

Quality Education Fund
Application with Grant Sought Not Exceeding \$200,000
Part B: Project Proposal (Revised)

| | |
|---|------------------------------------|
| Project Title Developing school-based digital learning resources (DLR) to cater for students with special educational needs | Project Number 2017/0174 |
|---|------------------------------------|

Basic Information

Name of School / Organisation / Individual
Fortress Hill Methodist Secondary School

Beneficiaries

- (a) Sector: Kindergarten Primary Secondary Special
(Please tick the appropriate box(es))
- (b) Students: 130 (in number)* and S1-S3 (class level/age)*
- (c) Teachers: 7 (English) , 30 (other subjects) (in number)*
- (d) Parents: 250 (in number)*
- (e) Participating Schools (excluding applicant school): 0 (in number and types)*
- (f) Others (please specify): Nil

** Please specify where appropriate*

Proposal

(I) Project Needs

- (a) Please state the aims of the project in clear and concise terms and elaborate on how the proposed project could impact on school development.
1. To incorporate digital learning into the school-curriculum
 2. To enhance students' motivation in self-learning through school-based programme
 3. To cater for learning diversity
 4. To enhance teaching and learning

Fortress Hill Methodist Secondary School is a CMI subsidized school that serves students with special educational needs e.g. Asperger's Syndrome, autism, dyslexia, limited intelligence. Students with SEN often become frustrated because they see themselves incompetent in language learning (particularly a second language), thus generally making them unmotivated to read. Searching for suitable materials in the market has always been a difficult task for teachers. We believe an interactive and innovative e-learning programme is beneficial to our students.

The e-learning programme will be an extension of the school-based modules. They are prepared into 3 different levels to cater for learning diversity. Each module has 3 different levels to cater for learning diversity. Since the vocabulary and grammar items will be re-cycled, students will gradually develop confidence in learning English. They can also read in their free time to enhance their self-learning skills. As competence in reading improves, motivation typically increases, generating a cycle of engagement, motivation, and competence that supports better academic achievement for students with varying abilities (Irvin, Meltzer, & Dukes, 2007). Digital learning technologies can enable students to grasp concepts more quickly and fully, to connect theory and application, and to engage in learning more readily. It can also enhance teaching and learning effectiveness through instant feedback. From our experiences of implementing e-learning, we strongly believe that the school-based programme can enhance students' interests and competency in learning English.

(i) What are the areas of the needs and priorities of the school?

(Please tick the appropriate box(es))

- Enhance learning and teaching to facilitate students' knowledge on subjects
- Leadership and teachers' professional development

(ii) Please give background information to justify the demonstrated needs as mentioned in (b)(i).

School development plan:

- One of the major concerns of our School's 3-year plan 2015-2018 is to enhance students' learning through refining the school-based curriculum.
- After considering students' learning disabilities, the school-based modules are devised into three different levels in each form (S1-6). Students from the 2 classes are split into three groups according to their learning abilities.
- In the past 3 school years, we have been using online learning programmes in several subjects. As digital learning has proven its educational value, the school now aims to promote digital learning in all subjects.

Survey findings:

- According to the result of the school APASO 2016-2017, the score of students' confidence in reading is below average.
- It is in line with both teachers' observation and parents' feedback. The score of readiness for IT learning is above average. Students showed low confidence in English learning but much better competency in IT learning.
- In order to better utilize students' interest in IT and boost their confidence in reading, we conclude that an e-learning programme with a school-based curriculum will be essential to enhancing students' English learning.

Literature review summary:

Digital Learning Resources (DLR) plays a vital role in the transformation of education by aiding the teaching and learning process. DLR engages, attracts, excites and inspires learners of all ages, abilities and needs. Arousing and channeling the students' creativity, they can be adapted to be more stimulating materials for personalizing learning. (Becta, 2008). Another research also suggests DLR a promising tool to promoting attainment, access and participation of students with diverse learning needs, which include SEN students. With the increased technology availability and technological literacy of all citizens nowadays, every student should have the opportunity of educational equity. Special Education is a niche that needs further investment with special attention to the skills of students and teachers. An effort should be made to raise awareness for the use of and the development of good quality inclusive DLR. (Jaime Ribeiro, Ana Margarida Almeida and António Moreira1, 2011)

Assessments on students' performance:

Two types of assessment are used at school to assess students' learning: formative and summative. After the examination, students' performance is reflected in their report cards. Yet, we find summative assessments 2-4 times per year is not conducive to making timely adjustment in our teaching progress, methodology and attention to give to individual students. This can be addressed by the progress data provided by an e-learning management system. Instant feedback also allows students to connect with what they have learnt in class.

