Quality Education Fund
Application with Grant Sought Not Exceeding $150,000
Application Form --- Part II: Project Proposal

Project Title	Project Number
Student Understanding the Importance of Spatial Design in School Settings	2013/0864 (Revised)

Basic Information

Name of School / Organisation / Individual: Hong Kong True Light College

Beneficiaries

(a) Sector: Secondary
(b) Students: Direct Participants: 50 & Indirect : students 800+ and 13-16 (age)
(c) Teachers: 15
(d) Parents: 10

Proposal

(I) Project Needs

(a) Please state the aims of the project in clear and concise terms.

The project aims to develop students' understanding of the relationship between a school's physical environments, the processes undertaken to create that environments, and students' learning and self –development by providing them with a series of spatial design software trainings, lessons and construction workshops.
Outcome - Engaging student in the participatory Spatial Design and construction of school. Enhance students' awareness and sensitivity about the environment and environmental challenges.

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

- ✓ Enhance learning and teaching to facilitate students' knowledge on subjects / learning areas / generic skills development
- ✓ Promote students' social and emotional development
- ✓ Others: Nurture students' value and environmental education

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

- ✓ School development plan: The proposed project is aligned with the school mission which aims at re conceptualizing/ constructing school design and learning environments for student and teacher.
- ✓ Survey findings: A survey on students' interest in Spatial design and workshops. School believed that the project will create new learning opportunities for student and teacher.
- ✓ Relevant experiences: hands on construction opportunities and experiential learning.

(c) Please elaborate the innovative ideas or new practices to enhance, adapt, complement and/or supplement the existing practices of the school.

Our School is re-examining the idea of school as both a set of practices related to learning and development, and a physical place. Project leader focuses on the role of the school environment in students' social and emotional development; and how this project may mediate student's relationship with the society. Invite Guest(s) to teach spatial design workshops to gain student input on school design. Re-conceptualizing/constructing school rooms, common areas, and buildings to reflect the cultural history, patterns of use, and deep rooted values of the society particular to their location. Students and teachers will be doing hands on wood and metal installation works. The project will enhance students' awareness and sensitivity to it surrounding and environment.
School conveys to students, teachers and the community a 'hidden curriculum' about how learning is regarded, the place of education, and the role of student in that society.

(II) Project Feasibility

(a) Please describe the design of the project, including:

(i) Approach/Design/Activity

The project focuses on spatial design and crossover with experiential education. Both fields of education complement environmental education which includes unique philosophies.
The spatial design activities includes learning 'in' and 'for' the outdoors, and allow students to investigate the school environment, as well as it is an extension of curriculum.
Three topics (i.e. Environmental and Spatial Design, Installation Art, Wood and Aluminum) will be introduced to students in a challenging way. Using multiple learning styles: Visual, Verbal, Physical, Logical, and Social.

Students will learn to manage design processes, learn about the regulations in construction, material knowledge, skills in 3D composition, and understand the spatiality of people, and objects. They deepen the skills learned in Visual art classes and broaden their knowledge in spatial, furniture or environmental design.

In this project, students will work on-site to enhance their sensitivity about the environment, and learn to re interpret their school environment and culture. They also learn to transform them through their personal vision and professional skills. During their studies, students develop an artistic perspective and insight, learn to master their creative process, and deepen their expertise in materials, design tradition, and culture. The workshop trains students in personal design expression, ability to master design processes, and ability to understand the discipline's tradition and present as a base of curiosity and experimentation.

Students are also trained to develop technical, aesthetic and research skills to support the design process. They become competent in integrating technologies and in exploring, visualizing, creating and demonstrating innovative concepts and experiences using the latest technology (Tooling for Wood and Aluminum include: Laser Measure, Glide Miter Saw, Work-site Table Saw, Cordless Drills, Palm Router, Multi-X Oscillating Tool, Laser Cut, CNC Machine, Bending Machine, and Lathe Machine).

The project is based on an exploratory approach to design-based problem setting, elaboration and problem-solving. It emphasizes the skill to manage the entire design process from the beginning to the final outcome, which can be either a installation, wall shelves or cabinets. An essential part of the education is project-based experiential learning. In the projects, the students are encouraged to utilize artistic and experimental approach and thus find their personal expression and voice as a student designer. The overall design reflects the students' sensitivity to the environment.

