Freshman Seminar for Broad Discipline in Health Science

Pilot Project

Final Report

(5 July, 2012)

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1. Project overview

Broad-discipline: Health Science

Faculty: Health and Social Sciences (FHSS)

Participating departments:

School of Nursing

School of Optometry

Department of Health Technology & Informatics

Department of Rehabilitation Sciences

Serving capacity: 450+ freshmen per annum and 11 undergraduate programmes

Period: Semester 1, 2011/12

2. Project Implementation

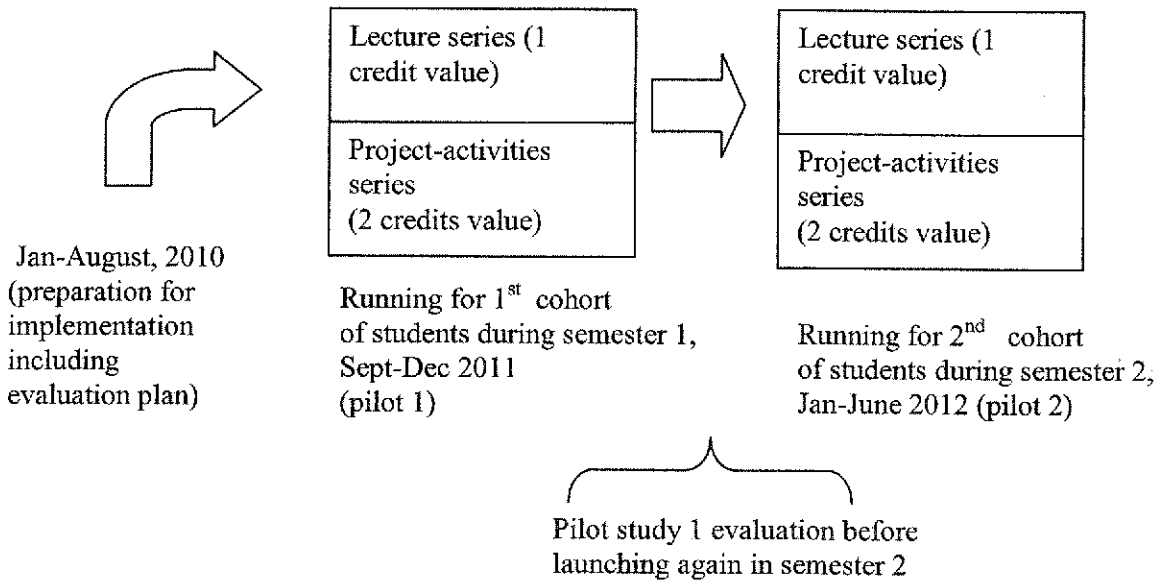
The pilot project was launched as a 2-credit General Education subject, after a validation process and special approval was given. All students, apart from APSS Department, of Faculty of Health and Social Sciences (FHSS) were strongly encouraged to take the subject as one of their options.

2.1 Objectives of the Freshman Seminar

- Introduce students to health disciplines
- Excite them about their major study
- Cultivate creative thinking and problem-solving abilities in health disciplines and inter-disciplinary activities
- Expose them to health-related entrepreneurship
- Facilitate students' engagement in university learning that emphasizes deep and self-directed learning

2.2 Overview of specific work undertaken for achieving the project objectives (including any changes to original proposal)

A two-tier structure was used to implement the 3-credit Freshman Seminar in Health Science during 2011-2012, as indicated in the figure below.



95 students from 11 disciplines participated in Semester 1. They were divided into 13 tutorial groups for the project activities which were designed to have a problem-based learning (PBL) focus. Two international and five local health science experts were invited to give lectures. The topics are attached in Appendix 1.

In June, 2011, a one-day PBL workshop was conducted for potential tutors/facilitators, to introduce them to the philosophies and strategies of PBL. Most of those who ended up in the role of tutors/facilitators for the Semester 1 implementation attended this workshop, although not all had the opportunity to participate in this introduction to PBL. A facilitators' guide was developed to support the tutors/facilitators to implement the PBL activities.

Evaluations were conducted mid-semester and at the end of the semester, as per the evaluation plan described below, and recommendations were made based on these to modify the content and delivery.

Unfortunately the number of students enrolling in the subject for Semester 2 was insufficient for it to be repeated. However, a focus group interview was conducted with 10 students and 2 tutors who had participated in Semester 1 to invite them to review the changes that had been made as the result of the Semester 1 evaluations (see sub-section 3.3).

2.2.1 Tutor/facilitator training

A one-day workshop was conducted for potential tutors/facilitators prior to the start of the semester. This was based on the rationale of using a PBL approach to introduce the tutors to the fundamentals of PBL. It was also considered that it would be worthwhile to try this approach because of its potential to become a sustainable form of tutor preparation, without relying on the presence of PBL experts to deliver the content. The workshop objectives were to:

- identify knowledge/concepts appropriate for the Freshman Seminar
- suggest some suitable scenarios that address the Freshman Seminar criteria and provide stimulus for a PBL approach to inter-professional education
- suggest some appropriate criteria for assessing this aspect of the Freshman Seminar experience.

The table below indicates how the PBL approach was conducted. To enable the activity to be completed within one day, some articles and resource materials were made available to the participants. These were sufficient for them to find the critical information to meet the objectives of the workshop, although some groups sought out additional resources.

Time	Activity
9.00-10.30	Introduction to the objectives of the Freshman Seminar and proposed approaches IPE in the Health Care Professions PBL as a teaching and learning approach: An experiential encounter:

	- Small-group generation of questions to be explored - Allocation of questions/tasks to groups
10.30-10.45	Tea
10.45-12.00	Small-group investigations of allocated tasks
12.00-1.00	Lunch
1.00-2.00	Group presentations and summary: How has this brief PBL experience contributed to our preparation as facilitators?
2.00-2.30	Discussion: The potential of PBL in the context of the Freshman Seminar pilot implementation.
2.30-2.45	Tea
2.45-4.00	Small-group discussions about possible scenarios to develop for the IPE/PBL aspect of the Freshman Seminar
4.00-4.30	Feedback and discussion
4.30-5.00	Discussion about criteria for assessment

Nineteen participants completed the evaluation of the PBL experience in the workshop as a form of facilitator training (see Appendix 2). On a 5-point Likert scale, where 5 represented 'strongly agree', the participants were positive that the sample PBL experience was an effective way to develop their understanding of PBL (mean rating = 4.2) and to develop their understanding of how to be a facilitator of PBL in the Freshman Seminar (4.0). The readings and resource materials that were given to support their PBL experience were rated 3.6 as sufficient to enable them to meet the outcomes of the PBL experience.

While the mean rating of 3.1 on the item "I would prefer to have received a different format of facilitator training" suggested that the participants were neutral about this point, there were five who rated this item *agree/strongly agree*. The reasons given by these five were that they wanted lectures or videos to explain, rather than to learn via PBL. This raises some concerns about whether they have yet developed the attitude towards PBL as a teaching approach. Generally, however, the respondents understood that we were trying to "practise what we preach" and responded positively to the approach.

Generally the evaluation seems to hold promise for the use of this approach as a sustainable, mostly self-learning, approach to facilitator training. It is recommended that future training workshops also incorporate a session to introduce tutors to the tasks and .resources designed for the subject.

2.2.2 Facilitator guide

A guidebook for facilitators was developed to supplement the above-mentioned introductory workshop for tutors. The purpose of this guide was to introduce the tutors to the PBL tasks to be used as part of the Freshman Seminar for FHSS. It was assumed that the tutors had already completed the introductory workshop to develop their understanding of the fundamentals of PBL for this subject.

The guide is divided into seven sections to represent the seven PBL sessions to be conducted in the Freshman Seminar. Each section includes:

- the intended learning outcomes (ILOs)
- the PBL case/s
- some suggestions about how you can introduce and facilitate the case
- activities for students to complete after the session, for homework.

The guide also includes information about the tutor's role as facilitator, some sample questions that can be asked during the facilitation process, a worksheet to guide the students through the PBL process, tips for students for effective groupwork and suggested questions to guide the students to reflect on what they had learned during that particular session.

2.2.3 Sample reflective journal and assessment rubric

After each of the lectures, an open-ended question related to the topic was posted on Blackboard, and the students were asked to enter their reflections provided under the

questions in a box online. The writing was expected to be the student's reflection about the speaker's presentation and other related thoughts.

2.2.4 Poster guidelines

For the major project, the poster presentation, the students were given the following brief:

> *You and your groupmates have been appointed to a special committee of the Hong Kong Government (or the World Health Organisation if you prefer). The purpose of the committee is to recommend ways in which the health system can be made more cost effective without compromising on the quality of service or ethical issues such as availability of services to everyone who needs it.*
>
> *Your committee is asked first to identify an issue that you consider to be of significant importance to Hong Kong (or the world). [If you have difficulty identifying an issue, you may select one of the newspaper cuttings provided by your facilitator. However, extra credit will be given if you are able to show creativity in identifying your own issues.*]
>
> [After identifying and refining the issue]:
>
> *Your committee is now being asked to prepare a poster to be presented to the Hong Kong Government (or WHO) to:*
>
> - *Summarise the potential implications if the issue is not addressed*
> - *Suggest some strategies for addressing this issue. (Credit will be given for strategies that are particularly creative.)*
> - *Make recommendations about which groups of health professionals should be involved in your chosen strategies and why.*
> - *Explain why your chosen strategy will be cost-effective.*

- *Justify that you have not compromised on ethical issues in making your recommendations.*
- *Present your findings in a way that will capture the attention and interest of your target audience.*

The outcomes of this task were presented in a poster session in the final week of the semester.

3. Evaluation mechanisms

3.1 Student learning outcomes

The following student learning outcomes were set for the subject.

Upon completion of the subject, students will be able to:

- Articulate their previous learning to a new realm of health sciences
- Appreciate various health science issues in this contemporary world
- Practise ways to achieve inter-disciplinary learning and co-operation
- Develop inter-disciplinary design, products, programs and manuals etc. through creativity, problem-solving and entrepreneurship

3.2 How were the subject objectives and student learning outcomes measured?

The following table shows the plan that was followed to evaluate the subject objectives and student learning outcomes.

Project Component	**Project outcome:**	**Instrument**	**Assessor**
1. Tutor training	Sustainable package to train tutors in (a) principles of PBL and (b) how to use the cases developed for the subject	Evaluation form Focus group interview	Tutors at training workshop and at end of semester

2. Tasks/activities	Suitability, effectiveness and efficiency in addressing ILOs	Interim and end-of semester questionnaire Focus group interviews	Tutors & students
3. The learning experiences	Extent to which students meet the ILOs	Group project Reflective journals submitted online	Tutor (rubric)
	Development of students' generic competencies: creativity, entrepreneurship, globalization, problem solving)	End-of semester questionnaire	Students (self-perceptions of their development)
	Group dynamics	End-of-semester questionnaire	Students (self-perceptions of their development)
	Students' experiences of the teaching and learning approaches, study skills developed, etc.	End-of-semester questionnaire	Project Team to analyse

3.3 To what extent have the project objectives and student learning outcomes been achieved?

3.3.1 Attainment of project objectives

Objective: Introduce students to health disciplines

The two focus groups of students interviewed at the end of the semester expressed satisfaction that they had been introduced to the range of health disciplines. They were positive about making friends across disciplines and suggested that this could be beneficial in encouraging them to engage in more cross-discipline interaction in their future workplaces.

