectively.  In addition, some teachers pointed out that their students showed a greater interest towards their learning after the project. More encouragingly, the teachers reported that they observed a general improvement in students' learning ability and academic performance.
--	----------------------	--	--	--	--	--	---



## 6. Difficulties Encountered and Solutions Adopted

The information here should explain why the actual project implementation (including the budget, schedule and process) differs from the original plan, if applicable.

In order to facilitate the implementation of the new pedagogy and ensure the teaching quality, the PI and the project team strived to provide spontaneous supports to the teachers. The project team has designed the teaching materials, teaching schedules and assessment tools. Some of the staff in the project team has taken up the grading duties. Owing to the heavy workload of the project team, we have applied for budget revision for four times in which we re-allocated the budget to hire supporting staff such as teacher assistants, research assistants and markers to help relieve the workload.

Apart from budget reallocation, the frequent staff changes during the project period, such as the resignation of Project Manager and Project Assistant, have hindered the project from being implemented according to schedule. Moreover, various positions had left untenanted for a number of months. To overcome the difficulties, the project period was extended in order to handle all accomplished back-up tasks such as grading students' exercises and evaluating questionnaires.

## Appendix

- 1) 朱啟華、Nicole Tavares、蕭勵中、周志堅、何洵怡及蔡國滔 (2010a)。探究式學習教師手冊：小五常識科專題研習及英文科協同寫作。香港：香港大學教育學院教育應用資訊科技發展研究中心。請見 <http://web.edu.hku.hk/staff/samchu/docs/book/Teacher-Guide-IPjBL-P5.pdf>
- 2) 朱啟華、何洵怡、周志堅、朱順慈、蕭勵中及麥若琪 (2010b)。探究式學習教師手冊：小四常識科專題研習。香港：香港大學教育學院教育應用資訊科技發展研究中心。請見 <http://web.edu.hku.hk/staff/samchu/docs/book/Teacher-Guide-IPjBL-P4.pdf>
- 3) 朱啟華、羅皓章、蔡國滔、麥若琪及潘樂輝 (2010c)。探究式學習學生筆記：Google Sites 使用手冊。請見 <http://web.edu.hku.hk/staff/samchu/docs/book/Google-Sites-Notes-for-P5-Students.pdf>
- 4) Fu, O.H., Chu, S.K.W. & Kang, W.X. (2011). The affordances of wiki for primary-school students' group project work. Paper presented at *the International Conference on Addressing Student Learning Diversity in Hong Kong*, Hong Kong.
- 5) Chow, K., Chu, S.K.W., Leung, O. & Yu, S. (2011). Teachers as Researchers and the Development of Teacher Professionalism. Paper presented at *CITE Research Symposium 2011*, The University of Hong Kong, Hong Kong.
- 6) Law, H.C., Chu, S.K.W., Siu F., Pun, B. & Lei, H. (2011). Challenges of Using Google Sites in Education and How Students Perceive Using It. Paper presented at *CITE Research Symposium 2011*, The University of Hong Kong, Hong Kong.
- 7) 余澤濤、方志新、郭惠娟、羅詩敏、朱啟華、葉珈甄(2011)。研究匯報：利用 Google Sites 在常識科進行協作式專題研習。優質教育基金研究計劃研討會。香港：香港大學教育應用資訊科技發展研究中心。  
(English: Yu, C.T., Fong, C. S., Kwok, W. K., Law, S. M., Chu, S.K.W. & Ip, I. (2011). Using Google Sites for Collaborative Inquiry Projects in General Studies. Paper presented at *CITE Research Symposium 2011*, The University of Hong Kong, Hong Kong.)
- 8) Chow, K., Chu, S. K. W. , Tavares, N., Siu, F., Chu, D., Ho, S. Y. (2010). *An emerging role of teacher-researchers in Hong Kong through a school-university collaborative research project*. Forthcoming at The 2<sup>nd</sup> East Asian International Conference on Teacher Education Research. The Hong Kong Institute of Education, Hong Kong. Dec 15-17, 2010.
- 9) Chu, D., Chu, S. K. W., Tavares, N., Siu, F., Chow, K. & Ho, S. Y. (2010). *Media awareness in the age of new media: A case study of Primary 4 students in Hong Kong*. Paper presented at ASIS&T

2010 Annual Meeting. Pittsburgh, PA, Oct. 22-27, 2010.

- 10) 羅詩敏、朱啟華、鍾秀婷、許文俊、郭惠娟、張惠卿、余澤濤 (2010)。研究匯報：透過探究式學習改善小四學生的中文讀寫能力。《優質教育基金研究計劃研討會》。香港：香港大學教育應用資訊科技發展研究中心
- 11) 謝錦玉、朱啟華、胡詠恒、潘樂輝、袁樂彤、嚴儲文 (2010)。長洲聖心學校協作探究式專題研習(IPjBL)的進程分享。《優質教育基金研究計劃研討會》。香港：香港大學教育應用資訊科技發展研究中心
- 12) Fong, C.S., Chu, S.K.W., Tsang, G.W.K. & Mak, M.Y.K. (2010). How Web 2.0 enhances collaborative teaching: the experience of Canossa Primary School. Paper presented at *the Quality Education Fund Project Seminar: Sharing the Experience*, The University of Hong Kong, Hong Kong, October 9, 2010.
- 13) Hui, O. S., Chu, K. W., Mak, Y. K., Yim, Charles, Pun L. F. & Liu, T. (2010). The roles of teacher librarians in collaborative inquiry project-based learning. Paper presented at *the Quality Education Fund Project Seminar: Sharing the Experience*, The University of Hong Kong, Hong Kong, October 9, 2010.
- 14) Law, H. C., Chu, S.K.W., Pun, L. F. & Lei Huey. (2010). The role of Information Technology in collaborative inquiry project-based learning. Paper presented at *the Quality Education Fund Project Seminar: Sharing the Experience*, The University of Hong Kong, Hong Kong, October 9, 2010.
- 15) Chu, S. K. W., Chow, K., Wong, K. & Ng, J. (2011). Inquiry project-based learning with Wiki at Primary 5 level with a collaborative teaching approach. Paper presented at QEF Project Dissemination Symposia: Applying a collaborative teaching approach to inquiry project-based learning with Web 2.0 at upper primary levels, the University of Hong Kong, Hong Kong, June 30, 2011.