

**DESIGN & TECHNOLOGY**

**I. AIMS**

1. To foster students' ability to solve problems through the use of technology and on a positive attitude towards lifelong learning.
2. To utilize students' scientific knowledge through the design process.
3. To enhance students' ability to do design work with different materials and to apply their knowledge of "Design" and "Technology" in problem-solving activities.
4. To inspire students' creativity and allow them to work with their designs.
5. To become independent thinkers and innovative problem solvers.

**II. SITUATIONAL ANALYSIS**

**4. Strengths**

1. Teachers always take the initiative to implement new ideas/projects in teaching D&T and share teaching experiences with others as well as other schools.
2. Most of the students show keen interest in design and making the projects.
3. Many teaching aids such as computer aided design software and videotapes are available to enhance the teaching effectiveness.
4. Internal and External mechanical design competitions that are provided to build up their self-confidence, and to encourage students to concentrate on Technology study.
5. Students are able to investigate experience, solve problems and extend their capabilities.
6. Cross subject projects have been carried out with physics department and integrated science department.

**4. Weaknesses**

1. Teaching time is insufficient since there is only a double period each cycle.
2. D&T teacher cannot concentrate on teaching this subject as he must deal with several general affairs at school.
3. Most students found difficulty in understanding the theories of the subject since the textbook is written in English although they had a little knowledge of technology.
4. Many students prefer working the projects in the lesson to studying the theories.
5. The limited equipment, hand tools and working area in the workshop which influences their performances.
6. Both boys and girls in form one are compulsorily to study D&T within 11 cycles, they thus cannot learn more basic techniques of using hand tools and design ideas.

**4. Subject Focus 2008-09**

<b>Subject Focus</b>	<b>Address to School 08-09 Major Concern</b>
1. To realize the project work with specific themes requiring different knowledge and techniques, selecting appropriate materials that help students learn and practice using English while learning the subject content.	1
2. To provide the In-class mechanical design competitions that assist D&T students to develop their self-learning, self-confidence and self-discipline.	2
3. To draft F1-3 school-based curriculum in accordance with framework of New Senior School Curriculum	3

**IV. OPERATIONAL STRATEGIES**

<b>Task</b>	<b>Description</b>	<b>Expected Outcomes /Success Criteria</b>	<b>Evaluation Method</b>	<b>Time Scale</b>	<b>Resources Required/ Budget</b>	<b>Person-in-charge</b>
<b>Focus 1:</b>						
1. Include language components in the curriculum of D&T subject	Vocabulary exercises are assigned as the assignments for D&T students, especially for F1 students.	-Students are able to adapt to EMI teaching and achieve in their academic studies. - Students willing to use English more actively in the lesson.	- Tests & Dictations  - Discussions with students	08-09	N/A	D&T teacher & English teachers
2. Teach not only the subject content	Provide a topic from F1-3 syllabuses that	-Key learning areas and cross	-Peer observation	08-09	N/A	D&T teacher &

but also point out the language elements concerned to students	students need the English teachers to teach alongside.	subject learning will develop and integrate. -Students take the initiative to express their ideas or problems with specific glossaries.	-Questionnaire -Discussions with students			Chairlady of English Department
3. Co-development of materials with Physics and Integrated Science Departments	Subject teachers develop materials and activities that help students learn and practice using English while learning the subject content.	With the help of new materials, students should use English more actively in the subject classroom.	-Feedback from subject teachers			Relative subject teachers
4. Improve the proficiency of teacher	-Arrange peer observation so that teachers can learn from each other in using EMI in lessons. -Take up refresher's course related to EMI	-Teacher is able to teach in English without great hindrances. - Teacher will take English Course or participate in EMI workshop	- Peer observation - Discussion with Subject Panels -Questionnaire	08-09	N/A	D&T teacher, English teachers & Subject Panels
Focus 2:						
1. Participating in the In-Class mechanical design Competition	All students in the class are compulsorily to participate in the in-class Robot / Model glider competitions.	-With reference to the results of final score, champion, first runner-up and second runner-up will be released. -Under appropriate regulation, guidance, and extraordinary assistance, both low and high achievers performed well.	-Internal marks recorded - Peer observation - Self and peer evaluation of progress by participants -Feedback from D&T teacher and Parent Volunteers	08-09	Additional Fund	D&T teacher and Head of parent volunteer
2. Participating in the Joint School Model Glider Flying Competition	Two champions in the form will invite to take part in the Joint School Model Glider Flying Competition	Under appropriate guidance, high achievers performed extremely well.	-External marks recorded -Awards gained -Feedback from D&T teacher and students	08-09	Additional Fund	D&T teacher
3. Outstanding project presentation	Arranging experience-sharing sessions for outstanding students to present and report on their experience	-To arouse students' concern and enhance their understanding of a topic. - Students make a conclusion and give a review on the whole project.	- Presentation skills - Observation -Feedback from teachers -Discussion with students	08-09	N/A	D&T teacher
4. Providing a list of reading materials	To ensure the availability and accessibility of the listed reading materials provided by school	-Students are interested in reading those reading materials with suitable	- Keep records of students' Worksheet -Examine the reading skills	08-09	Reading Materials & Worksheet	D&T teacher