Mid-semester student feedback (Table 3.1, Appendix 3)

Twenty-three students reported that the lectures had helped them to gain an understanding of the aims and needs of modern health care/healthcare systems, particularly those in Hong Kong. A further 10 felt that they had gained useful insights about issues of concern in healthcare, including global issues. While interprofessional understanding was one of the key objectives of the Freshman Seminar, only 18 students expressed that the lectures had helped them to develop this. Of these, 15 said they had learned more about co-operation of different professionals to bring about a high standard of healthcare.

Objective: Cultivate creative thinking and problem-solving abilities in health disciplines and inter-disciplinary activities. Expose them to health-related entrepreneurship

Mid-semester student feedback (Table 3.1, Appendix 3)

Thirty of the respondents made comments that were related to the development of their generic competencies. While these 30 comments were distributed across various competencies, such as solving problems as part of a team (6 students), problem-solving skills (6 students) and discussion/interpersonal skills (5 students), it is encouraging to see that students were aware of how they were developing these skills.

End-of-semester student questionnaire (Table 4.1, Appendix 4)

From the end-of-semester questionnaire completed by the students, it appears that they were generally positive about the generic competencies they had developed as a result of the Freshman Seminar, with most means tending towards "agree" (ranging from 2.19 to 2.64). The most positive ratings were for the items relating to study skills (2.32 and 2.19, with almost 70% of the students rating these two

items "agree" or "strongly agree". Two other items that received high ratings were problem solving/"learning to look at problems from different points of view" (mean = 2.29, 71.4% rating this item as agree/strongly agree) and entrepreneurship/"developing my own ideas about how Hong Kong"s healthcare system can become more cost effective and accessible in future" (2.29, 70.7%).

It was encouraging to see that 30 students commented positively on developments in various generic competencies from the PBL tutorials and that they appreciated the opportunity to interact with each other, particularly with students from other disciplines (thus suggesting that this objective of the project was met with some success).

For the purpose of this subject, entrepreneurship was defined as the ability to *make recommendations about how resources could best be utilized in Hong Kong to ensure a cost-effective, accessible and ethical healthcare system in the coming decades.* The students were reasonably positive that the Freshman Seminar had helped to develop this skill, with mean ratings on the two items related to this construct being 2.29 and 2.52, and more than 60% of the students rating these two items agree/strongly agree.

Objective: Excite them about their major study

End of semester questionnaire (Table 4.2, Appendix 4)

The student feedback does not give particularly strong support for the objective of "exciting students about their major study", with a neutral mean rating (3.04) and only 41.5% of the students rating it as useful/very useful for this purpose.

3.3.2 Attainment of subject ILOs

Of the 95 students who completed the subject, 14(14.7%) achieved the grade of A+, 22 (23.2%) achieved A and 32 (33.7%) achieved B+, accounting for a total of 71.6% of the

cohort. A further 22 (23.2%) were awarded the grade of B. This suggests that the subject assessors considered the students' assessed work to demonstrate that they had attained the subject ILOs with a high level of competence.

3.3.3 Evaluation of the teaching and learning experiences

3.3.3.1 The lecture series

Mid-semester student feedback (Table Tables 3.2 & 3.3, Appendix 3)

Thirty-two of the 55 respondents commented on matters relating to the lecture structure and style. Of these, 20 complained that the time of the lecture was too early, which made it difficult for them to concentrate. With lecture times set centrally, this problem is probably beyond the control of the project team but, nevertheless, is worthy of future consideration.

Nine students commented on the teaching style in the lectures, with 6 suggesting that they would like more interaction, discussion or structured reflection.

Student focus group

In the end-of-semester focus group interviews, the students suggested a narrowing of the lecture content and more specific guidelines to be given to the lecturers, as they feel that there were too many messages being delivered in the lectures for them to appreciate fully.

3.3.3.2 The PBL

Mid-semester student feedback (Tables 3.4, 3.5 & 3.6, Appendix 3)

Twenty-nine students commented positively about the opportunities for interaction in the PBL tutorials, with 22 mentioning particularly the chance to discuss and share their opinions and to interact with students from other health professions.

The least popular aspect of the PBL tutorials was the time and structure (mentioned by 26 of the respondents). Seven students commented that they needed more time to be made available to solve the problems.

Eighteen students expressed concerns that were related to the content of the PBL tasks. Of these, the most common (8 students) was that it was too vague and they needed more guidance. Only 5 of the students complained that the PBL aspect of the subject was too much of a workload.

Only 13 of the students made recommendations that were related to the guidance they received to solve the problems. They specifically requested more instructions and guidance. Considering that they were first-year university students having come straight from a school system where problem-based, student-centred learning is rare, it is reasonable for them to need some structured scaffolding for their first PBL experience. Ten students commented on the structure of the tutorials, but their comments were quite diverse and no clear patterns emerged.

End-of-semester student questionnaire (Table 4.3, Appendix 4):

The students who responded to this questionnaire were generally positive about the learning experiences, with all means below 3 and around half or more of the respondents rating the items "agree/strongly agree". The most positive ratings were for tutor facilitation, with means ranging from 1.90 ("my tutor had a good understanding about specific facilitation skills"), with 87.8% of the students rating this item "agree/strongly agree", to 2.02 ("my tutor gave the right amount of help without spoon feeding us", 82.9% rating this item "agree/strongly agree". The lowest ratings were given for three items within the construct of the "usefulness of learning activities to promote students' learning" – the learning experiences rated as the least useful were "Important leadership qualities for health professionals to develop" (mean = 2.73, 48.8% of students rating the item as "agree/strongly agree", "Finding our own issue to work on for the poster

presentation" (2.71, 48.8%) and "Working together on the group project" (2.20, 48.8%). Unfortunately some of the important constructs could not be measured due to errors in formatting the questionnaire which meant that the items did not measure what they were intended to.

There were 19 valid responses to the open-ended question: *From your Freshman Seminar activities, what is the most memorable thing you have learned from doing the problem-based activities in your tutorial and out-of-class study?* The most common response was discussing the poster and related health issues with students from different disciplines (6 students). Five mentioned working as a team and five looking at health issues from different aspects/solving problems from different angles, such as from the perspectives of other health professions. Other comments, each mentioned by one student, were: specific knowledge relating to one of the posters to address a personal problem, i.e. coping with sleep problems; how to manage a group of people; building friendships with other healthcare professionals; learning a systematic way to solve a problem; presenting the ideas in class (i.e. roleplaying as health professionals in a specified context); learning communication skills; addressing an ill-defined problem; having a chance to express ideas in English because of the small group discussion; and learning project skills that are different from secondary school.

Twenty-one valid responses were given to the open-ended question: *What did you like the **best** about doing the problem-based activity?*
Group discussion and brainstorming were the most popular, mentioned by 10 students. This was followed by the opportunity to meet with students from different disciplines, which does not usually happen (5 students). Three were impressed by the student-centredness of the learning, specifically that they had the choice of what to study and were able to study topics in which they were interested. Each of the following was mentioned by one student: trying to inspire other group members to debate; poster presentation; sharing what we know; everyone sharing their own ideas and experiences; everyone is important and has a part to play; co-operation with team mates; and thought provoking nature of the activities.

Fourteen students gave valid responses to the open-ended question: *Which PBL (e.g. tutorial topic) experience helped you the most in your learning and why?* Only two students mentioned "all topics", since they perceived each one to make a unique contribution: "Every topic is helpful to my learning because they are greatly related to my profession (nurse)". One mentioned the poster "because we start everything on our own. I think the error-and-trial learning suits me a lot, as I am able to experience the thinking and action process on my own".

Three students mentioned the task that was set for the second PBL session, in which they were asked to roleplay as healthcare professionals to conduct an activity session with a group of Form 6 students to raise their awareness about the issue that the group had chosen to focus on for the poster session. They liked this because it "helped us to brainstorm what we could do for our poster" and encouraged them to "think of a presentation that is suitable for this particular audience".

Twenty-two students answered the open-ended question: *What did you like the **least** about the PBL experience?*

Five of these responses were concerned with the problem tasks. Three commented that the topics were too far removed from what they were learning, and hence boring, suggesting that they would prefer tasks related more closely to the 'beginner health professionals' level. Another student said that this lack of familiarity with the topic created some 'dead air' during the group discussions. Two students specifically said that they did not like the poster design task. One expressed difficulty with defining the problem.

Four students commented on the issue of scaffolding, specifically that there were not enough guidelines given for the PBL tasks, particularly the poster. Three commented on aspects of the groupwork. Of these, two commented on the difficulty of meeting with group members out of class, as students from different disciplines have different

timetables. One experienced difficulty working with groupmates who always have different points of view from him.

On the topic of organization, two students commented that too much class time was spent on presenting PBL findings, not allowing enough time to discuss the poster.

There were twenty-two valid responses to the open-ended questionnaire item: *If you had a choice between the **PBL** and the **traditional-lecture** method, which one would you choose and why?*

Of these, 15 (63.6%) said they preferred PBL. Their reasons included:

- more interactive and conducive to sharing opinions/can be actually involved (7 students)
- more interesting (4 students) and enjoyable (1 student)
- and encourages more critical thinking (2 students)
- less pressured (2 students)
- more practical (2 students)
- more self-directed (1 student)
- learn teamwork (1 student).

Two students, including one of those who indicated a preference for PBL, indicated that a balance of the two is important, particularly as the first-year students are not yet familiar with the PBL style of teaching.

Six students said that they would prefer a traditional lecture approach. The main reason given was that this would allow a lighter workload or would be less time consuming (4 students). One commented that PBL increases their stress and decreases the effectiveness of their learning in other subjects. The same student also commented that high scores are difficult to get in PBL. Another commented on the difficulty of collaborating out of class with students from other departments, since their timetables vary greatly. One said the lecture is more informative than PBL. Two of the students who indicated a preference

for the traditional lecture added that they do like PBL – one because it is interesting, and the other because it can improve problem-solving skills.