The project contains 5 major activities:

(1) Five workshops (i.e. Technical drawing, , , Spatial Design, Wood and Aluminum Hands-on -Constructions) The workshops are an opportunity to improve student's I.T, art and media knowledge and environmental skills. This series of workshop will introduce basic skills and discuss emerging trends in environment and spatial design, as well as how student incorporated into their practice.

Workshop Details (6 hours per workshop):

i. Technical Drawing: Drawing and Computer lessons
Students are introduced to basic technical drawing skills and terminology. Terms and definitions used in industries, such as manufacturing and construction, may also be covered. Specific skills introduced in the workshop may include on-site sketching to arouse students' interest on the school environment, geometric construction, auxiliary drawing, perspective drawing, isometric drawing and accurate measurement drawing. Students will also be introduced to computer aided drawing (CAD) software or techniques.

ii. Adobe Photoshop: Computer lessons

(a) Essential Tasks : Remove a person from a background with masking, Change the color of an object, Combine photos in group shot. Photo touch-up and spot healing tool, Understanding resolution, Use the History panel , Design tools and workflow;

(b) Type: Add text to images, Apply styles to text, Improved font handling;

(c) Image Adjustments: What are adjustment layers, Increase mid tone contrast with Curves, Change color and saturation, Control which layers are affected by an adjustment layer, Lighten and darken areas, How to sharpen photos in Photoshop;

(d) Select parts of an image: Select part of an image, mask out part of an image, Focus based image selections, Select part of a photo;

(e) Design Techniques: Design tools and workflow, Align objects with guides, Edit rounded rectangles, Path selection and editing,

(f) Layers: Use layers to build images, Align objects in a design, Organize with layers and layer groups, Explore layer styles, and work with smart Objects.

Either/ Or

iii. Adobe Illustrator: Computer Lessons

A Vector drawing tool, students can create artwork that can be scaled infinitely without any loss of quality.

(a) How to set up a new document
(b) Work with Art boards
(c) Use Shape tool
(d) Use brush
(e) Apply color
(f) Work with type
(g) Transform artwork
(h) How to use Opacity Masks
(i) Moving into the world of 3D

iv. Spatial Design: Workshop and Computer Lessons

Drawing on aspects of interior, architecture, landscape, exhibition and digital design. Students will be introduced to studio work processes, methods of representation, site analysis to enhance students' awareness and sensitivity about the environment, and developing a concept spatially. Also, an introduction to spatial computing, and students will be demonstrated to 2D image making, and 3D digital modeling.

v. Wood and Metal : Workshop

(a) Tooling demonstrations;
(b) Experimenting and testing the materials;
(c) Classification of timber/metal and mark out materials for further processing;
(d) Cutting and shaping processes
(e) Join materials and assemble product components

(2). Tutorial Details (30 hours) –

Technical skills advancement and Creativity developments.

Machinery and tooling for wood and aluminum workshops.

To Achieve this tutorial standard, students need to complete a mini creativity construction (mock-up) project (for example, a creative table, cabinet, or seating) where student can establish the task requirements; creativity development, get the materials ready; mark out, cut, shape, join and assemble the materials; and finish the project.

Students need to use:

- Timber and one other materials (for example, manufactured board, metal, plastic, glass, adhesives, finishing materials, upholstery fabric/leather) and
- Five processes (for example, marking cutting, shaping turning jointing, laminating, steam bending, welding, forging, framing, lining and finishing).
- Computing and machinery (for example, Computer drawings output to CNC and laser machines)

Students need to show their teacher/ tutor that they can:

- Read and /or listen to the instructions for a task and check anything you are not sure about;
- Prepared detail plans, drawings and elevations;
- Get the right materials for the task;
- Mark out the materials using the correct tools and methods;
- Cut and shape the materials using the correct tools and methods;
- Technological understanding and awareness
- Finish the project correctly;
- Complete all operations safely;
- Clean the work area and dispose of waste; and
- Clean and store tools, plant and equipment correctly.

