

HKTA Tang Hin Memorial Secondary School

Project title: “Sci-web” – E-platform to improve teaching and learning in Junior form Science
(科學一站通)

Priority theme: Catering for learner diversity & Using E-learning (IT) for effective learning

1. School background:

Our school is a Band 1 EMI subsidized secondary school located in Choi Yuen Estate, Sheung Shui run by the Hong Kong Taoist Association. Our mission is to provide, with devotion, an all-round education, laying equal emphasis on five aspects: moral, intellectual, physical, social and aesthetic. We expect all our graduates to be leaders of tomorrow, each possessing profound knowledge and a noble character.

School’s commitments:

- To cultivate a positive attitude towards life.
- To develop their ability for life-long learning and explore their potential talent to the full.
- To integrate physical education into daily life and alert students to the value of good health.
- To promote ‘One Art for Life’ and foster students’ interest in co-curricular activities.
- To nurture their spirit of mutual help and serving the community.

Our education takes a holistic approach, with emphasis on moral education, the teaching of languages and subject knowledge. We adopt both traditional and modern pedagogy.

2. Objective of project

The Sci-web project aims at creating an e-learning environment to quality science education. It is to cater for learners’ diversity, aiming at achieving the learning goals in our school curriculum and enhancing their learning effectiveness in junior form integrated science and specific generic competencies such as thinking skills, creativity, communication and self-management.

The two main objectives are as follows:

- 2.1 *Cater for the learner difference*: developing school-based curriculum framework and strategies for implementation to meet the needs of target students including remediation, enrichment, facilitating transition from one key stage to another;
- 2.2 *Using e-Learning (IT) for effective learning*: developing resource packages on curriculum and instruction / pedagogical innovations including the use of information technology to develop computer-assisted learning resources and provide on-line learning to assist the target students

3. Needs and Applicant’s Capability

3.1 School’s needs:

Most of the students admitted to our school come from Chinese Medium Instruction primary

schools in North District and a number of students in our school are cross-border students, thus our students are not used to learning in an English-rich environment. Based on our experience, English becomes one of the hindrances for learning once they are promoted to S1.

Moreover, as the socioeconomic status of our students' family is normally low, the education level of their parents and family resources may not be able to support the students during their secondary schooling. Based on this, our school spares no effort to seek ways to provide extra learning resources in the area of remedial and enhancement so as to help students improve learning and in the pursuit of excellence.

For our school, we are running a 6-Day cycle teaching schedule. For each cycle, S1 and S2 students have 5 lessons for Integrated Science. Since the schedule is a bit tight, it is rather difficult to give extra support for those students mentioned above. Therefore, we think of setting up an e-platform complementary to conventional lessons to solve the problems.

3.2 Students' needs:

According to our experience, we found that junior form students, especially Secondary 1 students, commonly think that Integrated Science is a very difficult subject and the passing rate of S1 students in Integrated Science is relatively low when compared with other subjects. Thus, we conducted a survey among the S1 students in our school at the end of school term 2014/15, trying to figure out the problem they came across.

The result shows that nearly half of the respondents think that English is one of the obstacles hindering them to learn science. Besides, more than 40% of the respondents think that some of the science theories and concepts are not easy to understand. They believe that more explanation given by teachers will facilitate their learning. Some respondents also point out that the experimental skills and techniques are not easy to pick up as they were not used to doing experiments in Primary school. The details are shown in the table below:

The difficulties students come across when learning IS in junior form

Use of English in science	Practical skills	Understanding of science concepts
51%	4.7%	44.3%

In the survey, we also asked respondents what they would like the teachers to do in order to help them study science better. 60% of respondents hope that the teachers can spend more time explaining science concepts and clarifying misconception in more detail, and providing more exercises for them to check their understanding on each concept. Besides, respondents would appreciate it if teachers could provide more chances for them to do experiments and teach them how to apply the science knowledge that they have learnt in class in real-life situations. It would also be better if teachers could show them more videos of experiments

for consolidation purposes. The details are shown in the table below:

The ways students hope teachers can do to help them learn better in science

More detailed explanation of difficult concepts	More input on application of the science knowledge in daily life	More chances to do experiments	Summarizing each chapter for consolidation purposes	More videos of experiments
61%	7%	15%	10%	7%

In learning science, students are required to apply the science concepts in their daily situations instead of just recalling what they have learnt in class. Many students may find that they have spent a lot of time on revision but they are still not able to get satisfying results which makes them feel frustrated. Besides, there are many technical terms, abstract concepts, practical skills and vocabulary which make students find it difficult to understand the subject matter. To achieve a satisfying learning outcome, rote-learning will not help much as students are required to understand the concepts in depth and learn how to apply them in real-life situations.