Tutor meetings

Two meetings were conducted with tutors, one in October and the other in December 2011 to enable them to give feedback on their experiences. On the topic of the PBL sessions in the tutorials, the tutors felt that the attempt to link the early PBL tasks to the lecture topics was not practical because the lecture topics will vary from semester to semester. They also felt that the lecture-related topics were too sophisticated for the students so early in their university careers. They reported that the students found it difficult to adjust to the PBL mode as they had been used to spoon feeding in their secondary schools. In fact, the tutors' comments suggested that some of them were doing discussion activities based around the set PBL tasks but not actually doing PBL. (This can have happened for two reasons: some tutors had not had the chance to attend the tutor professional development workshop, while others who had attended the workshop still did not feel convinced or confident about PBL.) On a positive note, the tutors said they thought that the students were able to identify their own problems as the focus for their group projects, although they needed more guidance about how to develop the poster product.

Some issues arose about the structure of the tutorials. In designing the tutorial activities it had been assumed that the majority of the time would be spent on the PBL tasks – hence some substantial presentation and feedback sessions had been structured. However, from the tutors' comments, it was clear that they found it necessary to carry out tasks additional to PBL in the tutorials, including reviewing the lecture and discussing feedback on the reflective journals.

3.3.3.3 The Assessment tasks

Mid-semester student feedback (Tables 3.2 & 3.3, Appendix 3)

Thirty-five of the 55 respondents indicated that the things they did not like about the lectures were assignment related. Twenty-four of these said that the workload associated with the reflective journal was too high.

When it came to making suggestions about how to improve the lecture series, 34 students again made suggestions relating to the assignment. Of these, 10 recommended reducing the number of reflective journals to be submitted, while 6 requested more frequent feedback from tutors. (According to the plan, tutors were only expected to assess three pieces of work per student. However, most tutors actually marked all pieces of work and discussed with their students examples of good and poor submissions.)

End-of-semester student questionnaire (Table 4.4, Appendix 4)

A mean rating of 3.92 suggests that the students thought the workload to be heavy; 63.4% indicated that they thought it was "heavy" or "too heavy". While 43.9% of the respondents indicated that the level of difficulty of the subject was "just right", 51.2% indicated that they thought it to be challenging or very challenging (mean = 3.61).

In the open-ended comments, seven students commented on the reflective journal. One said that it was too general and two that it was "vague and not interesting because not specific to our professions". Three students commented that the 500 word limit restricted and forced them only to follow the marking rubric rather than being creative in answering

Tutor meetings

On assessment, the tutors said that the students found the reflective journals difficult to write because there was not a lot in the lectures that linked to the questions. Their

comments confirmed what the students themselves had reported in the questionnaires, that they were giving the answers required for marks rather than really reflecting on what they had learned.

The initial plan was for the students to submit a reflection for each of the seven lectures but that, with a view to reducing the tutors' workload, two would be selected randomly for each student to be marked. The tutors' comments reflected the students', that this idea did not seem to be working because the students felt they were wasting their time completing work that was not going to be marked. In fact, some of the tutors said that they had been marking all of the journals for all students anyway, since they wanted to give their students maximum feedback. While this was feasible for the relatively small student numbers in the Freshman Seminar pilot implementation, it may not be realistic for tutors to do this when the full cohort starts in 2012.

The tutors also mentioned difficulties associated with the discussion board in which students were expected to participate. The tutors indicated that, in reality, they were the ones initiating the threads, with students participating only the night before the class.

4. Summary and recommendations

4.1 Positive experience and outcomes of the project

It is encouraging to see that more than 90% of the students completing the subject attained grades of B or higher, with more than 70% attaining B+ or higher. One of the most positive experiences of the project was that the majority of students perceived themselves to have gained an understanding of the aims and needs of modern health care/healthcare systems, particularly those in Hong Kong, and to have gained some insight about issues of concern in healthcare, including global issues.

The students also commented positively about the opportunities for interaction in the PBL tutorials, particularly the chance to discuss and share their opinions and to interact with students from other health professions.

It is also a positive outcome that students were aware of how they were developing the generic skills of creative thinking and problem solving.

4.2 Issues and recommendations for addressing problems

4.2.1 About curriculum planning and implementation

Lectures:

As a consequence of the evaluations, the lecture topics have been reviewed to align more closely with subject objectives, such as the promotion of interprofessional understanding. The actual lecture time will be reduced and more time will be allowed for interaction to occur during the lecture time. Lectures may be video-recorded to enable students to watch them again if they have difficulty with understanding.

Tutorials:

Consideration needs to be given to whether or not this Freshman Seminar is to be about PBL and, if so, to make it mandatory rather than optional for tutors to focus on the ongoing development of the students' PBL skills, with reflections on this development. To do this, tutorials need to be divided into two distinct components – one part to talk about the lecture, give feedback on the reflective journals, share the tutor's personal experiences, etc., and the other to focus on the PBL sessions. This balance of time needs to be established to ensure consistency across tutorial groups.

The time and structure of the tutorials have been adjusted for the next round of implementation. For example, one change that has been made is to ensure a common free time for students across disciplines that will make it easier for them to meet to work on their PBL tasks. Students do need to be reminded, however, that a part of the PBL

process is to engage in individual study in order to find appropriate information to be contributed to the group outcomes as well as to have some time to discuss as a group.

PBL Tasks:

In designing the PBL tasks it needs to be taken into account that around half of the tutorial time needs to be spent on non-PBL activities such as reflecting on the lecture and discussing journals. The PBL tasks need to be adjusted according to the amount of time available in tutorial sessions and the time students are expected to spend in independent study out of class.

The attempt to link the introductory PBL tasks to the lecture topics was not successful because the students found the tasks to be too far removed from their interests. It is recommended to revert to the original plan to start with more generic, short cases that are fun for the students to work on, can be solved mostly by using common sense and the knowledge they already have, and that gradually lead them towards developing problem-solving skills. It was also found that the problem tasks need to be structured in such a way as to introduce students gradually to the concept of PBL. The problems/cases used in the early tutorials have been revised accordingly. The first sessions have been changed to include more step-by-step guidance to experience PBL and reflect more on what they are learning and how they are developing from the experience (i.e. not "telling them about" PBL but guiding them to experience it).

Poster task:

Specific guidelines for the poster task were developed during the pilot project and will be incorporated into the Facilitator Guide (including guidelines about font sizes, amount of text, etc). Samples of the best posters from the pilot may also be included.

Tutor training and support resources:

Even in the two groups interviewed there was some discrepancy in the students' understanding of PBL. It is recommended that all tutors experience the half-day introduction to PBL workshop before the start of the semester, so that they have at least a basic experiential understanding of the philosophies that can be applied to their tutorials.

The Facilitator Guideline may need to be amended to incorporate guidelines for the tasks other than PBL that need to be addressed in tutorials. There is also a need to include guidelines for how to use the examples and rubrics that were developed during the pilot project to assess the students' reflective journals.

4.2.2 About student learning

Exciting students:

Even though it is one of the objectives, the students were quite neutral about whether the Freshman Seminar "excited" them about their chosen professions. The project team needs to explore what is needed to excite the students more – perhaps through focus group interviews with some of the students who have completed the subject.

Student support:

Due to concerns expressed by students (especially in the interim and end-of-semester questionnaires) that the guidelines for the PBL tasks were too vague and that they needed more guidance, combined with the fact that the tutors varied considerably in the kind of facilitation they gave to their groups, it was recommended to prepare a student guidebook to ensure that they would all receive consistent scaffolding irrespective of the tutors' facilitation skills. Since reflection on what has been learned is an important component of

PBL, it was also recommended that the Student Booklet would incorporate some reflective questions for students to discuss briefly during tutorials, for example, short Likert-type questionnaires designed to prompt their thinking about the problem-solving skills they have developed in a particular session.

Assessment:

Based on the students' criticisms of the Reflective Journals, particularly the workload and the methods of assessment and feedback, this has been revised. For 2012-13, students will be required to submit only 5-6 journals, of which the first one might be done as a practice during an early tutorial. It has also been recommended that the reflective journal questions be adjusted to make them reflect the students' daily life experiences better and encourage them to reflect more on the subject learning outcomes, and that the questions will be given to students prior to the lecture to enable them to prepare better for the lecture.

4.3. Good design features and effective practices for sharing

4.3.1

Students are required to attend a specified number of talks/seminars by external/overseas experts (e.g. renowned researchers or scholars) organised by the departments and write reflective journals and reinforce by collaborative learning by students in groups (e.g. working on their group project). Strong emphasis on student reflection via short reflective journals throughout the semester.

4.3.2

Provision of guidelines for (re-) running training workshop for tutors, the use of facilitators' (tutors') guide, students' PBL workbook, greatly enhances clear

communication of learning objectives, achieving expected outcome between teachers and students.

4.3.3

The team has developed detailed, clear rubrics of assessments that have guided students in their learning efforts as well as for raters in grading various learning activities (see Appendix 7)

4.3.4

As an early adopter of Backboard, the team was able to utilize useful and relevant tools, as advised by experts of EDU before and during the teaching process. This attempt has great enhanced the learning outcome by promoting interaction and collaborative student learning; effectiveness of assessment especially the review and marking of reflective journals, administration and analysis of a specially-designed subject end-of-stage feedback questionnaire delivered through Blackboard.

4.3.4

Poster presentations on the freshman projects by students has successfully been used to showcase students' innovation, creativity, objectivity, critique abilities. This has been proved to be a successful reward to a mixed group of health-related disciplines of students and a good "learning- from- others" experience.

4.3.5

We are fortunate to have a committed and enthusiastic staff team having rich experiences and skills in working in PBL and with first-year students. There have been regular meetings for tutors to clarify queries, share experience and solve problems through a concerted effort. This would be a great asset in promoting a team spirit and inspire new tutors in the near future. It is anticipated that some 30 tutors will be involved in this Freshman Seminar which is to be run for 650+ students, starting from 2012-13.

4.4 Continual support needed

- Booking of JCA for mass lecture of 650 students and 30 general teaching rooms in semester one of every academic year, for tutorial session in the coming years and onward.
- Enhancing the use of Blackboard especially the marking and evaluation of assessment components, reinforce the data analysis of tailor-made SFQ through the advice and support from EDC in the long run.
- Booking of venue for poster session which will also be open to other staff and students to visit.

Appendices

Appendix 1: Lecture topics

Date	Speaker	Topic	Abstract
1 Sept 2011	**Prof Mary Lovegrove** International Lead, Faculty of Health and Social Care. London South Bank University. The education lead for the Department of Health Professional Advisory Board for Allied Health and Allied Health advisor to the Centre for Workforce Intelligence. **[Professor Mary Lovegrove** is a diagnostic radiographer with a special interest in education and development for allied health professions and has extensive experience in education for the NHS and associated health workforce in the UK. Mary has secured a considerable number of funded projects and holds a number of international roles as advisor to governments, as well as sitting on the executive of the Council of Deans for Health and is on the steering group for the NHS London AHP Leads. As Head of Department of Allied Health Professions, Mary has a major leadership role for educating and training the allied health workforce for London.]	Clinical Leadership in a multi-professional environment	High quality clinical health and social care and efficient productivity are dependent on the effectiveness of the frontline clinicians. To meet the challenges of modern healthcare delivery in a truly multi-professional environment it is imperative that frontline clinicians and the wider health workforce have the leadership knowledge, skills and behaviours to be able to improve services to provide better patient care. On June 29th 2011 the Secretary of State for Health in the UK will launch the new NHS Clinical Leadership Framework. Central to the new framework is that all clinicians will understand their role in delivering the service based on demonstrating personal qualities; working with others, managing services, improving services and setting direction.

