

Dedicated Funding Programme for Publicly-funded Schools

Project Number: (To be assigned by the EPMS)

Name of School: 優質教育小學
Quality Education Primary School

Project Title: 互動電子學習計劃
Interactive e-learning Programme

Beneficiaries: Primary

Estimated Number of Direct Beneficiaries: Student: 320 (P.1 to P.4)

Beneficiaries: Teacher: 30
Parent: 0
Others (Please specify): 0 ()

1. Project Needs

1.1 Project aim(s)

This project aims to increase teacher-student interaction and student-student interaction in lessons, enhance students' learning motivation, and improve the learning and teaching effectiveness with the use of interactive whiteboards.

1.2 School-based innovative element(s)

- Compared to traditional blackboards, the functions of interactive whiteboards could better facilitate learning and teaching. Teachers can enrich the content of lessons and enhance students' learning interest by infusing more e-learning elements and making good use of the Internet as well as other e-learning resources in lessons.
- Our school has purchased interactive whiteboards for P.5 and P.6 classrooms in the 2021/22 school year. It was observed that students' participation was enhanced in lessons. According to a questionnaire survey, about 90% of students mentioned that e-learning could enhance their interest and motivation in learning and increase their interaction with classmates. Therefore, our school hopes to extend the use of interactive whiteboards to the whole school and optimize the e-learning facilities in P.1 to P.4 classrooms, thereby improve the effectiveness of learning and teaching.

1.3 Meeting with school-based/students' needs

Item: Relevance to the school development plan of this cycle/major concern

"Cultivating students' self-directed learning mindsets, attitudes and abilities" is one of the major concerns of our school's three-year development plan. Our school has implemented a number of measures to cultivate students to use different e-learning tools, such as the online learning platform, to enhance students' ability of self-directed learning, the results were motivating.

In view of above, one of the school's major concerns in the next three-year development plan will be "improving the implementation of e-learning to enhance students' self-directed learning ability". Our school is determined to optimize the information technology facilities and equipment as well as e-learning at school so that students would be benefited.

Item: School context

The school's projection equipment is deteriorating and the projected images are blurry. If teachers want to show students' works on tablet computers to the whole class, the images are unclear. Electronic whiteboards could allow teachers to supplement text and images on the screen and present abstract concepts effectively.

Our school started to implement "flipped classroom" in the 2021/22 school year. Teachers developed various types of learning activities before, during and after the lessons to collect data on students' learning, provide feedback as appropriate to improve the effectiveness of teaching. Electronic whiteboards could allow more flexibility to meet the needs of various learning activities, thus improving the effectiveness of e-learning.

2. Project Feasibility

2.1 Key concept (s)/rationale(s) of the project

Item: Reference the Education Bureau curriculum documents/guidelines

The main rationale of the project comes from the suggestions of "Working Group on Textbooks and e-Learning Resources Development - Main Report" as mentioned in EDB's "The Fourth Strategy on IT in Education" policy document that, there would be a "paradigm shift" from teacher-centered approach to student-centered approach through e-learning in the 21st century's education. The various functions of interactive whiteboards can significantly increase students' participation in lessons, effectively increase students' interest in learning, and ultimately achieve the goal of fostering students' self-directed learning.

Item: Others

Electronic whiteboards have more comprehensive functions compared to traditional blackboards, including displaying students' individual or group works instantly, and having diversified display tools and learning platforms. Teachers can display the learning content and record students' learning process more effectively. Students can thus have more participation and interaction in the learning process. In addition, electronic whiteboard software consists of recording function, which facilitates teachers to record the teaching content in lessons, which can be used for self-reflection and as reference for making improvement of teaching in future. Moreover, electronic whiteboards can display images clearly. It is not necessary to dim the classroom when using it which can protect students' eyesight.

2.2 School's readiness

Item: Facilities and equipment already purchased by the school

Since the 2016/17 school year, the school has been preparing for the implementation of e-learning and has been actively improving the campus equipment. In 2016, the school has established the school-wide WiFi network using the funding provided by WIFI 900, allowing teachers to incorporate e-learning elements in teaching.

Item: Relevant school experience

Our school has established an e-learning team to promote the development of e-learning in school. Teachers of all subjects have the experience in using tablet computers for teaching. Our school has also purchased electronic whiteboards and installed movable blackboards for six classrooms. Teachers in charge of e-teaching are already familiar with the use of electronic whiteboards. They can share their e-teaching experience with other teachers.