(3). Six Lesson Details (i.e. Theory and Practice/studio)
Instructor will introduce and discuss aspects of interior, architecture, school exhibition, installation, digital and spatial designs. For example, The school environment and it relationships to students and teachers in everyday life.
Student will learn to imagine, form and construct engaging spatial environments in both physical and digital space, from the big picture to the detail of construction and materiality.

Lesson Outline (3 hours per lesson):

Lesson 1. Introduction of Spatial and Installation Designs –Is the design of human environment, and built on the relationship between space and object. The core question in this lesson is how the 3D context affects product and furniture design and how objects interact in space. It involves studying the relationships between people and their environments, and designing ways to improve those environments. The aim of this lesson is to enhance students' awareness and sensitivity about the environment.

Lesson 2.
(a) Furniture Design (For Examples: Book Shelves and Cabinets) – Provides knowledge and skills for designing a unique piece of furniture/object, one that reflects a strong vision. The objective is to teach students who are able to combine sustainability, social responsibility and creative interpretation of beauty.
(b) Design Studio- deepens student's ability to reflect on their work in a wider cultural and environmental context, and students begin brainstorming ideas in furniture development. Students will be reminded throughout the lesson to think about the selected site and the nearby possible environment issues. The class works include design and create shelves/cabinets related to their school environment.

Lesson 3. Environmental Design and Creativity (Case Study: School Setting) – Students will study school environment design and planning. Students will engage as designer and participants in a school community change process by developing solutions to an authentic school planning question. Students will learn about current school conditions and policies and share evolving ideas for helping their school create attractive, healthy and sustainable environment for all.

Lesson 4 – 5. Design Studio – Instruction on freehand sketching, drafting, model building and digital representation will teach students how to conceptualize and communicate three – dimensional design ideas.

Lesson 6. Design Studio Review– Final Design Review, where students exhibit, present, and discuss their work with School teachers, Principals, Technicians and Students.

(4). Construction and Installation Details (30 hours)
(a) Construction - Students will work alongside wood and aluminum technicians to build full – sized structures (Process: planning, selecting materials, measuring and cutting materials, shaping, joining the panels with glue and nails, reinforce the joints with corner brackets/screws, polishing and install the shelves/ cabinets) . A true learning experience for the students to turn their own design into reality. This session will required students to demonstrate their sensitivity to the environment and to use design thinking in order to really fulfill the everyday needs that people face with sustainable solutions. (20 hours)

(b) Installation and understanding of the environment- Students will conduct site analysis and measure safety issues.
Install the furniture or objects on to the selected walls or surfaces. (10 hours).

(5). School Open Day (2 hours)
To engage the school students and public in arts appreciation, connecting the arts with the community. This Environment Design showcasing student's use of different types of techniques, materials, and equipment for their own design.

(ii) Key Implementation Details
Project period: April 2015 to **March 2016**

Month / Year	**Content / Activity / Event**	**Target Beneficiary/ Participants**
April 2015	Preparation stage Teachers and Instructor Design unit and lesson plans for the workshops, Tutorials, and lessons (10-hour)	Teachers in collaboration with Instructor
April 2015	Project Introduction (1–hour) Guest Tutor Talk (2-hour)	50 students and 5 teachers
April 2015	Project Design Brief Student brainstorming and sharing session (2–hour)	50 students and 5 teachers
April – Oct 2015	Five workshops: (1) Technical drawing (2) (3) (4) Spatial Design (5) Wood and Metal Works- Hands on Constructions ● Six hours for each workshop, 30 hours in total, for selected participants ● Student will participate in 3 hour learning workshops each week ● Tutorials (30 hours)	50 Students Teachers in collaboration with Instructor
Oct 2015 – Jan 2016	Six Lessons x (3-hour) Theory and practice (refer to the above outline)	50 Students Teachers in collaboration with Instructor
Jan – Mar 2016	Construction and Installation (30-hour) Wall & Ceiling Installation Book Shelves in common space Cabinets School Open Day (2 hours)	50 Students Teachers in collaboration with Instructor 1000+ public /guests
Mar 2016	Evaluation of the Project	School Students and Teachers

(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:
15 teachers will participate in the project by attending the talk, workshops, assist, designing, and conducting the learning activities.
(ii) Roles of teachers in the project:
✓ Leader ✓ Co-ordinator