15 Sept 2011	**Prof Elizabeth Dean** Elizabeth Dean, PhD, PT, Professor, Department of Physical Therapy, Faculty of Medicine, University of British Columbia [**Professor Elizabeth Dean** is a faculty in the Department of Physical Therapy at the University of British Columbia, Canada, and Visiting Professor, with Leeds Metropolitan University, Faculty of Health, Leeds, UK, since 2005. Her academic and clinical career and experiences have spanned the "corners of the globe" with invitations to Australia, Belgium, Brazil, China, Denmark, Greece, Hong Kong, Iceland, Japan, Kuwait, Libya, Monaco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Qatar, Saudi Arabia, Singapore, South Africa, Sweden, Switzerland, the United Kingdom, as well as the United States and Canada. Because 'lifestyle conditions' are pandemic not only in high-income countries, her research and publications have increasingly focused on integrating and translating knowledge of cultural relativism and diversity in promoting health and wellness worldwide, and exploiting evidence-based non invasive physical therapy interventions (healthy lifestyles including health education and exercise) to prevent and, in some cases, reverse, as well as manage these conditions that are associated with enormous human suffering and societal cost.]	On Becoming a True 'Health Care' vs. 'Illness Care' Professional in the 21st Century	According to the World Health Organization, 'health is a complete state of physical, mental and social wellbeing', and not merely 'the absence of disease'. Further, the contemporary health professional is ethically committed to putting the health of their patients first. Lifestyle-related conditions (heart disease, high blood pressure, stroke, smoking-related conditions, type 2 diabetes mellitus, obesity and cancer) hallmark this century. These conditions are largely preventable or modifiable, and contribute to substantial social and economic burdens. These global burdens are unsustainable. A simple reductionistic practice model (one problem – one solution) that may have sufficed in the era of acute infectious disease) is not sufficient for patients today including children who have multiple lifestyle-related risk factors, manifestations of lifestyle-related conditions or

			both. Informed by unequivocal evidence, this interactive and lively session focuses on health and its promotion in every patient, the need for interprofessional team work, and how maximizing patient health can be achieved with minimal intervention and time through the collective efforts of all health professionals. Maximizing the health of every patient will ensure fewer people get sick, and when they do they are affected less often and less severely, have fewer complications, and recover faster. In addition, they are more likely to respond more favorably to your specific interventions.
29 Sept 2011	**Prof John Mok** **[Ir Prof. John Mok,** Founding Chairman of the Hong Kong Medical & Healthcare Device Manufacturers Association, Council Member of HK Institute of Directors, Dept Advisory Chairman or Industry Advisor of four Universities & one Research Institute in HK]	Good Practice of Design & Control in Medical Manufacturing	Talk was cancelled due to typhoon condition.

13 Oct 2011	Prof Daniel Shek [**Prof Daniel Shek** (PhD, FHKPS, BBS, JP) is Chair Professor of Applied Social Sciences, Department of Applied Social Sciences, The Hong Kong Polytechnic University, Advisory Professor of East China Normal University, Honorary Professor of Kiang Wu Nursing College of Macau and Adjunct Professor of College of Medicine, University of Kentucky. He is Chief Editor of *Journal of Youth Studies*, and editorial board member of *Social Indicators Research, International Journal of Adolescent Medicine and Health, The Scientific World Journal (Child Health and Human Development and Holistic Health and Medicine domains), Asian Journal of Counseling, International Journal on Disability and Human Development,* and *Bentham Open Family Studies Journal*. His past editorial appointments include Consulting Editor of *Journal of Clinical Psychology* and international consultant of *American Journal of Family Therapy*. He has served in many government advisory bodies, including the Action Committee against Narcotics, Commission on Youth, Fight Crime Committee and Family Council. He has to date published 66 books, 97 book chapters and more than 300 articles in international refereed journals.]	Promotion of Holistic Development of Young People in Hong Kong	A survey of the literature shows that there are worrying trends and phenomena related to the development of high school students in Hong Kong. The basic issue confronting policy makers, educators, youth workers and the general public is how unhealthy behaviour can be prevented and how healthy behaviour in adolescents can be promoted. This lecture will cover the following topics: a) meaning of adolescent health and holistic adolescent development; b) positive youth development approach; c) positive youth development constructs and healthy life as well as healthy mind; d) school-based programs which attempt to promote holistic adolescent health; and e) development, implementation and evaluation of a positive youth development program using the Project P.A.T.H.S. as an example.

27 Oct 2011	**Dr. the Hon LEONG Che Hung, GBM, GBS, JP** [**Dr Hon Leong Che-hung** is a private medical practitioner specializing in urology. He has extensive experience in public service; he is currently a Non-official Member of the Executive Council and the Council of the University of Hong Kong. He was chairman of the Hospital Authority from October 2002 to September 2004 and served as a member of the Legislative Council from 1988-2000. On the academic side, Dr. Leong was a Hunterian Professor of the Royal College of Surgeons of England. He was the Founding President of the Hong Kong College of Surgeons and Past President of the Hong Kong Academy of Medicine. Dr. Leong holds Honorary Fellowships of the HK Academy of Medicine, HK College of Surgeons; Physician, Emergency Medicine, Community Medicine, Dental Surgeons and Radiologists. He also holds the Honorary Fellowship of the Royal College of Surgeons of England]	Elderly services	To be provided
10 Nov 2011	**Professor George Woo** OD MSc PhD LOSc FAAO FVCO Professor Emeritus, The Hong Kong Polytechnic University [**Professor George Woo** received his Doctor of Optometry (OD) degree from the University	Primary eye care	In Hong Kong, the government through its health care reform wants to change the emphasis of our health care system to more of a balanced mix of promotive, preventive, curative, and rehabilitative care, and to

	of Waterloo in Canada. He obtained his MSc and PhD degrees in physiological optics from Indiana University in the U.S. He is a Fellow and a Diplomate in Low Vision of the American Academy of Optometry. After graduating and completing the licensing requirements for practice, he became an optometrist with the Canadian Red Cross Society before moving to Indiana University to undertake graduate studies and various teaching and research posts. In 1970, he joined the University of Waterloo as a faculty member, rising to full Professor in 1980. During his tenure at Waterloo from 1970 until his retirement as Professor Emeritus in 1996, he took up many visiting and consulting appointments at several institutions, including the University of Melbourne in Australia, Pennsylvania College of Optometry in the U.S., and the University of Cambridge in the U.K. From 1987 to 1989, he was the founding Head and Professor of the Department of Diagnostic Sciences of the then Hong Kong Polytechnic. In January 1997, Professor Woo was appointed Chair Professor of Optometry and Dean of the Faculty of Health and Social Sciences of The Hong Kong Polytechnic University. He became Associate Dean and CEO of PolyVision after deciding to relinquish the deanship after eight years, but resumed the		educate the public on how and why they should take more responsibility for their own health. The government is proposing that primary health care play a more prominent role in Hong Kong's health care system in the future. In this presentation, the role of an optometrist as a primary eye care practitioner within the framework is described. The scope of practice in primary eye care is illustrated with examples of different eye conditions. Primary eye care as part of public health touches upon many issues ----economic, professional, cultural, social as well as health.

	position on 1 August 2008 until his retirement from the University as of 30 June 2011. He has been approved as Professor Emeritus by the University beginning 1 July 2011. He is also Honorary Professor at China's Sun Yat-sen University, Tianjin Medical University and Wenzhou Medical College. Professor Woo has served on numerous local and international optometry, health and research committees. He is Immediate Past President of the World Council of Optometry and the Asia Pacific Council of Optometry, and President of the Hong Kong Contact Lens Research Association. He served as a board member of the Hospital Authority of Hong Kong from 2008 to 2011. Professor Woo's research interests include low vision, myopia, contrast sensitivity function, refraction, and contact lenses. He has published in numerous scientific and professional journals.]		
24 Nov 2011	**Dr. Vivian Wong** FFPH, FRCP, FRCOG, FHKAM Advisor (Integrative Medicine) Hospital Authority	Chinese Medicine and Integrative Medicine - complementary, alternative or the medicine for the 21st century?'	The theory and practice of Chinese Medicine in health care, development and barriers of development in Hong Kong

Appendix 2: Evaluation of the PBL experience in the workshop as a form of facilitator training
June, 2011

Total number of responses: 19

	Strongly Agree		Average		Strongly Disagree
a) The sample PBL experience was an effective way to develop my understanding of PBL. *Mean rating: 4.2*	5	4	3	2	1
b) The sample PBL experience was an effective way to develop my understanding of how to be a facilitator of PBL in the Freshman Seminar. *Mean rating: 4.0 (4 respondents gave a rating of 5 and 8 gave a rating of 4)*	5	4	3	2	1
c) I would prefer to have received a different format of facilitator training. *Mean rating: 3.1 (5 respondents rated agree/strongly agree)*	5	4	3	2	1
d) The readings and resource materials were sufficient to enable me to meet the outcomes of the PBL experience *Mean rating: 3.6*	5	4	3	2	1

The other issues that were raised were related to the aspects of the project that have not yet been developed, such as the cases, the notes to support facilitators, probing questions, etc.

Appendix 3: Mid-semester interim student feedback

The students were given a semi-structured questionnaire that invited them to give open-ended answers. The questionnaire was divided into two main sections, with Part A focusing on the lecture series and reflective journal assignments and Part B on the PBL activities. The students were asked to complete and return it during a lecture session. Fifty-five valid responses were returned. These responses were categorized as discussed below.

Part A: Your experience of the lectures

Questionnaire Item A1:
Please list 3 ways in which you have benefitted from attending these lectures and/or writing your reflections. (This may include knowledge you have learned that will be

important to you in your future career; something that has made you feel very interested or motivated; or a new skill you have learned.)