Item: Relevant school experience

The school has launched the BYOD program in P.5 and P.6. Four subjects in P.5 and P.6 are using e-textbooks. Students use tablet computers in learning. The effectiveness of e-learning was further enhanced by using electronic whiteboards.

2.3 Principal and teachers' involvement

School Staff: Principal Duties: Monitor and supervise
School Staff: Vice principal Duties: Monitor and supervise, coordinate / collaborate, plan curriculum / activities, process funding
School Staff: Project leader Duties: Formulate plans, monitor and supervise, coordinate / collaborate, plan curriculum / activities, process funding
School Staff: Subject panel head Duties: Monitor and supervise, coordinate / collaborate, conduct / participate in activities, consolidate learning and teaching materials
School Staff: Subject teachers Duties: Conduct / participate in activities, consolidate learning and teaching materials

2.4 Project period

Project Start Date and End Date: From 06/2024 to 07/2025
The project lasts for 1 year(s) and 2 month(s).

2.5 Details of project activities

a. Project implementation measures

Activity 1: Using electronic whiteboards in classrooms		
<u>Implementation period:</u> 09/2024 - 06/2025		
<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
<ul style="list-style-type: none"> Chinese Language Education (P.1 to P.4) 	<p>Learning and teaching activities examples: Creative activities in Chinese Language</p> <p>Topic: Understanding Practical Texts (P.2)</p> <ul style="list-style-type: none"> - Display different practical text examples using the electronic whiteboard - Teacher assigns activities about the format of practical texts using tablet computer. Students circle the errors and make corrections on their tablets. - Teacher marks students' work instantly on the tablet. 	8 sessions in each level, about 35 minutes in each session

	<ul style="list-style-type: none"> - After marking, Teacher displays students' work on the electronic whiteboard and give feedback. Then Teacher saves the content on the screen, convert it to notes and sends it to the whole class through the e-learning platform. <p>Topic: Teaching Informational Text (P.4)</p> <ul style="list-style-type: none"> - Students learn about the living habits and characteristics of owls by watching videos. Students are divided into different groups, each responsible for a pre-lesson task. - Teacher assesses students' understanding of the topic by reading their pre-lesson task. - In the lesson, Teacher displays students' works on the electronic whiteboard and comment on the works with students in an interactive manner. Making use of the pre-lesson task, conduct a drag-and-drop matching exercise on the electronic whiteboard. Students then write sentences that include three to four physical characteristics of owls with designated sentence patterns. - Teacher invites students to vote for their favorite work, give comments or revise the sentences together. 	
English Language Education (P1 to P4)	<p>Learning and teaching activities examples:</p> <p>Topic: Activities and Places at School (P.1)</p> <ul style="list-style-type: none"> - Students work in pairs to match the pictures of different people to different locations at school on tablets after listening to teachers' descriptions of their activities. - Display students' work on the whiteboard instantly. Students will be invited to rate the work. - Students will then share-write sentences on the whiteboard about what Ms Chan and her class are doing in the school hall. Students will use different font colours to indicate the use of the target vocabulary. The work will be saved and shared to students to support them in the independent writing task at home. 	8 sessions in each level, about 35 minutes in each session

	<p>Topic: School Life (P.3)</p> <ul style="list-style-type: none"> - Students work in groups on their tablets to brainstorm ideas about the school picnic by using the 6 “Wh- questions”. - The teacher presents students’ input on the whiteboard and invites them to give comments instantly. - The teacher uses the “highlight and save” functions on the whiteboard to share the initial ideas to students so that they can prepare for the writing task at home. 	
<ul style="list-style-type: none"> - Mathematics (P.1 to P.4) 	<p>Learning and teaching activities examples:</p> <p>Topic: Distinguishing three-dimensional shapes, drawing vertical lines, measuring angles, division (P.2)</p> <ul style="list-style-type: none"> - Display different three-dimensional shapes on the electronic whiteboard and let students distinguish different shapes by dragging. Display different real life pictures and let students identify three-dimensional shapes in daily life. Count the number of three-dimensional shapes and show the results in pictograms. - Use the electronic whiteboard’s ruler function and set square function to demonstrate how to draw vertical lines clearly. - Demonstrate how to use the set square or ruler function to measure and determine whether there are right angles. - Use the drag and drop tool of the electronic whiteboards to demonstrate the concepts of “division” and “inclusion”. <p>Topic: Distinguishing two-dimensional shapes or quadrilaterals, concept of fractions (P.3)</p> <ul style="list-style-type: none"> - Display different two-dimensional shapes on the electronic whiteboard, and let students use the drag and drop function to classify different shapes, display pictures of different objects and distinguish two-dimensional shapes in real life. - Use the e-learning management system of tablet computers to set up activities about shapes and ask students to color the shapes to express the concept of “fractions”. Teacher can display the 	<p>8 sessions in each level, about 35 minutes in each session</p>

	students' works on the electronic whiteboard and asks students to evaluate and then consolidate students' concept of fractions.	
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Number of school personnel and/or appointed project staff involved and respective duties:

- Teachers of the e-learning team are responsible for arranging and monitoring teachers' co-planning activities
- P.1 to P.4's Chinese, English and Mathematics teachers are responsible for designing and conducting teaching activities

Expected outcomes:

- Students can participate more in interactive activities and receive immediate feedback which helps consolidate the knowledge and clarify concepts.
- Students can review teachers' notes at home. This facilitates their self-directed learning.
- Electronic whiteboards can store students' works, such as practical texts, informational texts, etc., making it easy for teachers to send these works to students immediately. This increases the opportunities for students to learn from each other, thereby building their confidence.
- Students can use functions of electronic whiteboard such as real-time interactive games, real-time voting, electronic notes wall and interactive games in e-books, etc. so student-teacher and teacher-student interaction in lessons, students' interest and confidence in learning, are enhanced, such that , learning effectiveness is improved.
- Students can create pictograms, block charts and bar charts and have discussion in real time, their participation is increased when they use the interactive functions on the screen and they are more motivated to learn.
- Electronic whiteboards can facilitate teachers and students to conduct real-time activities in class, increase the interaction between students and allow students to make real-time comparisons as well as analyses. Teachers can also provide real-time feedback to improve the effectiveness of learning and teaching.

Activity 2: Using electronic whiteboard in General Studies Room

Implementation period:

09/2024 - 06/2025

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
<ul style="list-style-type: none"> • General Studies (P.1 to P.4) 	<p>Learning and teaching activities examples:</p> <p>Topic: Materials and Energy at Home (P.1)</p> <ul style="list-style-type: none"> - Teacher uses the electronic whiteboard to display different household items and asks students to use the drag and drop function of the electronic whiteboard to group the items according to their materials. 	<p>8 sessions in each level, about 35 minutes in each session</p>

	<ul style="list-style-type: none"> - According to the requirements of the scenario, students draw a dining table that is suitable for a family on the tablet computer and label its material and features. - Display the works of each group and conduct peer evaluation using the mirroring function of the whiteboard. <p>Topic: Be smart in shopping (P.3)</p> <ul style="list-style-type: none"> - Siu Ming needs to buy a new water bottle for his picnic. Teacher shows the prices and features of different water bottles. - Students conduct group discussions and draw mind maps using tablet computers to analyze the advantages and disadvantages of different water bottles, then select the most suitable water bottle. - Display each group's choice using the mirroring function of the whiteboard, have discussions with students and conclude the lesson. 	
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Number of school personnel and/or appointed project staff involved and respective duties:

- Teachers of the e-learning team are responsible for arranging and monitoring teachers' co-planning activities
- General Studies teachers are responsible for designing and conducting teaching activities.

Expected outcomes:

- Students can participate more in interactive activities and receive immediate feedback which helps consolidate the knowledge and clarify concepts.
- Students can make use of thinking tools, such as "comparison of similarities and differences", "listing special features" or mind maps to consolidate higher-order thinking skills.
- Electronic whiteboards can facilitate teachers and students to conduct real-time activities in class, increase the interaction between students and allow students to make real-time comparisons as well as analyses. Teachers can also provide real-time feedback to improve the effectiveness of learning and teaching.

Activity 3: Conducting reading activities in Library

Implementation period:

09/2024 - 06/2025

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
Library lessons (P.1 to P.4)	<p>Learning and teaching activities examples:</p> <p>Topic: Ways to search for information (P.3)</p> <ul style="list-style-type: none">- Students read some information and then play a game on the electronic whiteboard to find out “unreliable information”. Teacher explains the correct answers and asks students to point out the more controversial ones, then invite students to conduct peer evaluation. <p>Topic: Understanding the Ten-Step Reading Method (P.4) - Reading “The Wizard of Oz”</p> <ul style="list-style-type: none">- Students read “The Wizard of Oz” using tablet computers. Teacher then invites students to discuss some parts of the story and work in groups to find out the elements of the ten-step reading method, and fill the answers in the worksheets on the tablet computers. Then Teacher projects students’ works on the electronic whiteboard. Students can instantly read the answers and compare the differences among different groups. After that, Teacher analyzes the similarities and differences of the works with the students and explains with reasons.	4 sessions in each level, about 35 minutes in each session

Number of school personnel and/or appointed project staff involved and respective duties:

- Teachers of the e-learning team are responsible for arranging and monitoring teachers’ co-planning activities
- P.1 to P.4’s Teacher-librarians are responsible for designing and conducting teaching activities.

