

USING PEER TUTORING TO SUPPORT CHINESE STUDENTS CONDUCTING GROUP WORK

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ABSTRACT

In this paper some of the differences in characteristics of groups that are composed of mainly UK or Chinese students are discussed. In particular, the rationale for some of the issues that frustrate Western educators are described. A proposal is made as to how some of these problems can be overcome. An approach involving cross-year tutoring is used. In this case, however, as the course dominated by Chinese students is at Level 4, unusually for a cross-year tutoring approach, UK students at Level 3 are asked to provide the tutoring. A description of how the process was managed and the overall outcomes is given.

Keywords

Peer tutoring, group work, Chinese students.

1. INTRODUCTION

Group work involving a high proportion of Chinese students has often proved to be problematic. These students have been found to be slow to start their work, find it difficult to apply lecture concepts and require and expect a high proportion of lecturer support. Chinese students also seem to want their problems dealt with on a one-to-one basis. Furthermore, the students seem to find the group activity extremely stressful. Clearly, with large cohorts of students the individual attention demanded by the students is problematic. What is more, one of the resource benefits of group activity is therefore not being met.

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This paper investigates the psychology of why Chinese students react in these ways and proposes an approach to solve the problems. The proposed approach is a combination of cross-year peer tutoring, reciprocal peer tutoring and 360° mentoring. The outcomes of the resulting proposals are evaluated using reflective logs and focus groups.

2. CHARACTERISTICS OF CHINESE SOCIETY AND EDUCATION

An explanation of the way Chinese students react within the classroom in the UK can be traced to the way their society and educational systems work. Confucianism emphasises the 'value of harmony, urging individuals to adapt to the collectivity, to control their emotions, to avoid conflict, and to maintain inner harmony' [14]. Curtis [7] also describes how Chinese companies expect their employees to show respect and obedience to their superiors and that those of unequal status should maintain a social distance from one another to prevent familiarity from destroying order. She states that there is pressure to preserve harmony, to conform, to avoid loss of face and shame.

Chan [5] refers to how western educators are frequently frustrated by Chinese students due to their lack of spontaneity or preference for conforming. She explains that the typical Chinese classroom activities are dominated by the lecturer and are not usually designed to test student's ability to work with others or solve practical problems. In Chinese schools students are required to learn through rote memorisation, at the expense of creativity [19]. Chinese social values tend to emphasise the concrete and so subjects requiring judgement about personal interaction and abstract thinking are often subjects that Chinese students find difficult to grasp [3]. Furthermore, in China

management science is considered to be exact with a knowledge base and well defined methods to solve problems.

Chinese learners have been brought up to respect wisdom, knowledge and expertise and to avoid challenging those in authority therefore the participative approaches of Western society may cause them problems. The Chinese prefer not to express their opinions so not to offend others and also there is strong emphasis on maintaining face [14]. Their classroom behaviour would therefore serve to maintain these qualities. In agreement with our general finding. Biggs [1] notes it is frequently found that despite the apparent lack of interaction the number of students seeking one-to-one interaction with the teacher as soon as the class was over was far higher than for Western students.

Bouchner [2] states that in collective societies (such as found in Asia) the individual is more absorbed in and attached to the group. In individualist societies individuals are more independent and autonomous. Despite greater willingness to work collectively there are still differences between the way Chinese students will operate, when group work activities are performed Chinese students typically expect to wait their turn to speak and expect that their designated leader will announce the decision. This may be explained by studies that show Chinese students have lower levels of self-esteem in comparison to Americans [12], and that these characteristics tend to manifest themselves as restraintfulness which in a Chinese society lead to the student prospering but in a western society lead to a student suffering from adjustment problems [6].

3. TUTORING

Peer tutoring involves the training of students in individual instructional strategies to assist either younger or same age students. Medcalf [16] has identified that peer mentoring is one of the most practical ways in which instruction can be delivered while minimising the demands on teachers. Topping [22] states that most studies in Higher Education report positive outcomes of its use including improved academic achievement. In this regard Shunk's review of peer tutoring [20] has identified that peers can effectively train social skills, enhance students' self efficacy and remedy skill deficiencies. Some studies have identified the gains of using this approach to be greater than for teacher instructional procedures [9] and have also highlighted that peer tutoring may also be highly effective for scaffolding higher level complex learning [15]. For instance, cooperative learning experiences (compared to

individual learning) have also been found to promote a greater sense of personal efficacy [13]. Furthermore, students have long been shown to learn from each other by considering multiple perspectives [17].