Table 3.1

Comments by category	**No. students**	**Total no. comments for category**
Knowledge and understanding		47
Understanding aims and needs of modern health care/healthcare system (especially in Hong Kong)	23	
Insights about issues of concern in healthcare world; Know/appreciate global issues	10	
Promotion of a healthcare and illness prevention community; the significance of giving good health care; importance of holistic health care	7	
Qualities expected of people in healthcare, eg "How to be a good nurse"	2	
Informative	2	
Respect the efforts of people working in healthcare policy	1	
Looking at health from a different perspective	1	
Youth education	1	
Interprofessional understanding		18
Knowing more about co-operation of different professionals to bring about high standard of health care	15	
Interaction with students from other healthcare professions	3	
Understanding of self in relation to profession		12
Information about what we could face in the future/what we can contribute to our future careers/how to be competent healthcare professionals	6	
Understanding how critical it is to be a part of the healthcare team	2	
Being patient oriented	1	
The importance of the healthcare provider	1	
Topics that might not be covered in syllabus such as how to be a good professional with good manners	1	
Holistic view of client	1	

Interactions with health professionals		4
Sharing of real experiences	4	
Inspiration and personal impacts		13
"Leader vs manager" gave me a fresh definition ["We can all be leaders"]	3	
Broadening horizons	2	
Inspiring videos in Lecture 4	1	
Passion for future career	1	
Thinking from other angles	1	
Messages about teamwork and other competencies	1	
Interesting topics	1	
Inspired by video clip about the broken violin, week 7	1	
inspiration	1	
Enthusiastic guest lecturers	1	
Assignments		3
Writing reflective journals consolidates what is learned in lectures	3	
Links to tutorials		1
Can discuss the lecture during tutorial session	1	
Teaching approaches		1
Q&A	1	

Clearly the most frequent category of comments was related to knowledge and understanding. Twenty-three students reported that the lectures had helped them to gain an understanding of the aims and needs of modern health care/healthcare systems, particularly those in Hong Kong. A further 10 felt that they had gained useful insights about issues of concern in healthcare, including global issues. While interprofessional understanding was one of the key objectives of the Freshman Seminar, only 18 students expressed that the lectures had helped them to develop this. Of these, 15 said they had learned more about co-operation of different professionals to bring about a high standard of healthcare.

Questionnaire Item A2:
Please list 1-3 things that you have not liked about the lectures.

Table 3.2

Comments by category	**No. students**	**Total no. comments for category**
Assignment-related		35
Reflective journal: workload too high [one student commented that this might not be an issue with the 2012 intake who will have more time]	24	
Reflective journal: difficult to relate journal to the lecture topic [1 student: too confining and do not allow students to write what they have been inspired by personally; 1 student – too difficult to link topics to interprofessionalism, globalization etc]	3	
Journal topics not related to lecture topics [1 student commented that even students who do not attend the lecture can write the journal]	3	
No individual feedback so do not really understand what is expected of us; Don't know our grade	3	
The reflective journal is not reflective at all !!!!![sic], ie not based on students' personal reflections/opinions	2	
Lecture structure and style		32
Time of lecture too early (can't concentrate because too sleepy)	20	
Too long – cannot concentrate on all points	8	
Not interactive enough	2	
Lecturers do not share enough of their experiences	1	
Lack of on-hand learning material	1	
Lecture content		35
Some topics irrelevant/not related to healthcare system/not interesting to me; meaningless	7	
Some content not suitable for freshmen and difficult to understand; Topics sometimes "strange and not very close to us", eg leader and manager	7	
Boring	5	
Some of the ideas delivered are only common sense that we knew before or can read about in the media	4	
Too broad – just touching the surface of each topic	3	
Lots of overlapping of topics	3	
Ideas not solid	1	
Too much factual information	1	
Random topics (but interesting)	1	

Some topics a little vague – need more explanation	1	
Some topics do not address both Hong Kong and international aspects	1	
Re-order lecture topics from general to specific	1	
Use of technology		3
Class discussion blackboard is poorly designed – students do not discuss effectively in class but are expected to discuss in Blackboard because marks will be counted	1	
Blackboard environment difficult for discussion	1	
Ppt and questions not posted to Blackboard immediately	1	
Learning		1
Haven't really learned anything	1	

Thirty-five of the 55 respondents indicated that the things they did not like about the lectures were assignment related. Twenty-four of these said that the workload associated with the reflective journal was too high. Thirty-two commented on matters relating to the lecture structure and style. Of these, 20 complained that the time of the lecture was too early, which made it difficult for them to concentrate. With lecture times set centrally, this problem is probably beyond the control of the project team but, nevertheless, is worthy of future consideration.

Questionnaire Item A3:
Please suggest how the lecture series/reflection writing can be improved for future student groups.

Table 3.3

Comments by category	**No. students**	**Total no. comments for category**
Cancel the subject	1	
Assignment		34
Reduce reflective journal workload; number of reflective journals	10	
Provide more feedback from tutors so students can compare/multiple examples of good and bad journals/more individual feedback and feedback for each journal	6	
Simplify reflective journal topics; make questions less vague	3	
Journals allowed to be longer – no word limit	2	
Give students more choices for reflective writing	2	
Replace reflective journal with more discussion in tutorial	2	
Reflective journal topics can be more clear – sometimes I do not know what to write; give more guidelines for writing	2	

More reflective journal	1	
Assessment rubrics should be fine-tuned according to different lecture topics	1	
Reduce reflective journal word limit	1	
Address more health problem issues [*suggestion: this can be addressed by restructuring the PBL cases]*	1	
Gather information for writing journal	1	
Have some questionnaire-type questions instead of reflective journal every time	1	
Have either presentation or poster but not both	1	
Teaching style		9
More interaction/discussion/reflection	6	
More sharing of experiences	1	
Should not be too theoretical	1	
Present ideas in more interesting way	1	
Lesson structure		8
Give students the major theme beforehand to prepare; Provide lecture notes before lecture – students find it easier to follow	2	
Break every 45 minutes	1	
Discussion	1	
More video	1	
More animation	1	
Reduce time	1	
Allow students more scope to reflect what they really think, not just writing to get marks. ["It's not the aim of doing "reflective" journal, right?"]	1	
Content		6
Topics could be narrowed down; condense some topics	2	
Invite a greater variety of speakers	1	
Lecture topics should stay more on health issues	1	
Replace some of lecture time with more discussion in tutorial	1	
Focus lectures on more specific areas	1	
Tutorials		2
Have more follow-up discussion in tutorials	1	
More case studies	1	

When it came to making suggestions about how to improve the lecture series, 34 students again made suggestions relating to the assignment. Of these, 10 recommended reducing the number of reflective journals to be submitted, while 6 requested more frequent feedback from tutors. (According to the plan, tutors were only expected to assess three pieces of work per student. However, most tutors actually marked all pieces of work and discussed with their students examples of good and poor submissions.) Nine students

commented on the teaching style in the lectures, with 6 suggesting that they would like more interaction, discussion or structured reflection.

Part B: Your experience of the problem-based learning in the tutorials

Questionnaire Item B1:
Please list 3 ways in which you have benefitted from doing the problem-solving activities in your tutorial sessions. (This may include knowledge you have learned that will be important to you in your future career; something that has made you feel very interested or motivated; or a new skill you have learned.)

Table 3.4

Comments by category	**No. students**	**Total no. comments for category**
Interaction		29
Interaction/co-operation with others; Discussion/Sharing my opinion; Interaction with students from other health professions; listening to others	22	
Tutorial better than lecture – sharing by tutors is useful	4	
Small group so more chance to express ideas	3	
Development of generic competencies		30
Teamwork; skills of solving a problem with other people	6	
Developing new ways of thinking; Thinking from different angles; Looking at problem from different angles; Develops important problem-solving skills	6	
Improved discussion/interpersonal skills	5	
Presentation skill improved	3	
Learn to be independent/motivate self learning	2	
Information presentation	2	
Problem identification	1	
Developing more skills	1	
More insight to analyse an issue	1	
Organizing a project	1	
Doing a survey	1	
Creativity improved	1	
Development of professional understanding		18
Different duties of different healthcare professionals; Know more about links between different professions; Co-operation between healthcare members	7	
Understanding current healthcare issues/problems internationally and locally	5	
Learn more about lecture topic	2	
Important qualities required of a healthcare professional	1	
Looking at healthcare team in different ways	1	

Not really problem solving but reading the documents can help me know more in detail about health-related issues	1	
Inspired us to think about the ageing population	1	
Student-centred learning		3
Allowed to investigate more ourselves; do research by ourselves	2	
Self-discover a lot of learning	1	
Content		2
Interesting topics [*suggest student interview question to explore whether they would prefer more or less freedom to select their own topics]*	1	
Interesting and useful tasks designed for every tutorial	1	

Twenty-nine students commented positively about the opportunities for interaction in the PBL tutorials, with 22 mentioning particularly the chance to discuss and share their opinions and to interact with students from other health professionals.

Thirty of the respondents made comments that were related to the development of their generic competencies. While these 30 comments were distributed across various competencies, such as solving problems as part of a team (6 students), problem-solving skills (6 students) and discussion/interpersonal skills (5 students), it is encouraging to see that students were aware of how they were developing these skills.

Questionnaire Item B2:
Please list 1-3 things that you have not liked about the problem-solving tutorial sessions.

Table 3.5

Comments by category	**No. students**	**Total no. comments for category**
Time and structure		26
Need more time to solve problems	7	
Timeslot too early	6	
Too long	3	
Didn't benefit from discussions as debate wasn't encouraged, only presentation of ideas	2	
First PBL difficult to do within 2 hours because we lack experience	1	
Too much hassle, too time consuming	1	
Difficult to meet group members as they have different schedules	1	
Too frequent	1	
No space available for working on group project	1	
Teacher not encouraging	1	

Classes not really interactive because it always just ends up with one person leading and everyone else agreeing	1	
Inconsistent attendance makes groupwork difficult	1	
Content		18
Too vague; Project information not clear enough; Purpose not clear	8	
Boring; Make content more interesting	4	
Classwork not very useful compared to sharing by tutors	1	
Topic a little too broad	1	
Focus on case rather than just knowledge	1	
Need guidance at group presentation to prevent coming up with wrong ideas	1	
Not very meaningful	1	
Having to find a huge amount of information	1	
Tasks and assessment		6
Poster and product presentation is too much of a workload; Too many tasks	5	
No assistance give at all – TA didn't do anything	1	

The least popular aspect of the PBL tutorials was the time and structure (mentioned by 26 of the respondents). Seven students commented that they needed more time to be made available to solve the problems.
Eighteen students expressed concerns that were related to the content of the PBL tasks. Of these, the most common (8 students) was that it was too vague and they needed more guidance. Only 5 of the students complained that the PBL aspect of the subject was too much of a workload.

Questionnaire Item B3:
Please suggest how the problem-based learning experience can be improved for future student groups.