Expected outcomes:

- Teachers instantly know whether students understand the teaching content.
- Students listen attentively to picture book stories, actively participate in activities, and their interest in learning is increased.
- Real-time interactive activities can increase students’ engagement in lessons and enhance their interest to learn.

- Students instantly analyze the similarities and differences among the works and the teacher provides instant comments to help students understand the difficult parts.

Activity 4: Conducting learning activities in Computer Room

Implementation period:

09/2024 - 06/2025

<u>Key learning stages and key learning areas/subjects/learning elements</u>	<u>Content</u>	<u>Number of sessions</u>
Computer Literacy (P.1 to P.4)	<p>Learning and teaching activities examples:</p> <p>Topic: First experience of 360 scene (P.2)</p> <ul style="list-style-type: none"> - Use 3D creation software to drag, rotate and resize different built-in three-dimensional objects such as plants, animals, buildings, etc. Invite students to create 3D scenes and add characters to the scenes together. Use the touch and drag function of the interactive whiteboard to add dialogue boxes to create storylines. <p>Topic: 3D Drawing (P.3)</p> <ul style="list-style-type: none"> - Use 3D drawing software to create an ideal school building. Use the multiple selection function to select several 3D shapes and merge them into groups of images (joined walls) or to create a transparent part (creating windows). - Display students' works on the interactive whiteboard and invite students to introduce their work so as to improve the works. 	4 sessions in each level, about 35 minutes in each session

Number of school personnel and/or appointed project staff involved and respective duties:

- Teachers of the e-learning team are responsible for arranging and monitoring teachers' co-planning activities
- P.1 to P.4's Computer Literacy teachers are responsible for designing and conducting teaching activities.

Expected outcomes:

- The electronic whiteboard allows students or teacher to move objects and see the changes instantly. This enhances students' participation and the effectiveness of teaching.
- The electronic whiteboard can display different strokes effects and has zoom-in and zoom-out functions which allows students to understand the effect of their creation effectively.

- Students instantly analyze the similarities and differences among the works and the teacher provides instant comments to help students understand the difficult parts.

b. Teacher training (if applicable)

Activity 1: Teacher's Sharing Sessions

Implementation period:

06/2024 - 07/2024

Content:

The first sharing session:

- Invite General Studies and Mathematics teachers who are experienced in using electronic whiteboards to share how to conduct lessons with electronic whiteboards effectively
- All teachers shall attend this sharing session

The second sharing session:

- Invite Chinese and English teachers, and teacher-librarian who are experienced in using electronic whiteboards to share how to conduct lessons with electronic whiteboards effectively
- All teachers shall attend the this sharing session

Session:

- Twice a year, 1 hour for each session

Training Staff in School or Hired:

- Teachers who are experienced in designing and conducting interactive teaching, 4 teachers in each session

Expected outcome:

- Participating teachers agree that the content of the sharing sessions about using electronic whiteboards and information technology in teaching is useful.

Activity 2: Training Workshop on the functions of interactive whiteboard

Implementation period:

07/2024 - 08/2024

Content:

- Provide training to teachers of relevant subjects so that they can master the design and key points of learning activities of the curriculum, and the skills of using relevant software and hardware of the interactive whiteboards.