We all know that more time is needed to help students understand the science concept and carry out hands-on experiments, but at the same time, we are also facing the problem of inadequate teaching time. As it is very difficult for us to solve the problem of learner diversity, we have to take an active role to think of ways to help students at least ease the problem beyond conventional lesson time.

3.3 Capability:

3.3.1 Experienced Science teaching team

All science teachers in our school are experienced and they have been teaching in our school for at least 5 years, so we all understand the strengths and the weaknesses of our school. Moreover, all the senior form science teachers also have at least one class of junior form science to act as a bridging role of the teaching and learning of the science subjects between junior and senior forms.

3.3.2 Culture of collaborative lesson preparation

We have a good practice of collaborative lesson preparation with the help of the FTP Drive to share notes and other teaching materials. We also carry out peer observation at least once a year. Our Science teaching team members are willing to pay extra effort to improve teaching and learning. Moreover, our team members are always willing to take on challenges in helping students learn science more effectively. We have been doing much collaborative work in lesson planning and subject activities such as organizing practical examinations for S2 students, Science reading scheme, and Science week.

3.3.3 Campus TV Team

In our school we have a Campus TV team run by students and a teacher advisor. They have ample experience in making short videos including editing, adding subtitles, adding voice-over, etc. They will be able to help science teachers prepare short videos for the Sci-web.

3.3.4 IT support

We have professional IT supporting staff which can help us handle technical problems including uploading materials to the platform, collecting students' works on the internet and setting up an online discussion forum etc. With the successful application for the Wi-Fi 900 project launched by EDB, it can be feasible to promote e-Learning with both hardware and software support.

3.3.5 Support from the school

We have got full support from our Principal and vice-principals, who have given the science department considerable autonomy for revising our working schedule and the contents to be included in the Junior Science syllabus. Our school has approved of assigning common free lessons among Junior Science teachers each cycle to do collaborative teacher preparation which enables us to have meetings regularly.

3.3.6 Support from students

In the survey, we also asked students' opinion about the establishment of the Sci-web. Over 90% of students show their interest in the establishment of Sci-web in our school and nearly 70% of students claim that they will visit the Sci-web frequently. Moreover, about 30% of students show that they are willing to contribute to the Sci-web by helping teachers prepare videos.

Student opinions towards the establishment of Sci-web

Agree	Disagree
95%	5%

The frequency of students willing to visit the Sci-web

Never	Sometimes	Often	Always
3%	28.3%	62.6%	6.1%

4. Innovation

4.1 Solve the problem of limitation of the school laboratory

Due to the limited apparatus and safety reasons, some of the experiments are demonstrated by teachers. As the space in the laboratory is limited, it is difficult for everyone to see

teachers' demonstrations clearly. Besides, some low achievers may not be able to understand the demonstrations if they are done once only. Teachers' demonstrations during the lesson will be videotaped and uploaded to the Sci-web. The demonstration videos prepared by our teachers will be quite different from those prepared by the publishers. The main reason is that the demonstrators and the apparatus used are more familiar to students. Moreover, with the subtitles and explanation, students can learn and do revision at their own pace after lesson.

4.2 Help students to know more about science

Teachers will upload news or articles which are related to Science and set questions to stimulate students to think and they can also have discussions via the Sci-web. The teachers then summarize students' discussions and share their queries and insights in class by giving comments and advice. This is to help them make good use of what they have learned through the daily application. The science discussion forum can help to extend the Science lesson outside the classroom and students can have more interaction among. Hence, it can help students enrich their science knowledge, which is not included in the textbook and this can also improve students' logical thinking skill and reasoning skill by sharing their opinions with others.