Table 3.6

Comments by category	**No. students**	**Total no. comments for category**
Guidance		13
Need more instructions/guidelines to solve the problem (although I know there will be no instruction in reality); Prepare teaching template including goals and assignment to be achieved in tutorial; More guidance about the poster	9	
More pre-tutorial preparation activities	3	
Give feedback or marks after each tutorial	1	
Teach students how to debate and have opinions	1	
Deal with topics related to the journal	1	

Structure		10
More time for tutors to share experiences	2	
Fewer tasks – quality is more important	2	
No problem-solving activities at all *[suggest follow-up question with students to explore whether they perceive themselves to be doing PBL]*	2	
Allocate time for students to share	1	
More time to discuss problems	1	
Make tutorials more fun instead of just discussion or reading notes [*comment: seems PBL may not be happening in all tutorials]*	1	
More time for informal talking among students from different healthcare professions	1	
Content		7
Give actual case studies	2	
Have more interesting topics	2	
Discuss content of lecture in tutorial	1	
More activities to enhance our teamwork	1	
Cancel the poster – organizing and creating is too time consuming	1	
Organisation		7
Increase meeting frequency	2	
Record attendance	1	
More interaction	1	
More students	1	
Please arrange the class properly as there are too many arrangements of tutorial classes this year, which is very inconvenient to students and tutors	1	
Make class size smaller	1	

Only 13 of the students made recommendations that were related to the guidance they received to solve the problems. They specifically requested more instructions and guidance. Considering that they were first-year university students having come straight from a school system where problem-based, student-centred learning is rare, it is reasonable for them to need some structured scaffolding for their first PBL experience. Ten students commented on the structure of the tutorials, but their comments were quite diverse and no clear patterns emerged.

Appendix 4: End-of-semester student questionnaire

The data was collected through Blackboard. 42 valid responses were returned (44% of the class size). Reminders will be sent to students for filling out the questionnaire in order to boost this response rate.

Evaluation of the extent to which the objectives and learning outcomes of the Freshman Seminar were achieved

Objective: Cultivate creative thinking and problem-solving abilities in health disciplines and inter-disciplinary activities. Expose them to health-related entrepreneurship

Table 4.1

Construct	Item no.	Item ***The Freshman Seminar has helped me...***	Mean (1 represents "strongly agree')	SD	Valid % rating item agree/ strongly agree
Problem solving	1.1	Feel interested in finding and solving healthcare related problems	2.55	0.77	54.8
	1.2	To learn to look at problems from different points of view.	2.29	0.74	71.4
Teamwork	1.3	To become an active, contributing team member during the Freshman Seminar activities.	2.33	0.81	66.7
Study Skills	1.5	To improve my skills to find information needed to solve problems.	2.32	0.65	68.3
	1.6	To study independently and find information for myself.	2.19	0.86	69.0
Creativity	1.7	To think in more original and creative ways	2.33	0.79	64.3
	1.8	Become better at finding new ideas to address problems.	2.55	0.86	57.1
Critical Thinking	1.9	Think about ideas myself and not just accept what other people say.	2.33	0.82	66.7
	1.10	Develop the skills to challenge other people's ideas/opinions.	2.64	0.79	47.6

Entrepreneurship*	1.11	Develop my own ideas about how Hong Kong's healthcare system can become more cost effective and accessible in future.	2.29	1.05	70.7
	1.12	To contribute cost effective ideas to the healthcare system in my future career.	2.52	0.96	60.0

It can be seen from Table 4.1 that the students were generally positive about the generic competencies they had developed as a result of the Freshman Seminar, with most means tending towards "agree" (ranging from 2.19 to 2.64). The most positive ratings were for the items relating to study skills (2.32 and 2.19, with almost 70% of the students rating these two items "agree" or "strongly agree". Two other items that received high ratings were problem solving/"learning to look at problems from different points of view" (mean = 2.29, 71.4% rating this item as agree/strongly agree) and entrepreneurship/"developing my own ideas about how Hong Kong's healthcare system can become more cost effective and accessible in future" (2.29, 70.7%).

For the purpose of this subject, entrepreneurship was defined as the ability to *make recommendations about how resources could best be utilized in Hong Kong to ensure a cost-effective, accessible and ethical healthcare system in the coming decades.* It can be seen that the students were reasonably positive that the Freshman seminar had helped to develop this skill, with mean ratings on the two items related to this construct being 2.29 and 2.52, and more than 60% of the students rating these two items agree/strongly agree.

Objective: Excite them about their major study

Table 4.2

Construct	**Item no.**	**Item**	**Mean** (1 represents "very useful')	**SD**	**Valid % rating item useful/very useful**
Impact of PBL on exciting them about healthcare professions	3.18	The Freshman Seminar activities have made me feel excited about my chosen healthcare profession	3.04	1.2	41.5

The student feedback does not give particularly strong support for the objective of "exciting students about their major study", with a neutral mean rating (3.04) and only 41.5% of the students rating the activity as useful/very useful.

Evaluation of the teaching and learning approaches, particularly the PBL

In order to measure the students' evaluation of the teaching and learning approaches, with a particular focus on the PBL, the following item stem was given:

In this subject you have been introduced to Problem-Based Learning (PBL). This means that:

- *You were given real-world problems to solve by working co-operatively in groups.*
- *By working on the problem, you had the chance to learn new knowledge and skills needed for this subject.*
- *Your teacher's role was not tell you which knowledge/skills you needed to learn – it was your responsibility to identify what you needed to know and how to find it.*
- *The role of your tutor was a 'facilitator' as opposed to 'lecturer'.*

Table 4.3

Construct	Item no.	Item	Mean (1 represents "strongly agree')	SD	Valid % rating item agree/ strongly agree
Tutor Facilitation	2.1	My tutor introduced us to the skills of co-operative groupwork.	1.95	0.71	82.9
	2.2	My tutor had a good understanding about specific facilitation skills.	1.90	0.58	87.8
	2.3	My tutor gave the right amount of help without spoon feeding us.	2.02	0.82	82.9
	2.4	My tutor helped us to get back on track if we were going in a wrong direction.	1.93	0.78	78.0
Usefulness of learning activities to promote students' learning	3.5	Brainstorming about the roles of different healthcare professionals.	2.37	1.11	68.3
	3.6	Brainstorming about holistic healthcare.	2.61	1.05	51.2
	3.7	Brainstorming about obstacles to health and well-being in Hong Kong	2.44	0.92	63.4
	3.8	Important leadership qualities for health professionals to develop	2.73	1.07	48.8
	3.9	Finding our own issue to work on	2.71	0.98	48.8

		for the poster presentation			
	3.10	Working together on the group project	2.20	0.87	48.8
	3.11	Presenting the poster at the final session	2.61	1.09	53.7
Aspects of PBL that impacted on students' learning, compared to traditional teaching methods		Items 12 to 14 could not be used for this purpose; due to their having been worded incorrectly in the final questionnaire they did not measure this construct as was intended in the questionnaire draft			
Impact of PBL on students' perceptions of their problem-solving abilities, ie the extent to which they perceive the PBL to have helped them to develop as problem solvers	3.15	Recognizing healthcare issues because of the PBL experience in the Freshman Seminar.	2.72	1.01	50.0
	3.16	Looking for solutions to problems I encounter in my workplace/clinical practice.	2.51	0.93	58.5
Impact of PBL on teamwork and impact of teamwork on their overall learning experiences	3.17	Group support to learn.	2.22	0.99	80.5
		The second item designed to measure this construct: "Learning through working in a group with other students is an effective way to learn." Was omitted completely from the final version of the questionnaire.			

From Table 4.3, it can be seen that the students who responded to this item were generally positive about the learning experiences, with all means below 3 and around half or more of the respondents rating the items "agree/strongly agree". The most positive ratings were for tutor facilitation, with means ranging from 1.90 ("my tutor had a good understanding about specific facilitation skills"), with 87.8% of the students rating this item "agree/strongly agree" to 2.02 ("my tutor gave the right amount of help without spoon feeding us", 82.9% rating this item "agree/strongly agree". The lowest ratings were given for three items within the construct of the "usefulness of learning activities to promote students' learning" – the learning experiences rated as the least useful were "Important leadership qualities for health professionals to develop" (mean = 2.73, 48.8% of students rating the item as "agree/strongly agree"), "Finding our own issue to work on for the poster presentation" (2.71, 48.8%) and "Working together on the group project" (2.20, 48.8%). Unfortunately some of the important constructs could not be measured due to errors in formatting the questionnaire.

Most memorable aspects of PBL experience

There were 19 valid responses to the open-ended question: *From your Freshman Seminar activities, what is the most memorable thing you have learned from doing the problem-based activities in your tutorial and out-of-class study?*

The most common response was discussing the poster and related health issues with students from different disciplines (6 students). Five mentioned working as a team and five looking at health issues from different aspects/solving problems from different angles, such as from the perspectives of other health professions. Other comments, each mentioned by one student, were: specific knowledge relating to one of the posters to address a personal problem, i.e. coping with sleep problems; how to manage a group of people; building friendships with other healthcare professionals; learning a systematic way to solve a problem; presenting the ideas in class (i.e. roleplaying as health professionals in a specified context); learning communication skills; addressing an ill-defined problem; having a chance to express ideas in English because of the small group discussion; and learning project skills that are different from secondary school.

What students liked the best about PBL

Twenty-one valid responses were given to the open-ended question: *What did you like the **best** about doing the problem-based activity?*

Group discussion and brainstorming were the most popular, mentioned by 10 students. This was followed by the opportunity to meet with students from different disciplines, which does not usually happen (5 students). Three were impressed by the student-centredness of the learning, specifically that they had the choice of what to study and were able to study topics in which they were interested. Each of the following was mentioned by one student: trying to inspire other group members to debate; poster presentation; sharing what we know; everyone sharing their own ideas and experiences; everyone is important and has a part to play; co-operation with team mates; and thought provoking nature of the activities.

PBL topics most useful for learning

Fourteen students gave valid responses to the open-ended question: *Which PBL (e.g. tutorial topic) experience helped you the most in your learning and why?*

Only two students mentioned "all topics", since they perceived each one to make a unique contribution: "Every topic is helpful to my learning because they are greatly related to my profession (nurse)". One mentioned the poster "because we start everything on our own. I think the error-and-trial learning suits me a lot, as I am able to experience the thinking and action process on my own". Three students mentioned the task that was set for the second PBL session, in which they were asked to roleplay as healthcare professionals to conduct an activity session with a group of Form 6 students to raise their awareness about the issue that the group had chosen to focus on for the poster session. They liked this because it "helped us to brainstorm what we could do for our poster" and encouraged them to "think of a presentation that is suitable for this particular audience".

While it was not a specific topic as such, four students mentioned that the most useful thing for their learning was the identification of the roles and responsibilities of various healthcare professionals:

- Identifying the role of others and my profession in the present health care system because this helps us know more about others so as to promote team spirit.
- Addressing the ways the interprofessionals can cooperate with each other is the most valuable. The healthcare service only works as a system which the interdisciplinary cooperation is the key.
- Discussion among teammates from different disciplines.... let me think about things from more angles, knowing a wider picture of an issue
- Knowing what the other professionals are responsible for and finding solutions together

In a similar vein, three students' comments on what was the most useful were related to skills development:

- The steps of doing the project, i.e. setting the object, then looking up what information should be found in each main point.
- Discussion of health-related issues, giving comments to other sub-groups after their sharing/ presentation during the class - I could learn to view an issue from different angles, others might come up with ideas which I hadn't thought of .
- PowerPoint skills

Two students gave opposing views of what was useful about the facilitation by their tutors. One reported benefitting from "clarification of the topic by our tutor so that we knew what to do" , while the other found it useful that " My tutor guided us to think from different aspects like physical, psychological and social. After that, he let us have a further brainstorming about each aspect and allowed us to delve into the primary problems which were presenting us from developing holistically".