In 2016-1017, 82% of the students in the more-abled group read more than 12 books a year. However, there are only 10% of the students in the weakest group read more than 10 books. More-able students found it easier to look for books of their interests. However, weaker students had difficulty in looking for books of appropriate level to read. Therefore, we propose a school-based e-learning platform to let students read more English texts with a variety of themes and content relevant to their level of difficulty.

Relevant experiences:

Most of our teachers are experienced in developing and maintaining the school-based Web Electronic Reading system sponsored by the English Enhancement Scheme. All teachers are participated in designing school-based materials for students. What they need is some professional editing and fine-tuning inputs. For our students, they have been using online e-learning services since 2013. About 50 % are frequent users with great interest in it.

- (c) Please elaborate on the innovative ideas or new practices to enhance, adapt, complement and/or supplement the existing practices that will facilitate the development of the school to address the needs specific to its own context.

We see an e-learning platform with school-based content an essential component to enhance students' learning effectiveness. The instant learning process data and detailed outcome statistics provide timely feedback to our teaching, which is particularly useful for SEN students. Our teachers can adjust their teaching schedule and teaching materials according to students' learning process, in-class performance and follow-up exercises. The automated functions of the platform would also allow teachers to provide learning support to students of different abilities in a handy way. Students can also access to the learning materials both in and out of classes, which is useful for those who need more time to catch up with the progress. This will greatly improve the efficiency and effectiveness of our teaching and help students learn in ways that are more likely to suit their individual learning needs and progress.

(II) Project Feasibility

- (a) Please describe the design of the project, including:
- (i) Approach/Design/Activity (Applicants are advised to provide details on project activities as well as learning and teaching arrangements.)

For many schools, e-learning platforms are only one of the supplementary tools to help cultivate self-learning habit of students and provide extra exercises. Yet, our school believes that a thoughtfully designed and competently built e-learning programme could be a key component of our English curriculum and a major tool for our teachers to realize an effective differentiated learning approach.

1) Motivational Schemes

Our students genuinely love interactive online learning which gives them instant feedback and also a sense of control over their learning progress. Linking the two, we also aim to adopt various incentivized elements like e-pets, language games and coin accumulation system. These proved effective in enhancing learning motivation of our students in our previous e-learning initiatives.

2) School-based curriculum

The school has developed a school-based curriculum and most of the materials are designed by our teachers to specifically cater for our students' needs. Due to limited resources and heavy workload, we would like to introduce external curriculum experts to

- refine our existing materials
- develop supplementary materials to make our school-curriculum a solid one that suits the needs of our students and achieves all its objectives;
- make all existing and new materials suitable for the digital learning programme.

The programme will provide animated learning content embedded with a wide range of functions including reading aloud, highlighting key vocabulary, enlarged font size, dictionary, follow-up exercises and instant marking and explanation, as well as dictation.

3) Flipped Classroom and Individualized Teaching and Learning

The content will be developed as an integral part of our school curriculum.

- Pre-lesson modules will be developed for students to complete at home as preparation for classes.
- Teachers will then focus on the highlights of the materials and the problematic areas as indicated by the statistics of the pre-lesson modules during classroom teaching.
- The whole learning process will be followed by an in-class assessment quiz, so that teachers can better monitor students' learning processes and provide suitable support to students of different progress. In order to prepare materials for the future use, the percentage of this digitalized content and teaching flow will start from 10 to 20% of all lessons in the first year, to 50% in the second year.

4) Real-time assessment and evaluation

- The programme makes individualized teaching and learning at one's finger tips. We expect the Learning Management System (LMS) of our e-learning programme to enable teachers to closely monitor key indicators of students' learning milestones and participation statistics. Teachers can then assign preset suitable materials to students according to their needs. Stronger learners can be supported with advanced extended exercise, whilst struggling students are given timely and specific guides suitable to his/her learning approach.