Reciprocal peer tutoring (RPT) [18] enable pairs of students to play the role of both tutor and tutee. Research into RPT has identified a number of positive effects. These include students gaining a better understanding of material. Most of the stated benefits have been conducted on school children or at undergraduate level however, one of the few studies conducted at graduate level [10, 11] identified that at this level little academic improvement was identified but that students reported that RPT was beneficial to their understanding of the course concepts. Generally other research is supportive of the approach. Fantuzzo [8] argues that RPT is effective in producing cognitive gains, lowering subjective distress and enhancing course satisfaction. This is in agreement with Wong [24] who has identified that 'each student can learn to diagnose a peer's problems, expand her own vision, get more critical of others and of herself, and thus enhance her meta-cognition and mental capacity for critical thinking'. Furthermore, Vygotsky maintains that learning with a more knowledgeable peer may lead to the learner becoming as knowledgeable as the peer [23].

Finally *cross year tutoring* involves a peer tutor, tutee relationship but in this case involves the cooperation of students across academic years. Sobral [21] has identified that cross year peer tutoring is welcomed by students as long as there is a link to some academic reward and points out that it can help students make career choices.

4. ADOPTING 360° MENTORING

Within Durham an MSc programme has been operating for a number of years which has proven very popular with international students and particularly the Chinese. This programme typically takes student who studied business for their first degree. The programme teaches the students the basis of large scale software design and construction. One of the particular problems with this programme has been associated with a module called Software Engineering for the Internet. This module includes the foundational material to design and prototype a large web based system.

The research described in Section 2 rationalises many of the problems of previous cohorts of the

module. Typically the Chinese groups found it difficult to 'kick off' the activity. The group members communicated very little, lacked creativity and did not display an interest in a role of leadership that is typical of UK students. Investigations seemed to identify that students' needed an opportunity to observe and be instructed on how to manage before they felt able to take on such responsibility.

Within Durham there is a Project Management Scheme where cross-year tutoring is used to allow third year students to manage second year group projects. This scheme has operated successfully for about 5 academic years. A solution proposed to aid the problems associated with the Software Engineering for the Internet module was for these Project Managers to also manage the MSc group work. The complexity of this cross-year tutoring solution is however that the Project Managers (tutors) are at Level 3 whereas the tutees are at Level 4. This clearly raised issues for both tutees and tutors. The Chinese society is very hierarchical and therefore it was unclear how the Chinese students would react to being tutored by younger students, furthermore, the project managers needed to be confident that they could cope with the role. Further it is also important to consider the research of Sobral [21] who identified that the success of cross-year tutoring depended on the correspondence to academic reward. In light of Sobral's recommendations and with the benefits of Reciprocal Peer Tutoring (RPT) in mind an approach based on 360° mentoring was adopted. In this approach a cross-year tutoring approach is utilised, but it is reciprocal in that both sets of students have (although different) learning objectives.

The 360° mentoring scheme is based around the MSc students having access to 'experts' in software development and project management and therefore developing more efficient team working, and the project managers (PM) having the learning objective of gaining greater knowledge and direct experience of working with international teams.

The following section described the results of conducting this 360° mentoring trial and investigates if through the reciprocal tutoring arrangement both sets of students reached their learning objectives.

5. EVALUATION OF RESULTS

In order to evaluate the 360° mentoring scheme the following evaluation techniques were used:

- The MSc students were required to write a reflective log of their experiences of the group working – these were analysed for comments referring to the project management process.
- The results of the module questionnaire were scrutinised to identify any comments raised with regard to the 360° mentoring scheme
- A focus group was set up to investigate how the trial was perceived by the PM and to investigate what learning had taken place from their point of view. This meeting was recorded and a transcript generated for analysis.

5.1 The MSc students' Perspective

The reflective logs analysed were part of the students' assessment for the module and as consequence students were not asked to explicitly evaluate the trial. From the analysis it was found that 10 students (out of 25) referred to scheme in total making 16 separate comments. Using textual analysis three broad categories of response were found. These were identification of where the PM helped; criticisms of the approach; and thanks. The MSc students identified that the PM assisted by reviewing and providing comments on design work (raised explicitly by 3 students), providing direction and ideas (2 students), assisting with their working as a team (2 students) and finally with task assignment (4 students). Criticisms were raised by 4 students, however 3 of these were that the PM needed to spend more time with them. The remaining student reported 'It was odd for me to be tutored by a student with less experience than me a PhD student would have been better, but he gave us ideas on how to work as a group'. Finally 6 students formally thanked their PM in their logs.