4.3 Encourage students' contribution to the Sci-web

Students will be invited to contribute to the Sci-web. Video-taping activities will be held, e.g. explaining the daily application of science knowledge which is not included in textbook, introducing inventions or discoveries which are important to, explaining common misconceptions to students etc. After being modified by teachers, those videos of high quality will then be uploaded to the Sci-web. Students can comment and discuss the content of the video on the e-platform. These activities are to encourage students to contribute to the Sci-web instead of all the materials being prepared by teachers only. Students will find themselves highly involved in the Sci-web and they will be more willing to engage in the development and maintenance of the Sci-web.

5. Target / Expected Beneficiaries:

5.1 Direct Beneficiaries

- 6 Science teachers

The Sci-web is to cater for learner diversity and thus improve the science teaching and learning effectiveness.

- S.1 – S.2 students (about 400 students)

Through the internet, students can get access to the Sci-web for lesson preparation, remedial and enhancement purposes anytime and anywhere.

- High achievers (about 20 students, 10 from S1 and 10 from S2)

Students with high ability in science from different forms will be invited to help prepare

the teaching materials. This can provide them with more opportunities to show their talent for science.

5.2 Indirect Beneficiaries

- Other subject teachers (about 60 teachers)

After the completion of the Sci web, we will evaluate the effectiveness and share our experience with other subject teachers within our school. We try to share with them about the benefit of the e-learning experience of our junior form students and encourage them to try this kind of teaching and learning method in other subjects and other forms.

- All students (about 1000 students)

The information and materials posted on the Sci web will also be accessible to all students in our school. Thus, for those students who are interested in Science can also be able to browse the information there and they can also contribute to the web by means of the discussion forum and the video making.

- The associated secondary schools of Hong Kong Taoist Association

The experience of running of the Sci-web will be shared with all the other associated secondary school run by the Hong Kong Taoist Association.

6. Conceptual Framework

6.1 Learning science effectively

According to David A. Kolb's model, which is based on the Experiential Learning Theory, learning abstract concept, 'Hands-on' experiments, analogies, discussion among students and teachers are important. Sci-Web provides an e-platform to supplement traditional lessons. Video, chapter summary and discussion forum are also provided to help students learn better.

6.2 Learning through e-platform

Students can choose to revise the subjects' content at their own pace. Self-pacing can help teachers solve the problem caused by learner diversity. Students can base on their needs and weaknesses to find the corresponding teaching materials in the Sci-web to consolidate their knowledge. The Sci-web also provides extension for those highly capable students to learn science in more depth and to further satisfy their curiosity in science.

Contents of the project:

The contents to be included in the Sci-web are as follows:

A. Explanation of concept

Common mistakes and misconceptions will be highlighted and briefly introduced, so students can have a preliminary concept before they come to class. Teachers will explain the misconceptions in more detail in class. We hope that the tasks can stimulate students to think

before they come to class. It is expected that students may find the lessons more challenging and interesting.

Videos of teachers explaining the difficult concepts and misconception of each topic will be prepared and students can watch them online after class at their own pace. Detailed explanation of misconception will be provided for students as reference and they can check their understanding on a specific topic according to their own schedule.

B. Daily application

Teachers will upload news or article which is related to Science and set a question to stimulate students to think, students can discuss through the e-platform. Then the teachers summarize students' discussion and discuss the question in class with the students. This is to help them to connect the content in the textbook with the daily application.

Students will form different groups and each group will be required to upload a short video (around 5 minutes) to explain a daily application of the Science knowledge, which is not included in the textbook. Each group will be assigned one topic and they will be required to hand in one video per academic year. Those videos will then be uploaded to the Sci-web and students can comment and discuss the content of the video on the e-platform.

C. Practical skills

Due to the limited apparatus and safety reasons, some of the experiments are demonstrated by teachers. As the space in the laboratory is limited, it is difficult for everyone to see teachers' demonstrations clearly. Besides, some low achievers may not be able to understand the demonstrations if they are done once only. Teachers' demonstrations during the lesson will be videotaped and uploaded to the Sci-web so students can learn and do revision at their own pace after lesson.

In our school, all S2 students are required to take part in a practical examination during the first term in S2. Therefore, these videos can help students revise and prepare for their practical examination.

The demonstration videos prepared by us will be quite different from those prepared by the publishers. The main reason is that the demonstrators and the apparatus used are more familiar to students. Moreover, with the subtitles and explanation, students can learn and do revision at their own pace after lesson.