5) A Data-led Intelligent System

- Students will be assigned to suitable learning levels according to their performance, and such leveling will be reviewed and adjusted regularly and as soon as students' needs change. Subsequently, weaker students can catch up faster by consolidating basic knowledge while high achievers can extend their learning to more advanced level.

Expected outcome:

- enhancing student's learning interest and sustained motivation in learning English;
- improving teaching effectiveness, particularly in terms of the monitoring of individual students' learning progress and learning needs and the ability to address them instantly with suitable materials through automatic data analysis and preset learning modules for students of varying learning progress;
- refining the school-based curriculum and a complete set of teaching materials for differentiated teaching and learning, as well as efficient teaching and learning repertoire to realize the curriculum objectives;
- sharing of our experiences with fellow schools in exchanges and through presentations in educational seminars.

(ii) Key Implementation Details

Project period: (1/8/2018) to (30/11/2020)

| Stage | Month / Year | Content / Activity / Event | Target Beneficiary/Participants |
|----------------|-----------------------------|--|---|
| Preparation | May-July 2018 | <ul style="list-style-type: none"> ■ Tender specifications for the school-based e-learning programme ■ Shortlisting and discussion with potential vendors ■ Preparing content for the programme for S1-S3 students | <ul style="list-style-type: none"> - English panels - All English teachers - I.T. technicians - Librarian - Reputed vendors |
| Implementation | September 2018 - March 2019 | <ul style="list-style-type: none"> ■ Developing 36 lessons' materials (4 lessons X 3 levels X 3 forms (S.1-3) for trial teaching ■ Database and programming framework of the e-learning programme ■ Learning Management System (LMS) ■ Major functions of the e-Learning programme ready | <ul style="list-style-type: none"> - All English teachers - I.T. technicians - Librarian - Reputed vendors |
| | April – August 2019 | <ul style="list-style-type: none"> ■ Trial lessons of the online platform. ■ Review and feedbacks from teachers and students ■ Fine-tuning and bug fixing of the e-Learning programme ■ Develop the remaining 36 lessons' materials (4 lessons X 3 levels for each form) ■ Amendments and (if needed) redevelopment of lesson materials ■ Student and teacher questionnaires | <ul style="list-style-type: none"> - Focus group - Parents - All English teachers - I.T. technician - Head of Librarian - Chosen vendor |
| | September 2019– March 2020 | <ul style="list-style-type: none"> ■ Full implementation of the curriculum and full running of the e-learning programme ■ Classroom visit by affiliated schools ■ Review and feedbacks from teachers and students ■ Fine-tuning and bug fixing of the e-Learning programme ■ Classroom observation (Staff development programme) | <ul style="list-style-type: none"> - Principal - All S1-S3 students - Parents - All English teachers - I.T. technician - Chosen vendor - Academic members and teachers of other subjects |
| Assessment | April - August 2020 | <ul style="list-style-type: none"> ■ Comprehensive review ■ Student and teacher questionnaires ■ Focus group sessions of teachers and students ■ Data analyses and project report ■ Installation of the e-Learning programme to a school server | <ul style="list-style-type: none"> - Principal - All S1-S3 students - Parents - All English teachers - I.T. technician - Chosen vendor |
| Sustainment | September 2020 and beyond | <ul style="list-style-type: none"> ■ Maintenance and support service by the vendor at a reasonable fee linked to student population and inflation | |

(b) Please explain the extent of teachers' and/or principal's involvement and their roles in the project.

(i) Number of teachers involved and degree of input (time, types, etc.):

The principal will be the project manager and consultant; he will provide us with regular feedback on the improvement of the project. The Academic Team Panel will be the executive project manager. The English panels will be responsible for the progress of the project. All English teachers will take part in the project by contributing content materials, trying out and adopting the programme in their classes. The teachers will have regular meetings to evaluate and provide feedback regarding the performance of the students and the appropriateness of the materials. Teachers of other subjects will also participate in the Staff Development Programme.