Aspects of PBL that students liked the least

Twenty-two students answered the open-ended question: *What did you like the* ***least*** *about the PBL experience?*

Five of these responses were concerned with the problem tasks. Three commented that the topics were too far removed from what they were learning, and hence boring, suggesting that they would prefer tasks related more closely to the "beginner health professionals" level. Another student said that this lack of familiarity with the topic created some "dead air" during the group discussions. Two students specifically said that they did not like the poster design task. One expressed difficulty with defining the problem.

Four students commented on the issue of scaffolding, specifically that there were not enough guidelines given for the PBL tasks, particularly the poster. Three commented on aspects of the groupwork. Of these, two commented on the difficulty of meeting with group members out of class, as students from different disciplines have different timetables. One experienced difficulty working with groupmates who always had different points of view from him.

On the topic of organization, two students commented that too much class time was spent on presenting PBL findings, not allowing enough time to discuss the poster.

Even though it was not an aspect of the PBL, seven students used this question to comment on the reflective journal. One said that it was too general and two that it was "vague and not interesting because not specific to our professions". Three students commented that the 500 word limit restricted and forced students only to follow the marking rubric rather than being creative in answering. A further three students commented on aspects of the lecture that they did not like:

- For the lecture, some topics are boring like the one about primary health care as it includes optometry knowledge which is irrelevant to most of the student except optometry students. Also some are very specific like the holistic development in HK.

To a freshman, it is not likely that they will have a background of this information so it would be better if it doesn't cover too specific or narrow topics

- Not enough integration of different subjects. For example, one lecture focused on optometry and students not from optometry may have found that the lecture was useless.

Preference for PBL or traditional lecture

There were twenty-two valid responses to the open-ended questionnaire item: *If you had a choice between the **PBL** and the **traditional-lecture** method, which one would you choose and why?*

Of these, 15 (63.6%) said they preferred PBL. Their reasons included:

- more interactive and conducive to sharing opinions/can be actually involved (7 students)
- more interesting (4 students) and enjoyable (1 student)
- and encourages more critical thinking (2 students)
- less pressured (2 students)
- more practical (2 students)
- more self-directed (1 student)
- learn teamwork (1 student).

Two students, including one of those who indicated a preference for PBL, indicated that a balance of the two is important, particularly as the first-year students are not yet familiar with the PBL style of teaching.

Six students said that they would prefer a traditional lecture approach. The main reason given was that this would allow a lighter workload or would be less time consuming (4 students). One commented that PBL increases their stress and decreases the effectiveness of their learning in other subjects. The same student also commented that high scores are difficult to get in PBL. Another commented on the difficulty of collaborating out of class with students from other departments, since their timetables vary greatly. One said the lecture is more informative than PBL. Two of the students who indicated a preference for the traditional lecture added that they do like PBL – one because it is interesting, and the other because it can improve problem-solving skills.

Students' general perceptions of the subject workload and level of difficulty

Table 4.4

Construct	Item no.	Item	Mean	SD	Valid % rating item...
Workload	19	The workload for this subject was ... [too little, light, just right, heavy, too heavy]	3.92	0.88	**...'heavy/too heavy'** 63.4

Level of difficulty	20	The level of difficulty of this subject was ... [very easy, easy, just right, challenging, very challenging]	3.61	0.80	**...challenging/very challenging** 51.2

On Item 19, shown in Table 4.4, the mean rating of 3.92 suggests that the students thought the workload to be on the heavy side; 63.4% indicated that they thought it was heavy or too heavy. While 43.9% of the respondents indicated that the level of difficulty of the subject was 'just right', 51.2% indicated that they thought it to be challenging or very challenging (mean = 3.61).

Students' recommendations for changing/improving the PBL experience

Fourteen valid suggestions were made about how the PBL experience could be changed/improved. These suggestions can be categorized as[1]:

Related to the poster presentation (5 students)

- Provide clear instructions/details for the poster, such as the time limit and the expectation to the poster/presentation. (2 students)
- No restriction on medium of presentation ... students to find their own ways. (2 students)
- The poster topic can be narrowed down a bit, the [current] one is so wide it makes us a bit confused.
- More precise guidelines should be given about the theme ... the topic may be decided by the students but a theme should be given, not have different groups do totally different things.

The numbers and structures of tutorials (6 students)

- More guideline on how to define a problem can be given at the first tutorial. Since many freshmen are from traditional schools in HK which use the traditional teaching method most, it is difficult for us to adapt to the PBL learning method immediately.
- More time should be allowed for discussion about the chosen topic instead of teaching skills for most of the time.
- Small group discussion is good for us to express the idea.
- The tutorial is too tight, too much stuff to be covered within two hours
- The presentation part can be skipped if thorough discussion has already been achieved.
- Evenly distribute the number of students among different PBL groups [as some groups were quite large and others very small, due to timetabling issues and issues of students turning up at the tutorials their friends were attending rather than those to which they had been assigned].
- More tutorial lessons need to be added.

[1] Unless indicated otherwise, each comment was made by one student

The PBL tasks (3 students)

- Provide more scenarios.
- More problems can be given instead of just giving us one. Different varieties of problems would help us to think in a more comprehensive way and differently.
- Maybe can focus on more interesting topics which are close to us as a students.

Scaffolding

- Provide more resources and guidance/instruction/guidelines to students especially for the freshmen or else it will cause more confusion to them

Assessment of PBL (1 student)

- The things we gained in PBL should not be and cannot be graded.

Students' recommendations for other aspects of the subject

Twenty-four valid recommendations were made that were more general, rather than related to the PBL experience. These can be categorized into four themes:

Related to reflective journals (18 students)

- Quantity: The workload of the reflective journals is too high (9 students)

- Feedback (3 students):
  - It would be better if the facilitator can give comment to my every reflective journal so that I can do better (2 students)
  - I believe if the students are expected to write 7 essays they should be all marked and given feedback on each one so that the student understands what went wrong and how it can be improved the next time.

- Assessment (3 students)
  The two best-scoring reflective journals should be chosen instead of randomly marking any two of them. (3 students).

- Guidance (2 students)
  Give more direction when doing reflective journal – especially for the lectures that are complicated (introducing holistic healthcare, health care system-sometimes feel confused about the lectures)

- Purpose of the reflective journal (1 student)
  Reflective journal should be reformed into a feedback sheet right after each lecture, aiming at reducing the workload of students

Lecture topics (3 students)

- Better include more current local health issues as well as well-known global health issues (tutors can tailor-make the topics to be discussed during the class according to the background of students) so that encourages students to take the initiative concerned with the development of health science.
- The lecture topic can be more interesting. For example, hot issues nowadays like flu and H1N1 can be used for teaching as these issues are closely related to us.
- Cut out some lectures. i.e. have one lecture for every two tutorials,

Interaction within lectures (2 students)

- More feedback from students may be invited.
- More time for discussion or free chatting among different professionals

Expectations of English standards (1 student)

- Consider less on English level in homework

Appendix 5: End-of-semester focus group interviews with students

FHSS Freshman Seminar
Summary of focus group interviews with students, 2nd November, 2011
Sample: Opportunistic sample: Two groups of students (group sizes 6 and 9)
Questions: See below

Summary and recommended action

Question/issue	Summary of students' comments
Achievement of subject objectives	Students were not familiar with the objectives but expressed satisfaction that they are achieving: 'Introduction to the range of health disciplines'; and 'Encouragement of creative thinking and problem-solving abilities'. They also responded positively about self-directed learning. While their responses were positive about these outcomes they did not believe the subject is exciting them about the profession.
Sharing and discussion with classmates across disciplines	Students were positive about making friends across disciplines and suggested that this could be beneficial to encourage them to engage in more cross-discipline interaction in their future workplaces. However, they expressed that the sharing is restricted by their lack of knowledge about their own disciplines, hence the tutors' sharing of their experiences is also valued.
Balance of lectures and tutorials	One group suggested having a ratio of 1 guest lecture: 2 tutorials. Students suggested spending half of tutorial time reflecting on lecture and journals and half on PBL tasks
Suggested activities	Hospital visits to see different disciplines in action, not just their own
Learning experiences	Students commented favourably on the self-directed learning in tutorials and the chance to discuss with classmates. Reflecting on the lecture in tutorials is important to help them to understand the content. They suggested a narrowing of the lecture content and more specific guidelines to be given to the lecturers, as they feel that there are too many messages being delivered in the lectures for them to appreciate fully.
PBL tasks	Students suggested that the case for the poster is enough for the semester without introducing any further cases. However, they responded favourably to the idea of having some short Fermi-type tasks as a warmup in the first session and to lead them into identifying suitable project topics. They suggested that they would like these problems to pertain to real scenarios and how different professionals

	would react in different situations. Students said they had no difficulty identifying their own poster project topics.
Group sizes	Group sizes of 5-6 seem to work well. In larger groups, ie 9-10, there are some students on the periphery who do not contribute very much
Poster presentations	Students find this to be a valuable learning experience, however some feel restricted to the poster format and would like the flexibility to present in other formats, e.g. video or drama.
PBL learning experiences	The students were able to describe what PBL is (one group could do so well but the other group was only partially clear) and were favourable about being encouraged to think about the problems for themselves and not just being spoon-fed. They realize the importance of developing problem-solving skills to prepare them for problems they will face in the workplace. One group mentioned that they had found it difficult at first but that, as they went along, they recognised that they were learning a lot.
Have you developed problem-solving or team-membership skills?	Students expressed difficulty in assessing themselves on these competencies.
Reflective journal	As in the interim questionnaire, the students mentioned that the reflective journal requires them to find information for themselves that is not addressed in the lecture. They agree that this pushes them to think, but at the same time it means that they are not really reflecting on what they have learned from the lecture.

Freshman Seminar: An interprofessional essence through problem-based learning
Focus group questions for students, October 2011

1. **These are the objectives of the Freshman Seminar**
   - Introduce students to the range of health disciplines, not just their own
   - Excite them about their major study
   - Cultivate creative thinking and problem-solving abilities in health disciplines and inter-disciplinary activities
   - Expose them to health-related entrepreneurship
   - Facilitate students' engagement in university learning that emphasizes deep and self-directed learning

   a) Which of these do you think have been achieved so far in your experience of the Freshman Seminar?
   b) Which learning experiences have been the most useful in helping you to achieve these objectives?
   c) Please suggest any other ideas for learning experiences to help you to achieve the objectives.
   d) What topics would you most like to learn about in this subject?