D. Use of English in Science

We will invite students to help prepare videos to introduce useful vocabulary in each topic. In the video, useful vocabulary with phonetic symbols, meaning and usage will be provided. A worksheet about the useful vocabulary of each topic will be distributed to students beforehand. In preparing for the new topic, students can have a basic understanding about the vocabulary

before coming to the lesson, so they will be more familiar with the vocabulary that will be covered during lesson. It is hoped that they can get used to the environment using English as the medium of instruction more easily.

E. Video recording activities

Video recording activities about common mistakes and misconceptions will be held. Students of both high ability and low ability will be invited to make their own short video to explain a common mistake or misconception related to the syllabus. Those videos will then be uploaded to the Sci-web for reference for other students.

F. Online forum

Online forum will also be set up in the Sci-web. It is to increase the interaction among students and teachers. Students are able to share anything related to science in the forum or they can also ask questions there. Moreover, teachers can also make use of the forum to ask some challenging questions to stimulate students to discuss.

Items to be covered:

1. 100 short video clips (10 videos for each chapter, 10 chapters in total to be taught in S1 and S2)
2. Online discussion forum
3. 20 online quizzes (2 quizzes for each chapter)
4. 20 supplementary worksheets (2 worksheets for each chapter)
5. 10 reading passages (1 for each chapter)
6. 2 inter-class videotaping competitions (1 for S1 and 1 for S2)
7. 2 science investigation projects (1 for S1 and 1 for S2)

(The copyrights of the deliverables/materials developed in the project are vested with the QEF.)

The science concept, the focus and the theme to be covered in the video production are shown below:

Topic	Focus and theme
Introducing science	<ul style="list-style-type: none"> ● Use of common equipment in the laboratory (fire blanket, eye wash bottle, fire extinguisher, etc.) ● Knowing the laboratory apparatus ● Drawing experimental set-ups ● Laboratory safety ● Transferring and mixing solution ● Using Bunsen burner ● Making measurement ● Basic steps of a scientific investigation ● Fair test

Energy	<ul style="list-style-type: none"> ● Different types of energy ● Potential energy in broad sense, including elastic and gravitational situation ● Ideas of sound wave in relation to the sound ● How does heat energy transfer? ● Daily examples of energy conversion ● How to generate electricity?
Cell and human reproductions	<ul style="list-style-type: none"> ● Animal cells and plant cells ● Drawing of the cells ● Making use of the microscope ● Common errors of using microscope ● Preparing a slide of plant cell ● Cell division ● Amoeba in motion
The Wonderful solvent - Water	<ul style="list-style-type: none"> ● Content of natural water ● Sedimentation ● Filtration ● Distillation ● Ways to kill bacteria in water ● Concept of saturated solution ● Crystalization
Matter as particles	<ul style="list-style-type: none"> ● How salt and acid affect the solubility of carbon dioxide in water ● Concepts of density ● What is air pressure? ● How to measure the air pressure? ● Use of air pressure in daily life ● Thermal expansion and contraction ● The principle of hot air balloon
Living things and air	<ul style="list-style-type: none"> ● Does air has a mass? ● Noble gases – fun with Helium ● Understanding breathed air and unbreathed air ● Solid carbon dioxide – Dry Ice ● Burning process ● Fire-fighting equipment in school ● Dissections of pig's lung
Making use of electricity	<ul style="list-style-type: none"> ● Role of electrons in static electricity ● Electrical conductors and insulators

	<ul style="list-style-type: none"> ● Small shocks and lightning ● Current and voltage ● Types of electric circuits ● Heating effect of electricity ● Electric current and Magnetism
Space travel	<ul style="list-style-type: none"> ● Contact forces and non-contact forces ● Reducing friction ● Making use of friction ● Air resistance ● Gravity, mass and weight ● Action and reaction forces – Launching of water rocket ● Weightlessness
Common acids and alkalis	<ul style="list-style-type: none"> ● Corrosiveness of acids ● Corrosiveness of alkali ● Natural acid and alkalis indicators ● Acid rain ● Daily application of neutralization ● Dilution of concentrated acids and alkalis ● Daily uses of acids and alkalis
Sensing the environment	<ul style="list-style-type: none"> ● Structure of eye ● How to form an image by our eyes ● Eye defects ● Correction of eye defects ● Transmission of sound ● Reaction time ● illusion

Videos for preparation will be uploaded to the Sci-web before the lessons, and students are asked to watch the video before they come to class to grasp the idea first. Then teacher will discuss and explain the science concept to the students during lesson time. Video of explaining the science concept will then be uploaded to the Sci-web after the lesson. It provide support to low achiever, so that they can revise the specific science concept on their pace.