(ii) Roles of teachers in the project:

(Please tick the appropriate box(es))

Leader

Co-ordinator

Developer

Service recipient

Others (please specify) _____

(iii) Roles of parents in the project:

Parents are a key stakeholder group of this project. They are our collaborator and beneficiary. The school will provide training to parents on how to help their children make good use of self-learning and monitor their learning progress. Parents can enjoy parent-child reading with their children at home using the programme as well.

(c) Please provide the budget of the project and justify the major items involved.

Grant Sought: HK \$176,200

| Budget Item* | Expenditure Detail (Including the breakdown for the budget items) | | Justifications |
|--------------|---|-------------|---|
| | Item | Amount (\$) | |
| Service | E-learning platform development | \$102,000 | <ul style="list-style-type: none"> - Different learning levels to cater for students' varying needs and English abilities - The programme needs to support PC, tablet and mobile devices. - Students' progress report - Voice-over with sub-title for SEN students - For sustainability, teachers can revise existing materials and input new materials if needed. |
| | Programme structure: | (\$36000) | |
| | <ul style="list-style-type: none"> ■ 72 lessons and animation with comprehensive exercises - voice-over with sub-title - varied exercises types: multiple choice, matching, sequencing, true or false, table and fill in the blanks. - anti-cheating system - auto-marking and explanation - e-dictation and vocabulary bank - skill-oriented exercises with intelligent analysis for students | | |
| | <ul style="list-style-type: none"> ■ Students' learning report ■ Ranking system ■ Learning Management System (LMS) for teachers | (\$20000) | |
| | <ul style="list-style-type: none"> - accounts for all teachers and students - students' learning report - skill-based analysis report - Intelligent analysis system | (\$36000) | |
| | <ul style="list-style-type: none"> ■ School-based materials management system - teaching materials input system - existing content and exercises revised system | (\$10000) | |
| | <ul style="list-style-type: none"> ■ Technical support - Computer and tablet friendly | (\$0) | |
| | School-based Curriculum development for S1-S3 | \$57,600 | <ul style="list-style-type: none"> - Materials have to match with the school-based curriculum. - All Materials (including |
| | <ul style="list-style-type: none"> ■ 72 lessons (72 reading articles) <p>The lesson materials should include both articles and exercises. The articles should be</p> | (\$48000) | |

| | | | |
|---------------------------------|---|-----------|--|
| | e-books/animations/videos/ texts with voice-over. (3 grades X 4 modules/grade X (2 lessons X 3 levels) =72 lessons) - including Reading, Listening, Writing, Speaking, Vocabulary and Grammar exercises 72 lessons ■ Proofreading and editing will be included for all articles ■ Illustrations and animation design 72 lessons | (\$9600) | content, graphic, video and audio) have to be legal and have permanent copyright. |
| | Professional Development Workshop Management training: \$800 X 2 hrs Teacher training: \$1,000 X 8 hrs Parents' demonstration class: \$500 X 2 hrs Students' demonstration class: \$500 X 2 hrs | \$11,600 | - Equip teachers, parents and students with the latest mobile learning technologies and enhance teaching and learning effectiveness. - Trainers with English education background and training qualifications and e-learning experience |
| | ■ System hosting and maintenance for the 2-year project | \$0 | |
| General Expenses | Auditing | \$5000 | |
| Total Grant Sought (\$): | | \$176,200 | |

(III) Expected Project Outcomes

- (i) Please describe how to evaluate the effectiveness of the project.
- Observation: Teacher's observation and parent's observation
 - Focused group interviews: Students, Parents and Teacher group
 - Collecting opinions from students can help improve the design and functionality of the e-learning programme and the format and content of the differentiated learning materials. For teachers, we need to gauge from them information about the strengths and areas for improvement of the e-learning platform and the lesson materials.
 - Pre-and post-activity surveys: Surveys for students, teachers and parents
 - Performance change of students in assessment: No. of E-books read, Student' results tests and examinations will also be used as a major indicator.
 - Others: Demo lessons: Teachers will be arranged to provide trial lessons, which will be observed by other fellow teachers.
- (ii) Please state the project deliverables or outcomes.
- Learning and teaching materials
 - School-based e-learning platform (LMS system, Intelligent analysis system, School-based materials management system, Students' learning report, Ranking system), School-based Curriculum (72 lessons),
 - Resource package: User guide and lesson plan will be included.
 - Others: Students' progress report with learning modules analysis