Session:

- 2 sessions in total, 1 hour for each session

Training Staff in School or Hired:

- Teachers who are experienced in using electronic whiteboards in teaching will serve as the instructors/speakers

Expected outcome:

- Teachers agree that the workshop can help them master the design and key points of learning activities of the curriculum, as well as master the skills of using relevant software and hardware of the interactive whiteboards.

c. Other measures and activities (if applicable)

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2.6 Budget**a. Staff cost**

Post title	Full-time equivalent	Appointment requirements	Monthly salary	Mandatory Provident Fund	Employment period (months)	Amount(\$)	Justification
Sub-total on staff cost :							0

b. Service cost

Item	Service details	Unit cost	Quantity	Unit	Amount(\$)	Justification
Sub-total on service cost :						0

c. Equipment cost

Item	Specifications	Unit cost	Quantity	Unit	Amount(\$)	Justification
Interactive electronic whiteboards	-86 inches or above -with interactive electronic screens -with electronic connection panel 1 set for each of the 12 classrooms for P.1 to P.4 1 set for General Studies Room 1 set for Library 1 set for Computer Room	30,000	15	set	450,000	-The school's management team conducted on-site testing and comparison before purchasing the electronic whiteboard. It was found that the 75-inch electronic whiteboard was quite small for junior primary students so a larger screen was needed to allow students to read information clearly.

						-Our school began to introduce e-learning management system in the 2018/19 school year. Interactive activities could be held through the system. If the screen is larger, students' learning will be more effective.
Combined sliding white/blackboards	A modular cabinet composed of aluminum alloy frame, rails, blackboard or whiteboard and wall-mounted board. The said combination will be designed with reference to the location for installing the interactive whiteboard and the setting of the rooms.	8,000	15	set	120,000	The original blackboards would be removed to install the sliding white/blackboards so that sufficient writing space is provided.
Sub-total on equipment cost :						570,000

d. Works cost

Item	Works details	Amount(\$)	Justification
Removal fees	Remove existing blackboards in 15 rooms	30,000	
Installation fees	1) Install wall-mounted interactive electronic whiteboards 2) Install sliding white/blackboards (\$5,000 x 15 rooms)	75,000	
Sub-total on works cost :			105,000

e. General expenses

Item	Amount(\$)	Justification
Teaching materials and teaching tools	1,000	For purchasing relevant teaching materials and teaching tools
Sub-total on general expenses :		1,000

f. Contingency

Item	Amount(\$) (Round down to the nearest integer)	
Works contingency	10,500	
General contingency	17,100	
Sub-total on contingency :		27,600

g. Audit fee

	Amount(\$)	
Audit fee	5,000	
Sub-total on audit fee :		5,000
Total amount of funding sought :		708,600

3. Expected Project Outcomes

3.1 Deliverables/positive impact on the school's development

Item: Design lesson plans for e-learning

It is expected that the project will enable teachers to use information technology to implement different forms of e-learning and use diversified teaching materials to make the lessons more interesting and arouse students' interests. At the same time, teachers' professional knowledge could be enhanced. Teachers will design lesson plans that support e-learning for P.1 to P.4 and make use of the functions of the electronic whiteboard to improve the effectiveness of learning and teaching. The designed teaching resources can also be shared with the school sector as a reference for developing e-learning.

3.2 Evaluation

Evaluation Method: Questionnaire

Success criteria:

- Effectiveness of implementing the school-based interactive e-learning program (Performance indicator: 80% of teachers and students agree that electronic whiteboards can enhance teacher-student interaction and student-student interaction in lessons)
- Increase students' interest in participating in classroom activities (Performance indicator: 80% of teachers and students agree that electronic whiteboards can increase students' interest in participating in classroom activities)

- Help students grasp the learning focus (Performance indicator: 80% of teachers and students agree that electronic whiteboards can help students grasp the learning focus)
- Enhance teachers' professional capabilities (Performance indicator: 80% of teachers agree that the project has enhanced their confidence and ability in implementing interactive e-learning)

Evaluation Method: Lesson/activity observation

Success criteria:

- Observe teachers' skills in using electronic whiteboards and students' classroom performance through lesson observations (Performance indicators: all teachers can use electronic whiteboards to conduct interactive learning activities with students, 90% of students are engaged in learning and have meaningful interactions with classmates)

3.3 Sustainability of the project (only applicable to applications with total funding sought exceeding \$200,000)

- The school will make good use of the relevant equipment to continue organizing learning and teaching activities after the completion of the project.
- After the project is completed, the school will be responsible for paying the recurrent expenses of the equipment.

3.4 Dissemination (only applicable to applications with total funding sought exceeding \$200,000)

Item: Seminar/sharing session

- 1) Invite other schools to conduct lesson observations to promote professional exchange.
- 2) Share the outcomes of this project in the school's newsletter and website, publish the e-learning information of different subjects and display students' works for other teachers' reference.

When writing this proposal, did the school refer to the sample proposal/project(s) approved with funding support at the Quality Education Fund (QEF) website?

Yes, the sample proposals on QEF website were referenced.