

**2<sup>nd</sup> Regional Conference on Student Tutoring and Mentoring**  
**Perth, Western Australia**  
**Sept. 30<sup>th</sup> - Oct 2, 1999**

***Enhancement of Student Learning Through the Use of Peer Tutoring***

**by**

**Gail Taylor, Sharon Leung, MSE Abbas**  
**Hong Kong Polytechnic University**

## **Abstract**

The concept of peer tutoring is one of facilitation, promoting significant academic learning on the part of both the tutor and those who are tutored. In managing a significant part of the content of course materials, for example, in cases where presentations of design or project work are involved, the 'competent' students are able to successfully teach those who are at a less advanced stage of their studies and hence promote a deep approach to learning. This paper discusses the introduction of a peer tutoring programme to one academic unit of the Hong Kong Polytechnic University, providing case study experience based on the results gathered, analysed and reported back to an interactive group of educational technology specialists, subject lecturers, student tutors and student tutorial groups. The programme was one of the series of experimental projects undertaken as a result of the University Grants Council initiatives in learning and teaching development in the territory,

## **Purpose of the Study**

The initial aim of the project was to carry out a 'pilot' teaching scheme in a selected department of the tertiary institution, with a view to expanding the scheme at a later stage. Initially three teaching groups were selected, volunteer student tutors were briefed on the aims of the activity, and both lecturers and 'senior' students worked together with educational technologists to achieve improved results in the dissemination of knowledge within the chosen subject disciplines. The specific goals of the study may be summarised as follows:

1. To bring about improvements in learning tasks through use of student tutors-
2. To 'pilot' student peer tutoring in the department, with a view to extending the strategy to other areas - possibly in modified forms;
3. To publish reports on the project, and develop expertise in the area, to be shared with others in the university;
4. To disseminate project outcomes through conference presentations and journal publications.

## **Perspective of the study**

In advance of the introduction of the peer tutoring scheme, it was considered that there would be identifiable 'areas of difficulty' in departmental course offerings; further, that it was the responsibility of the department to address those difficulties.

Evidence from published literature on the subject of higher education suggested that the use of peer tutors (defined here as students from the same, or subsequent, years of study) could have a significant impact on learning outcome. Two, broad initiatives are cited by way of example: the international network of tutoring schemes, established with the support of BP, which arose out of the seminal work of Dr Sinclair Goodland, of Imperial College, U.K.; and, the supplemental instruction initiative, pioneered by Dr Deanna Martin of the University of Missouri, U.S.A.

The scheme initiators in Hong Kong reviewed available literature on the subject and proposed, in advance of introducing the pilot study, that all student tutoring schemes operated on the basis of the following:

1. Students can learn from other students who have recently faced and coped successfully with the learning challenges that they encountered. Evidence further suggests that peers may be better at conveying academic concepts than the academic staff in charge.
2. The best way to learn is to teach: students who act as tutors develop and deepen their own understanding of what they are teaching.
3. There are significant 'spin-off' benefits for student tutors in terms of the competencies which they develop when acting as tutors, such as improved communication skills and self concept, which are likely to be valued by future employers.
4. Student tutoring is cost effective.

In advance of the introduction of the scheme it was considered essential to link project aims and methodology to departmental goals, in the context of the departmental plans. The selected department, which is the oldest and largest academic unit of the university, was strongly committed to helping students to learn as effectively as possible, and to organising its teaching activities accordingly. Simultaneously, it was understood that the budget for teaching was finite and unlikely to increase in the future; as a consequence, a real need was perceived to search for and test all manner of teaching strategies and arrangements which were both cost effective and had the potential to improve the quality of student learning.

### **Methodology Adopted**

Four phases were planned at the outset of the project, these being:

1. Recruitment of student tutors;
2. Training of student tutors;
3. Running the peer tutoring programme;
4. Evaluation and reporting.

The initial phase involved selection of students having successfully completed the subjects chosen for the 'pilot' scheme in the previous academic year. The criteria for selection were:

- (a) good academic achievement in the subjects;
- (b) judgement on the part of the lecturer concerned that they had the necessary personal qualities to be successful tutors.

The second phase comprised a training programme of about two days, addressing both tutoring skills and the teaching of the specific subject matter.

In the third phase it was projected that each student tutor would be allocated a tutorial group for the academic year, and that this group would meet for up to two hours per week. The aim of the group sessions would be to address any difficulties in coping with the subject matter which students were encountering. The student tutors would, it was projected, provide feed-back on class activities to the lecturers concerned - highlighting any perceived difficulties in order that remedial action might be taken and teaching approaches modified accordingly.

The final phase of the project was designed to measure the effectiveness of the activity undertaken in the pilot scheme, specifically, by means of qualitative and quantitative assessment, both formal and informal, in order that the results might be documented and disseminated within the university and beyond. In this context, three forms of evaluative methods were devised, specifically: ongoing formative evaluation; end-of-project feedback from participants, and comparison of academic performance of student subjects involved in the scheme with those of previous years. It was projected that, in the initial evaluation stage, qualitative data would be gathered by means of individual and focus group interviews from all participants, inclusive of students, student tutors and lecturers, to enable 'fine tuning' of procedures while the project was in progress. In the subsequent stage of evaluation, students and student tutors would be asked to evaluate the usefulness of the tutoring scheme, and both a structured questionnaire and sample interviews would be employed. Finally, a comparison of course results to determine whether higher overall grades and/or lower fail rates (assuming constant quality of intake) would be made.