Report Submission Schedule:

| Progress Report | Due Date | Interim Financial Report | Due Date |
|-----------------------|-----------|--------------------------|-----------|
| 1/8/2018 - 31/7/2019 | 31/8/2019 | 1/8/2018 - 31/7/2019 | 31/8/2019 |
| 1/8/2019 - 31/7/2020 | 31/8/2020 | 1/8/2019 - 31/7/2020 | 31/8/2020 |
| Final Report | 31/1/2021 | Final Financial Report | 31/1/2021 |
| 1/8/2018 - 31/10/2020 | | 1/8/2020 - 31/10/2020 | |

Appendix 1A: Lesson Plan

- a. Enhancing student's motivation in self-learning
 - Digital materials are interactive and interesting which can enhance student's motivation
 - Animation can enhance students' motivation
 - Colourful pictures and audio support can enhance student's learning as students are given language support
 - Students can control their learning
 - Digital learning materials can provide instant feedback
- b. Catering for learner diversities
 - The lesson plans will be modified to suit the needs of the students for three different groups
 - The amount of vocabulary learnt for different groups will be different, the no of vocabulary for the more-able group will be more than others
 - More IT support will be given to the less-able group
 - Higher level of autonomy will be given to the more-able group and discussion will be arranged for the more-able group
 - More complex sentence structures will be introduced for the more-able group

Topic : In the Park

Level : S1

A. 計劃 :

1. 教學目的 Teaching Objectives :

學生能 :

- a. To name the things they can see in the park
- b. To name the activities they can do in the park
- c. To discuss about the safety of playing in the park (more-able group)

2. 教學前檢視(preview before teaching)

- a. 學習的先備知識(knowledge students need to have in the learning):
 - Names of things in the park
 - Experience of playing in a park
- b. 預計學生會遇到的學習難點(difficulties students may have) :
 - What to do in a park
- c. 預習活動(如適用)(pre-exercises, if applicable) :
 - Flashcards in the school-based system

B. 教學過程 Teaching Process :

| | 時間 Time | 內容 Contents | 方法 / 活動 / 教具 Methods / Activities / Aids |
|------------------------|------------------|--|--|
| 甲. 引起動機 Motivation | 8' | <ol style="list-style-type: none"> 1. T checks Ss readiness for the lesson. 2. Ss log into the school-based system. 3. T shows Ss the flashcards related to what they can see in the park and ask Ss to name the object. -What is it? | Digital learning resources |
| 乙. 發展 Development | 5' 10' 10' | <ol style="list-style-type: none"> 1. T states the objectives of the lesson. 2. T shows Ss what they can do in the park. -What can you do in the park? 3. T shows Ss the flashcards related to what they can do in the park and ask Ss to name the activity by repeating the audio clip. 4. Group discussion for the more-able group (safety in the park) <p>Consolidation</p> <ol style="list-style-type: none"> 1. T asks Ss to complete the vocabulary test in the system. 2. T feedbacks on Ss' learning and checks their understanding. | Digital learning resources |
| 丙. 鞏固 Consolidation | 7' | <ol style="list-style-type: none"> 1. T checks Ss' understanding: What is it? What are they doing in the park? 2. T asks Ss to prepare for the next lesson by reading the Pre-reading exercise. | Digital learning resources (Pre-reading exercise) |

Flashcards

| Things we can see in a park | Activities we can do in a park |
|--|--|
|  <p>a slide (n.) I like playing on a slide.</p> |  <p>ride a bicycle (phr.) I know how to ride a bicycle.</p> |
|  <p>a see-saw (n.) Let's play on a see-saw. It's fun.</p> |  <p>fly a kite (phr.) My sister knows how to fly a kite.</p> |
|  <p>a climbing frame (n.) We can play on a climbing frame in the park.</p> |  <p>have a barbecue (phr.) I like to have a barbecue.</p> |
|  <p>a swing (n.) My sister enjoys riding on a swing.</p> |  <p>play football (phr.) I play football with Sam every Sunday.</p> |
|  <p>a bench(n.) Let's take a rest on a bench.</p> |  <p>have a picnic (phr.) Let's have a picnic under the tree.</p> |
|  <p>a pond (n.) There is a pond in the park.</p> |  <p>take a photo (phr.) Dad wants to take a photo of the flowers.</p> |