	library	reading skills involving skim and scan within the required time slots	through the scores of reading materials			
Focus 3:						
1. Attending Liberal Studies-related seminars or courses	Teacher should be ready to receive professional training on relevant disciplines.	Teacher who has had enough preparation to teach Liberal Studies.	Checking teacher's Liberal Studies training status	08-09	Staff Development Fund	D&T teacher
2. Attending Subject-related seminars or workshops	Teacher is highly encouraged to receive professional training on relevant disciplines.	Teacher who is well-qualified to teach senior secondary classes	Submitting teacher's training record	08-09	Staff Development Fund	D&T teacher
3. Drafting F1-3 school-based curriculum is based on framework of New Senior School Curriculum	The junior form curriculum and level will be in line with the development of the New Senior Secondary Curriculum	Teacher who comprehend the course content, medium of instruction, teaching methods and assessment methods.	-Consult the person in-charge from EDB -Discussion with relative D&T teachers or colleagues	08-09	EDB (School-based Curriculum Development (Secondary) Section)	D&T teacher
Others						
1. Reading to learn	"A specific bookshelf for D&T" will be set up in the school library to display some relevant textbooks and magazines, etc	Service will be available from Oct., to June, students can borrow more useful books	60% of D&T students or above access the D&T Corner and read the textbooks and magazines every week	08-09	Library Fund	Library Head & D&T panel head
2. IT in interactive learning & teaching	-IT Bank list of D&T at S1-3 Levels applied, such as SolidWorks 2001 plus version and 3D Studio Viz  -Management of IT learning and teaching resources	-Present with technological problems that are clearly stated and related to their daily lives.  -More D&T-related Web Sites will be introduced for students' self-studying, they can research easily the necessary information and study effectively.	-95% of D&T students can apply the CAD software to display their project works properly -Students should get some creative and useful ideas that help them to think a lot of successive ideas in order to have a better solution.	08-09	IT Fund	IT dept. & D&T teacher
3. Project learning	Activity-based and Project-based approach in F.1-3	-Design with consideration of related design factors -Enhance students' ability to do design work with proper hand tools and machinery with suitable materials	Special, Creative, Outstanding and valuable projects/ products	08-09	D&T Grant	Physics dept., IS dept. & D&T teacher

		and to apply their knowledge of “Design” and “Technology” in problem-solving activities.				
4. Integrating moral and civic education	Students’ positive values and attitudes are built up during the lesson and suitable topics or projects	-The Nature and Impact of Technology for Yesterday, Today & Tomorrow -Awareness of modern technology and its impact on society. -Understanding in the relationship between technology and other disciplines.	-Student has the right ability to explore the characteristics of different kinds of materials and their influences to the environment. -Student had the right ability to solve problems logically and creatively.	08-09	N/A	MCSC & D&T teacher
5. EMI policy	-Student talking with teachers in English compulsorily during the lesson -Student talking with Classroom in English compulsorily during the lesson -General Vocabularies applied per lesson	-Willing to speak English during the lesson. -Ask some questions in English. Willing to speak English with classmates during the lesson. -Talk with classmates loudly. -Remember the required vocabularies with correct spelling. At least 5 Vocabularies per lesson.	-Teachers understand his/her meaning. -Talk about names of hand tools and items with their properties correctly. -Good communication skills and Strong confidence. -Deal with enquiries properly. -Speak Vocabularies with proper phonics.	08-09	N/A	English Dept. D&T teacher
6. Catering for learning difference	-High level requirements for high achievers to achieve highest outcome -Additional guidance given to low achievers and talk with them to find out their learning problems	-Students who can make the outstanding projects with complicated working procedure. -Students who have sufficient time to finish their projects with simple working procedure.	-High achievers have to complete perfectly their design work -Low achievers have to complete their design work on time with extraordinary assistance	08-09	N/A	D&T teacher
7. Staff development	Panel should attend no less than three subject-related workshops/seminars	Workshops and seminars organized by EMB and other bodies	Apply new teaching methods/ideas in classes	08-09	N/A	D&T teacher

8. Assessment policy	A range of assessment modes would be adopted to assess, such as Task/Assignment, Case study, Design Project and test.	Students are able to select and apply the suitable technology and relevant resources for designing, manufacturing and marketing of product.	Design and make an innovative product	08-09	N/A	D&T teacher
9. Extra-curricular activities	-Internal/External Robot Competition -Open Robot Making Workshop for Primary School -Robot Programming Workshop	-Willing to follow the rules of competition. -Willing to be a helper with basic techniques. -Understand how to write and design a computer control program.	-Cooperate with partners to acquire the higher score during the competition. -Help Primary student to make a robot completely. -Program a robot to perform some tasks well.	08-09	Additional Fund	D&T teacher
10. Administration	Supporting the School Major Concerns for 2008-009	Subject Major Concerns address to School Major Concern consistently	Feedback from subject teacher Self-evaluation of progress by subject teacher	08-09	N/A	D&T teacher

#### V. TEAM MEMBERS

1. Mr. Tai Sam Shing (TSS) [Head]