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

Grant Sought: HK$_140,000

Budget item	Expenditure Detail: Item	Amount ($)	Justification
Service	Instructor ($400/hr) [$48000] ● Preparation/ Talk / workshops and tutorials Around $400 x 60 ● Learning activities and meetings Around $400 x 30 ● Installation/ Construction Around $400 x 30	$62,000	An instructor with wood and metal construction expertise, and at least 10 year experience in spatial design. Instructor will be hired for collaborating with teachers to develop the learning contents, conduct talks/workshops/ installations and observe learning activities.
	Wood and Metal Technician ($200/hr) [$14,000] ● Learning activities and meetings Around $200 x 30 ● Installation/Construction Around $200 x 40		The Instructor must have experience with teaching school art workshops or projects. Technician will support workshops and provide tooling.
Equipment	● Student Technical drawing boards Around $100 x 25 ● Tools/Hand tools for installation/tooling for workshops/tutorials ● Bending machines ● Printing tables ● Hand tools (e.g. Pliers, magnetic scaffold level, tape measure Holster, hammer, scaffold ratchet, Construction Wrench, Hand saws, Screwdriver, etc.)	$8,000	Some equipment will be required for the Student hands on construction workshops. Student technical drawing boards - for students' preparation of works and experiments. Selected Machinery equipment (e.g. Driver Drill, Jig Saw, Rotary Hammer, Slide Compound Saw, Trimmer, Air pump, Air Nailer, 3D printer, Laser Cutter, CNC, Screen Printing bench) (*Some tools: may be provided by the instructor/ technician if necessary)
Works (Works and Experiments) (Materials: Instructor provides all ranges and sizes of Wood and Metal) Included	For construction/works and experiments: Outcomes: ● Wall and Ceiling installations (Ard $12,500) Ard $250 x 50 students ● Wall Art Book Shelves (Ard $15,000) Ard $300 x 50 students ● Functional or display Cabinets (Made from wood and metal)	$52,500	School has 350 Sq.ft common spaces for students and teachers to re conceptualize and construct. Students will have a set of materials for experimentations and investigations. They may share the materials.

mockups and models	(Ard $15,000) Ard $300 x 50 students ● Display walls/boards (Ard $5,000) Ard $100 x 50 students ● Laser cutting (Ard $5,000) Ard $100 x 50 students		
General expenses	General Expenses: ● Backdrop and decoration for open day (including stationery and materials for decoration, etc.) (~$5,000) ● Transportation of raw materials (i.e. wood and metal) (~$2,000) ● Handouts/ printing (~$1,000) ● Paint/Ink/Color (~$4,000) ● DVD (~$500) Audit fees ($5000)	$17,500	General expenses for the learning and teaching activities, trainings and workshops, etc. For project auditing.
	Total Grant Sought ($):	$140,000	

Assets Usage Plan

- Not applicable (No items for unit price more than $1,000)

(III) Expected Project Outcomes

(i) Please describe how to evaluate the effectiveness of the project;

- ✓ Observation: To observe students' motivation, involvement and engagement in the activities.
- ✓ Focused group interviews: Interviews with instructor, teachers, and students. Student interview with open-ended questions (n=20). The main purpose of the interview is to study students' creative development through spatial design workshops and lessons.
- ✓ Pre- and post-activity surveys: Design a pre-workshop survey to understand secondary school students' awareness of importance of spatial design in school setting and reflect on what they will bring into the workshops. At the end of the program, the students will write a paragraph on how they could transfer what they learned beyond the program.
- ✓ Others:
  Learning Journal: Engaging students in the learning process. The purpose of the journal is making students more aware not only of what they learn, but also how they learn.
  For examples, Workshop or Lecture notes, reflections, personal records of their learning experiences, and note taking.

and (ii) Please state the project deliverables or outcomes.

- ✓ Learning and teaching materials (Selected Power Points, unit plan(s), lesson plan(s), teaching activities, worksheets and handouts)
  Resource package (Collection of videos, images and /or graphics)
- ✓ DVD (A record of selected tutor's demonstrations and talks)

Report Submission Schedule

My school commit(s) 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**
Final Report 1/4/2015 - 31/3/2016	30/6/2016	Final Financial Report 1/4/2015 - 31/3/2016	30/6/2016