Vocabulary Exercise

Draw the lines to match the pictures with the correct words.

| | | | | | |
|---|---|--------------------|---|---|-----------|
|  | ● | ● a see-saw |  | ● | ● a swing |
|  | ● | ● a slide |  | ● | ● a pond |
|  | ● | ● a climbing frame |  | ● | ● a bench |

| | | | | | |
|---|---|-------------------|---|---|-----------------|
|  | ● | ● ride a bicycle |  | ● | ● have a picnic |
|  | ● | ● have a barbecue |  | ● | ● play football |
|  | ● | ● fly a kite |  | ● | ● take a photo |

Pre-reading

Yesterday, Josh went to a park and wrote a letter to his best friend, Tim.

Read the passage and underline all the past tense verbs. The first one has been done for you.

Dear Tim,

Yesterday I went to Sunshine Park with my family. We had a barbecue and ate chicken wings and sausages. They were delicious. There was a pond in the park. I saw some ducks. I took photos of them. Then, my sister Sarah and I flew kites. It was fun. Mum and dad chatted on the bench.

On the way home, we saw lots of trees and flowers. Sarah chased after some butterflies. We felt happy and enjoyed the day very much.

I hope you can go to the park with me next time. We can play football and ride bicycles together!

Love,
Josh



Appendix 1B: Qualifications and expertise of the external curriculum expert

The external curriculum expert should possess at least a Master degree and 10 years of solid experience in curriculum planning and development, in particular in the area of differentiated learning design; her team should have at least 5 years of track records of developing online learning programmes for schools.

All English teachers will collaborate with the external curriculum expert in designing and planning the curriculum framework, formulating specifications, developing prototypes and testing functions and user-friendliness with relevant teaching and learning materials.

Consultant will carry out the lesson observation at least twice per year and discuss with teachers about adjustment required of the lesson plans and their adaptations and initiate sharing of good practices among our English teachers.

Appendix 1C: Project deliverables

1. Learning and teaching materials
 - School-based curriculum (digital learning materials) for S1 to S3 on English reading and vocabulary
2. Resource package
 - A user guide and 4-6 suggested lesson plans
3. The lesson plans and learning materials to be developed can be shared with other schools

Appendix 1D: Endorsement of copyright

We, Fortress Hill Methodist Secondary School, confirm the copyrights of the deliverables/materials developed should be vested with the QEF. Any reproduction, adaption, distribution, dissemination or making available of the deliverables to the public for commercial purposes by the service provider is strictly prohibited.

Appendix 2: Evaluation plan

Project aims:

| Strategy/ Activity | Performance / Successful Indicators | Evaluation | Progress | Evaluation and Reflection |
|--|---|---|----------|---------------------------|
| 1. To incorporate digital learning into the school-curriculum | <ul style="list-style-type: none"> ● An E-learning platform will be developed ● More than 60 comprehension exercises would be developed | <ul style="list-style-type: none"> ● Comprehension exercises report ● Students' learning report | | |
| 2. To enhance students' motivation in self-learning through school-based programme | <ul style="list-style-type: none"> ● Students would access the learning materials after class ● 2 hours of student training ● 75 % of students and teachers agree students' motivation in self-learning has enhanced | <ul style="list-style-type: none"> ● Student's questionnaire ● Teacher's observation ● 70% of students will be active users in the system ● 80% of students will attend the training | | |
| 3. To cater for learning diversity | <ul style="list-style-type: none"> ● 3 sets of materials would be designed ● 75 % of students and teachers agree students' learning diversity has been catered for | <ul style="list-style-type: none"> ● Students' learning report ● 70% of students respond positively to the materials designed ● Teacher's questionnaire ● Teacher's observation | | |
| 4. To enhance teaching and learning | <ul style="list-style-type: none"> ● A user guide will be developed ● Sample lesson plans will be designed ● 8 hours of teacher training | <ul style="list-style-type: none"> ● Teacher's feedback on the user guide ● 70% of teacher will use the sample lesson plans ● 80% of teacher will attend the teacher training ● Student's formative and summative assessment result | | |