### **Preliminary results**

Preliminary results of the project are based on the evaluation of data from informal sample interviews with lecturers, tutors and with students, and on qualitative and quantitative analysis of semi-structured questionnaire responses from students. The progress of the project was, in general, smooth and initial results positive, according to the three distinct groups involved, these being students, tutors and lecturers.

For students, peer-tutoring classes provided opportunities for revising old concepts and learning new knowledge. Students found the practical work of the classes particularly useful, providing supplementary information to theory-based lectures, while at the same time enhancing comprehension of formal classes themselves. Pattern design, the subject taught in two tutorial groups, is purely practical and was regarded by both lecturers and students as one of the most suitable topics for a peer tutoring project. Students learned how to draw patterns, and to manipulate styles for various forms of clothing. During the tutorials, students regularly raised issues that were outside the scope of the lectures, and tutors in these cases could provide assistance 'on the spot'. Peer tutoring in this respect assists in closing the gap between theory and practice. According to questionnaire results, 92% of the respondent students thought they would be able to apply some of the ideas proposed in peer tutoring sessions in their further studies.

Students also indicated that they benefited from the informal atmosphere, one-on-one tutoring and otherwise close interaction made possible in the tutoring environment. By way of contrast to the formal class or lecture situation, most students in peer tutorials were outgoing and demonstrated initiative. They welcomed the relaxed environment where they felt confident to raise questions, hence were able to understand subject matter more thoroughly. Both subsidiary and core topics were addressed by the students, all of which were handled by tutors step by step. Since the tutors themselves had undergone study in first-year undergraduate courses, they could identify the difficulties easily and could share experience with the students. Class dynamics improved considerably when tutors were present in the student groups. Some adopted the 'smiling tactic' and affirmed that this was the best way to communicate with the students. Informality is undoubtedly one of the key determinants to the success of peer tutoring. Accordingly, 75% of students involved in the study considered the tutorials helpful in improving their comprehension of subject matter in the courses concerned.

To tutors, peer-tutoring classes, which emphasise group dynamics and the exchange of ideas, were seen as revision courses. Through the preparation of teaching materials, marking and sharing of responsibilities, tutors acquired the skills of organisation and of co-ordination in working as a team. Tutors also stated that they became more mature and self-confident by virtue of taking the role of the teacher. As a source of satisfaction, in addition, the project could strengthen their competency in leadership that is important in the teaching field as elsewhere.

In respect of lecturers, their distance from students was reduced by means of having tutors as mediators. Challenging the clear delineation between teachers and students in formal teaching, the project positioned lecturers as supervisors who only gave opinions on teaching methods and materials. This encouraged frequent consultation and reflection from the tutors to the lecturers, consequently leading to better understanding of the problems confronted by students.

In summary, the project of peer tutoring had the advantage of disseminating knowledge at different levels, as evidenced by the feedback from the various personnel involved. The tutorial also proved significant in auxiliary education, in terms of deepening and broadening the knowledge areas indicated by the syllabus content, in a lively studying environment driven by initiatives rather than instructions. Whereas there were a few, unregistered students enthusiastic enough to 'walk in' to the tutorial classes, one drawback of the project, however, was to do with low attendance in some sessions. This could be remedied by better promotion of the aims of peer tutoring, and by revision of the assessment method of student performance in the future. Meanwhile, the assessment method adopted is basically developmental rather than judgmental, that is, students were getting comments instead of grades and marks. The attendance might be improved, for example, by linking the projects with the formal taught courses or, alternatively, by combining them with set assignments. To date, the positive benefit of this project - enhancing student academic performance - has not been proven conclusively, since final year examination grades were not available at the time of publication. However, given the positive feedback and favourable results from the preliminary data, an incremental improvement was anticipated.

### **Conclusions and Significance of the Study**

The scheme was initially introduced to selected groups of students enrolled in courses with both a design and a technology component. The concept of such a scheme was entirely new to the department, and was received by lecturers with a balanced measure of scepticism and optimism: on the one hand, it was questioned whether under-graduate students would be capable of assuming the teacher's role and, on the other, it was acknowledged that the combined pressures of teaching, research and professional development in the light of student intake quality necessitated operational changes in the classroom.

The project team acknowledges that, within the framework of the pilot study, a degree of enthusiasm was generated among students, tutors and lecturers as a result of the 'spotlight' directed towards the department and the positive attitude of the educational technologists involved in promoting a constructive outcome.

In common with any study of a similar kind the project results might be interpreted in the light of a pre-determined outcome - arising from the uncharacteristic attention paid to the individuals and groups selected for investigative research. It is held, nevertheless, that communication was enhanced, concerns of the student body were addressed with above-average attention in comparison with traditional teaching techniques, that tutored students were better prepared for phase and final assessment tasks and, ultimately, teaming was enhanced. In the process, student tutors reached a higher level of competence in group interaction, project preparation, communication and presentation of concepts which, in turn, was 'passed on' to the lecturers concerned. As a result the level of interest and comprehension of students was improved, tutors enhanced their employment

prospects, and lecturers reached a higher level of understanding of 'teaming blocks' encountered by the under-graduates and tutors alike.

The question of improvement of teaming and teaching quality is a complex one yet, in disseminating knowledge both of subject specific and pedagogic nature, the project achieved a degree of synergy which may prove to be of long-term value to the academic institution.