For example when teaching fair test concept, a video showing a non-fair test experiment will be prepared and upload to the Sci-web before the lesson for student to watch beforehand. During the lesson, teachers will discuss the experiment with the students and explain what the problem in the video is, and then introduce the fair test concept. Finally, video explaining what is controlled variable, dependent variable and independent variable will be prepared and upload the Sci-web for the lower achiever to revise after class. Furthermore, written explanation and sub-title will also be

added to the video to help lower achiever to follow the flow easier, the related page number will also be added in the video for them to refer back.

Videos of basics practical skills will be prepared for lower achiever to revise and prepare for their practical lesson. For example, how to measure the density of irregular substances, how to turn on the Bunsen burner, how to use the microscope etc. As there are limited resources in the school, so students are required to work in groups with one set of apparatus only, so they may not have much time to practice their practical skills. So we will encourage students to watch the video before lesson to make sure they know how to carry out the experiment during lesson. The practical videos are for supplementary base, the aim is for students to have chance to revise outside the school laboratory, it is certainly that the opportunities for students to carry out hand on experiment will not be reduced during lesson. Videos will be prepared to introduce important vocabulary in learning science. In the video, vocabulary with phonetic symbols, meaning and usage will be provided.

For guidance and support for the students to produce their video, the students of each group will be assigned with one topic in the syllabus. Teachers will first require the students to identify common mistakes they have come across or the concept they think it is difficult for the other to understand. After that, they will be required to write down how they would like to explain the concept for teachers to give further advice before they start to make the video type. Videotaping planning worksheets will be prepared for students to follow and guide them to finish the task step by step.

Online quizzes will be designed for each chapter. In the design of the quiz, multiple choice, fill in the blanks and matching will be used to check students learning progress. The content will be based on what have been covered during lesson. We decided to ask students to do the quizzes online because we would like the online system can help to give a fast response to the students to let them know how they perform in the test, and also the system should able to help us to collect the statistic of the students' answer like which question they got most of the incorrect answers and which chapter they achieve lowest marks.

For the Inter-class videotaping competition we will set a theme to let students to decide their project topic by themselves, for example explaining science phenomenon, design their own inventions making use of their science knowledge learnt in class. As we hope the students have their space to show their creativity, so we do not want to strict the students with too many guideline of how to make the video. But we also know that it probably be a bit difficult for lower achiever, so we will provide videotaping planning worksheets to guide them to do so step by step. Technical support will also be provide by the computer teachers, as we know that students will learn about how to edit movie, add sub title and voice over in their S1 and S2 computer lesson. Furthermore, we will also invite the senior form student helpers from the Science society to be the advisor for their project. At the end, selected videos from the winning groups will be uploaded to the Sci-web to share with the others.

7. Implementation and Time-line

Duration: 26 months

Time	Task
Stage 1	
June 2016	● Finalizing a suitable e-learning platform for Sci-web
July 2016	● Assigning duties among teachers and Project assistant
August 2016	● Testing the e-learning platform
Sep 2016 – Dec 2016	● Preparing teaching materials to be included in 1 st Term S.1 syllabus ● Uploading materials to the Sci-web
Nov 2016	● Establishing online discussion forum
Jan 2017	● Evaluating the effectiveness of Sci-web and fine-tuning the contents to be included in Sci-web
Jan 2017	● Recruiting students helpers for the Sci web
Jan 2017 – June 2017	● Preparing teaching materials including video, online exercise and collection of science related news for the content to be included in 2 nd Term S.1 syllabus.
Mar 2017	● Videotaping competitions among students
Stage 2	
July 2017	● Teachers' evaluation at meetings and students' evaluation on the Sci-web
July 2017 – May 2018	● Fine-tuning teaching materials for S1 and preparing S.2 teaching materials ● Uploading materials for S2 to the Sci-web
June 2018	● Evaluation meetings with science teachers
July 2018	● Staff development workshop to share the Sci web experience in the School
August 2018	● Project evaluation and report submission