2. **One of the main teaching approaches, to be used in the tutorials, is problem-based learning. Can you describe what problem-based learning is? Have you been doing it in your tutorials?**
   a) Do you think PBL is a good way for you to achieve the subject learning outcomes? (Please give reasons for your answer and suggest how your PBL experience could be improved.)
   b) What have been the pros and cons for you of doing PBL in the subject so far?
   c) Have you changed your mind during the semester about the effectiveness of PBL as a way to learn? If so, what was the critical incident that caused you to change your mind?
   d) How could the PBL be better for you in your tutorial?
   e) Has your tutor given you any of the worksheets from the Facilitators Guide?
   f) Would it be useful to have a student PBL guide and, if so, what would you like to have included in it?
   g) What improvements to the tasks can you recommend for next semester?
   h) What kinds of problems/topics would interest you for PBL in tutorials?
   i) What other activities would you like to have in tutorials in addition to PBL?
   j) What have you learned about yourself as a problem solver in the PBL sessions? What do you consider to be your strengths as a problem solver? What do you still need to develop to become a better problem solver?
   k) What strengths have you developed as a team member during these activities? What is your advice for improving the development of teamwork skills through the PBL experiences

3. **Assessment tasks**
    a) How useful are the assessment tasks in supporting you to achieve the subject learning outcomes?
    b) Is the reflective journal truly reflective of what you have learned, or can this be improved?
    c) What kinds of tasks would help you to achieve the outcomes better?
    d) Selection of topics for the poster: Was it easy for your group to select your topic? If so, what kind of support from your tutor helped you with this and, if not, what kind of tutor help could have supported you?

Appendix 6: End-of-semester focus group with tutors

Summary of meeting held with tutors, October, 2011

Issue	Comments
Reflective journals	Students find it difficult to write because there is not a lot in the lectures that links to the questions. Their responses are not really global as, for this, they need to find further information from the Internet. Students appear to be giving the answers required for marks rather than really reflecting on what they have learned.
Strategies for giving feedback on reflective journals	Some tutors are marking all reflective journals and students are asking for this. The idea of selecting two journals to be marked does not seem to be working as students think they are wasting their time doing the others.
	Tutors shared various strategies for using samples, eg printing one good example from the group and going through the rubric with them
Discussion board	Tutors seem to be the ones initiating the threads. Students participate only the night before.
PBL sessions in tutorials	The attempt to link the early PBL tasks to the lecture topics is not practical as lecture topics will be different from semester to semester, and it is too early for students to be attempting problems of this nature.
	Tutors' comments indicate that it is necessary to carry out tasks additional to PBL in the tutorials, eg reviewing the lecture, discussing feedback on reflective journals
	Students find it difficult to adjust to the PBL mode as they are used to spoon feeding in secondary school.
	Tutors' comments suggest that some are doing discussion activities but not PBL
Poster: Students choosing their own topics	Students seem to be able to identify their own problems but need more guidance about how to develop the poster product.
	Format of poster presentation
	Lecture and PBL strands

Appendix 7 : Rubrics of assessment used in pilot study

Rubrics to assess:

- Extent to which students meet ILOs
- Creativity
- Entrepreneurship
- Globalization
- Problem solving

What to be assessed?

Individual reflective journals Final poster session (group assessment)
Some observations during tutorial sessions (group assessment)
Upon completion of the subject, students will be able to:

- Articulate their previous learning to a new realm of health sciences
  - *Present a group project at a poster session to present a solution to a case/scenario and describe the growth they have experienced in knowledge, skills (including generic competencies) and attitudes on the basis of participating in the PBL experience*

- Appreciate various health science issues in this contemporary world
  - *Summarise key contemporary issues in local and global health care, explain their backgrounds and potential implications, and some potential strategies for addressing these issues (Structured question in reflective journal)*

- Practise ways to achieve inter-disciplinary learning and co-operation
  - *Work in groups with students from other disciplines within the health sciences*
  - *Describe the professions involved in FHSS and their functions in the health care system, particularly in relation to the issues discussed.*

- Develop inter-disciplinary design, products, programs and manuals etc. through creativity, problem-solving and entrepreneurship
  - *Prepare and present a group poster based on the group's approach to the case/issue addressed in the PBL activity*
  - *Present the project in a creative way such as a poster presentation.*

Assessment Guidelines (can also refer to the Facilitators' Guide)

Learning outcome to assess	When to assess it by groups	When to assess it individually
New things they have learned		Summaries in reflective journals, after sessions 1 and 7
- *Summarise key contemporary issues in local and global health care, explain their backgrounds and potential implications, and some potential strategies for addressing these issues (Structured question in reflective journal)*	Ongoing assessment	- Reflective journal (by means of the "quizzes with extended answer" within web-based Blackboard) • Tutor will quick view the groups for each submission, and give an overall remarks to the whole group (Only grade by sampling 2 out of 7 of the journals per student (can be in the middle and later sessions- say session 3 and 7) - Ongoing discussion of student groups (by means of communication tools of Wiki within web-based Blackboard
Generic competencies		
Creativity	Sessions 3/4: creativity in the activities they develop Poster session: evidence of creativity in poster idea	
Entrepreneurship	Poster session: entrepreneurial ideas for reducing government health costs	
Globalization		Reflective journal
Problem solving	Observation of problem-solving processes in class in all of sessions 1-6 Solutions presented in sessions 2, 4 and 7	
	Quality of solutions presented in poster session	

Individual assessment to be based on completed reflective journals

Learning Outcome	A	B	C	D	F
Description of personal growth	Describes the growth experienced in all areas of knowledge, skills (including generic competencies) and attitudes	Gives a good description of the growth experienced in two of the three aspects (knowledge, skills and attitudes) and an adequate description of the third	Gives an adequate description of the growth that touches on two aspects (knowledge, skills or attitudes)	Gives some description of growth in one aspect but appears not to have grown in other important aspects.	No evidence of any growth
Appreciation of various health science issues in this contemporary world	Excellent summaries of 3 key contemporary issues in local and global health care, including detailed and thorough descriptions of their backgrounds and potential implications, and some potential strategies for addressing these issues	Very good summaries of the 3 issues, that touch on backgrounds, implications and potential strategies.	Summarises the 3 issues adequately but only superficially addresses backgrounds, implications and/or potential strategies	Gives some overview of the 3 issues but does not develop the backgrounds, implications and/or potential strategies accurately or adequately.	Summaries are inadequate or incorrect
Globalisation and interprofessiona-lism	Demonstrates a high level of understanding of	Demonstrates a good understanding of what is	Describes adequately what is happening	Gives only a very basic description of what is happening	Shows no awareness of what is happening

	what is happening worldwide in relation to the issues under consideration Shows an understanding of the similarities and differences in cultures and how these impact on the issue	happening worldwide in relation to the issues under consideration and some understanding of the impacts of cultural factors.	worldwide.	worldwide.	worldwide in relation to the issue.
Interprofessional awareness	Gives a very good description of the issue from the point of view of other healthcare professionals, not only their own chosen profession	Gives a thorough, but slightly incomplete, description of the issue from the point of view of other healthcare professionals, not only their own chosen profession	Gives some description of the issue from at least one healthcare profession other than their own	Only considers the issue from the point of view of their own chosen discipline	Does not consider the role of the healthcare professional in the issue

Group assessment rubric to be completed during poster session in final week (unless indicated otherwise)

Creativity

Criteria	A	B	C	D	F
Originality	The final poster is completely new in concept, execution, or both.	The project goes well beyond a simple list of facts and presents material in a new and interesting way.	Interesting, though not especially novel	Largely just an amalgamation of facts.	Uninteresting and unoriginal
Problem/ objective finding	All relevant issues looked at from different angles/viewpoints with considerable originality of thought	Most relevant issues stated clearly with some originality of thought	Issues identified tend to be replications of what others have done, with only a little originality of thought	Issues are identified but no originality of thought is evident	No clearcut issues identified.
Developing ideas	Creates new ideas, concepts, and/or possibilities in surprising ways	Suggests improvements to existing ideas but not consistently	Reports existing ideas and is quite conventional in thinking	Has not explored the full range of ideas	No suggested ideas

Entrepreneurship

Criteria	A	B	C	D	F
Suggestions have potential to succeed	Highly likely to succeed	Has a reasonable chance of succeeding	Some aspects would succeed but others would not	One or two aspects might succeed but the majority would be doubtful	No potential at all to succeed
Potential risks have been taken into consideration and unexpected risks minimised	This has been given careful consideration and solutions given	Most potential risks have been addressed and solutions given but one or two have been omitted	Some evidence exists that risks have been addressed	Some (but not most) risks have been mentioned but no solutions suggested	Potential risks have not been considered at all
Suggests how resources can best be applied	Creative and appropriate suggestions are given.	Some potentially useful solutions are given.	Use of resources has been considered and attempts have been made to suggest how they can be applied.	Some mention has been made of resource application but suggestions are weak or not particularly practical.	Resource application has not been considered.
Shows consideration of ethical issues	Ethical implications have been considered for all stakeholders and choices have been justified.	Ethical implications have been considered for most parties involved.	Suggestions are ethical but these choices have not been elaborated on.	Some suggestions may be borderline as to ethics.	Some suggestions have been made that are unethical.

Problem solving

(Note:The same rubric can be used for any of the three following purposes. However, you may want to use just one or two of these suggestions to make your record keeping easier]

1. Observation of problem-solving processes in class in all of sessions 1-6: Weighting
2. Solutions presented in sessions 2, 4 and 7: Weighting
3. Quality of solutions presented in poster session: Weighting

Criteria	A	B	C	D	F
Defining the problem	Problem has been defined in a professional way, by looking at it from all possible points of view.	Problem has been stated clearly but only looked at from a limited number of points of view.	Problem has been identified adequately but only looked at from one or two points of view.	An attempt has been made to define the problem, but some key issues have been overlooked	Problem has not been identified.
Collecting and analyzing information	Information has been collected from multiple sources and analyzed in depth, with an extra personal or creative touch added to the analysis.	Information has been collected from multiple sources and analyzed in depth	Information has been collected from multiple sources and basic analyses carried out.	Inadequate information collected to perform meaningful analyses.	No viable information collected.
Exploration of alternative approaches	Several alternative solutions are offered.	Two alternative solutions are offered.	One alternative solution is offered.	Suggestion of alternative approaches is very limited and narrow.	Unable to provide alternatives.

Presentation of evidence to support conclusions	Conclusions are presented in a coherent and logical manner and are supported by the information collected	Conclusions are presented in a coherent manner and are mostly supported by the information collected, with only one or two omissions	Conclusions are understandable but not always supported by the information collected. There are minor problems with accuracy of some conclusions formed.	Conclusions are only partially correct and inconsistent with the information collected.	No evidence of conclusions or conclusions are erroneous and not supported