8. Extent of Teachers' and Principal's Involvement in the Project

Project Supervisor <ul style="list-style-type: none"> ● To advise, supervise and monitor the project ● Decide the work allocation among different parties in this project ● Arrange supply teachers for Science teachers if necessary ● Arrange sharing of the Project outcome inside and outside the school 	Principal Vice-principal
Project Coordinator <ul style="list-style-type: none"> ● To coordinate the whole project ● To facilitate the working progress ● To hold evaluation meetings to fine-tune the project details 	Science panel chairperson

<ul style="list-style-type: none"> ● To be responsible for checking the progress and communicate with the science teachers to make sure the project can be carried out according to the implementation plan. Moreover, he will be responsible to check if the quality of the materials prepared by the teachers and students, and if necessary, he will be responsible to give advice to teachers in charge to take different measures to improve the quality of the learning materials. ● He will also be responsible for handling the document, written reports and evaluation which is related to this project) 	
<p>Science teachers</p> <ul style="list-style-type: none"> ● Design and prepare the teaching materials to be uploaded in Sci web ● Guide and assist students to make good use of the teaching materials in Sci web ● Conduct continuous assessments to evaluate the outcome of the Sci web ● Recruit students to help in the material preparation work ● There are altogether 10 science topics included in the project, 4 teachers (each teachers responsible for 2-3 chapters) will be responsible for preparing the teaching materials including online quizzes, reading passage, supplementary exercise and video. ● As mentioned above, most of the students admitted to our school come from Chinese Medium Instruction primary schools in North District and a number of students in our school are cross-border students, thus our students are not used to learning in an English-rich environment. Based on our experience, English becomes one of the hindrances for learning science. Then there will be 1 teacher who is assigned to focus on the preparing materials to help students in learning the use of English in science. In the video, useful vocabulary with phonetic symbols, meaning and usage will be provided. A worksheet about the useful vocabulary of each topic will be distributed to students beforehand. In preparing for the new topic, students can have a basic understanding about the vocabulary before coming to the lesson, so they will be more familiar with the vocabulary that will be covered during lesson. It is hoped that they can get used to the environment using English as the medium of instruction more easily. ● There will be 1 teacher responsible for organizing the inter-class video-taping competition, communicating with the IT department and Project assistant in setting up the online platform for the whole project and managing the student online discussion forum. 	6 Science Teachers

IT <ul style="list-style-type: none"> ● Provide technical support for videotaping, set up the online forum and online exercise platform and upload the teaching materials 	IT panel chairperson IT supporting staff Campus TV team
English teachers <ul style="list-style-type: none"> ● Give advice on preparing teaching materials to improve students' English proficiency in learning Science 	English Teachers NET
Project assistant <ul style="list-style-type: none"> ● Assist in video recording, prepare online TEST content and assist Science teachers in constructing the Sci-web ● He/she will be responsible for editing the video prepared by the teachers, adding sub-title and written further explanation to the video. ● Enter the quizzes content into the online test system, and help to gather the information about the students achievement in the online quizzes for the science teachers to do analysis of his/her class. ● He/she will also be responsible to do the typesetting of the materials prepared by teachers and make those materials to be more eye catching to attract students. 	Project assistant
Supply Teacher <ul style="list-style-type: none"> ● Share the workload of Science teachers who are freed for preparing materials for the Sci web 	Supply teacher

9. Budget

Category	Item	Applicant's description	budget
Staff	Supply Teacher (24 months including MPF)	(note 1)	HK\$674,982.00
	Project Assistant (24 months including MPF)	(note 2)	HK\$332,640.00
Sub-total			HK\$1,007,622.00
General Expenses	Audit		HK\$15,000.00
	Miscellaneous	Printing, prize for competitions and props for video	HK\$2,068.00
Sub-total			HK\$17,068.00
Others	Contingency		HK\$510.00
Sub-total			HK\$510.00
Total			HK\$1,025,200.00

Note 1:

The supply teacher is to substitute the lessons of the science teachers so as to release the teaching hours for preparation and implementation of the project. The science teachers will be required to carry out regular meetings to make sure the project runs smoothly, including guiding students for investigative project learning activities, videotaping and preparing worksheets and quizzes. As videotaping is quite a time-consuming task, in order to fulfill the number of videos we would like to have for each chapter, a supply teacher to share the workload for science teachers becomes necessary. Besides, three science teachers of senior forms are involved in the project and one of them would be the project coordinator, so the supply teacher may be required to take up some senior form classes. The supply teachers are required to teach, prepare teaching materials and do the marking as well. Therefore, the supply teacher should be well-qualified. It is hoped that the teacher has a recognized teacher qualification in Science education and at least three years of teaching experience in Science subject that enable him/her to carry out his/her duty effectively.

Note 2:

It is suggested that the project assistant be a graduate of Science and IT related discipline. As he/she is required to help prepare the videos and manage the Sci-web, it is necessary for him/her to have basic knowledge about science and IT.

10. Project Evaluation

Evaluation form will be prepared by the project coordinators to be filled in by the teachers involved. This is to collect the opinions from the teachers including any changes of the learning attitude of students, whether the workload of the teachers involved are appropriately allocated, etc. The project coordinator will be responsible for holding regular meetings to discuss the comments and opinions from teachers through the evaluation meetings.

Questionnaires will be prepared to get the feedback about the Sci-web from the students such as the usefulness of the contents, the method of presentation through the e-platform, the effectiveness of online discussion forum and the reading materials.

The results of tests and exams will be compared before and after launching the Sci web. Data of the previous year will be used. We will evaluate the change in the passing rate and the change of the number of students in the upper quarter and the lower quarter. Moreover, we also examine whether the common mistakes made by students in the previous year are avoided or not.

11. Sustainability of Project Outcomes

Subject level:

The teaching materials collected in the Sci-web will be suitable for S1 and S2 students in the future. Moreover, good works from students will also be posted on the Sci-web for students' reference. The senior form science teachers can make use of the materials in the Sci-web to help students review the basic concepts, practical skills and the use of English in science.

We believed that the materials prepared during the projects will be beneficial to all junior form students in the future as well, so the contents will surely be used in the coming years. And it will also serve as a pool for storing student's good work, so the content inside the Sci-web will properly become richer as the time goes by and they are precious resources of our school science department.

School level:

Sharing sessions among staff in our school will be held after the completion of the project, which is to demonstrate the idea of Sci-web and the effectiveness of making use of e-platform for learning. We hope that we can take the lead in starting up the e-learning habit for students and teachers and thus this idea can be spread to other subject panels. It is hoped that our success can encourage them to consider establishing this kind of e-platform of their subjects in the future.

Moreover, we will also share our experience with the other Secondary Schools of Hong Kong Taoist Association on e-platform, which is to serve the purpose of catering for learner diversity as well as increasing the teaching and learning effectiveness.

Beside holding sharing session with our associated school (other schools sponsored by the Hong Kong Taoist Association), we also welcome to share our experience and achievement in developing the Sci-web in our school with other schools. We confirm that we can share the materials prepared by us to facilitating science teaching in other schools. One possible way is uploading the videos to a public platform where resources can be shared among teachers of other schools.

12. Asset Usage Plan

(not applicable)

13. Report Submission Schedule

My school commits to submit proper reports in strict accordance with the following schedule:

Project Management		Financial Management	
Type of Report and covering period	Report due day	Type of Report and covering period	Report due day
Progress Report 1/6/2016 – 30/11/2016	31/12/2016	Interim Financial Report 1/6/2016 – 30/11/2016	31/12/2016
Progress Report 1/12/2016 – 31/5/2017	30/6/2017	Interim Financial Report 1/12/2016 – 31/5/2017	30/6/2017
Progress Report 1/6/2017 – 30/11/2017	31/12/2017	Interim Financial Report 1/6/2017 – 30/11/2017	31/12/2017
Progress Report 1/12/2017 – 31/5/2018	30/6/2018	Interim Financial Report 1/12/2017 – 31/5/2018	30/6/2018
Final Report 1/6/2016 – 31/8/2018	30/11/2018	Final Financial Report 1/6/2016 – 31/8/2018	30/11/2018

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