The results of the module questionnaire imply that the students are happy with the module all but one student (who was neutral) agreed or strongly agreed that 'I am happy with my learning on the module'. Overall the free response questions showed that students were happy with the feedback they obtained and in a number of cases explicitly named their PM as providing this support (2 out of 10).

Overall no significant difference was detectable in the quality of the work achieved by the students compared to previous years. However, most groups did start completing the assignment earlier and all completed it ahead of time. In addition, other benefits were obtained from the approach. The MSc students were far less likely to seek help from the

lecturer outside the lecture time and in addition completed the work ahead of time. Their stress levels appeared to be far lower than on previous occasions probably aided by the early completion of the group work assignment.

5.2 The PM students' Perspective

The PM were interviewed through a focus group. They were asked generic questions about their experiences of this management exercise compared to the management of the Level 2 students. The transcripts of the focus group were then analysed to investigate what the students had learned about group working with Chinese students and if the PM thought that they managed differently in this environment. The results of the textual analysis of the transcripts identified that the PM thought that the Chinese students:

- communicated less
- had no obvious leader
- displayed a lack of group coordination
- seemed to be more accepting
- rarely volunteered to take responsibility for an activity
- made better use of their group members as potential resources
- only asked questions in a one-to-one environment

The PM stated that they

- felt the project management activity to be formal and professional
- needed to provide far more structure to meetings to ensure productivity
- needed to adopt a questioning style to personally address members rather than using open questions.

It was evident from the transcripts that some of the managers did have considerable apprehension about managing the MSc students, but that once they had started the progress this anxiety reduced and they found the process very, if not more, rewarding than when managing the Level 2 students. They stated that they had learned a lot and a couple of the students stated that they mentioned the trial during job interviews and that the interviewers seemed to be very impressed. They felt that is a work environment they may be asked to supervise older, better qualified, more experienced or international groups at times and therefore this was valuable experience.

6. CONCLUSIONS AND FURTHER WORK

Overall this trial demonstrated some promising results and therefore will be adopted for the next year's MSc cohort. Contrary to initial reservations there were no significant issues or complaints from the Chinese students. From the point of view of the staff the approach showed considerable benefits for the lecturers. However, it has to be acknowledged that overall the findings of this work are in line with the research of Greenwood [9]. It was fairly clear that it was the PM that gained and learned most from this exercise. It was very clear from the transcripts the learning outcomes of Level 3 PM were attained and that this experience of working directly with the students now leaves them more knowledgeable about Chinese working styles than the academic staff!

However, what was disappointing was that the PM failed to see how they may apply the learning from another of their taught modules to help support the project. The project set for the MSc students was to maintain and add to an existing system. The Level 3 PM were all taking a course on Software Evolution, but none of them saw any relevance in applying their understanding of evolution of support the change process for this maintenance project. This is a common trait presented by students on a modular programme and is something that needs to be addressed on a more global scale.

A further issue that needs to be considered is the fine line that needs to be drawn between good project management and good learning. Sometimes the advice given by the PM students does not match the advice that a teacher would give to ensure all the students have opportunities to practice the learning outcomes. This is frequently an issue associated with group work activities. From the transcript it was evident that the PM were giving their groups advice on how to split up the activities. The approach adopted was one of specialisation such that each individual member take responsibility for a particular activity. For instance, assigning one member of the group to write the UML specification. If a valuable skill is for students to learn the UML then this is perhaps not best strategy to ensure high quality learning for each individual. Conversely it needs to be recognised that this approach is definitely in line with goals of good project management. This raises an issue the importance of careful selection of learning outcomes and instructions for group work activities.

Finally the PM clearly had some adjustment problems with the module. The MSc module was taught in short fat format whereas undergraduate courses are taught in long thin mode. From the transcripts it was clear that PM found the speed of which the MSc students were working was hard to cope with. This different work ethic was something that we aimed to demonstrate to the Undergraduates. However, it was one the largest sources of complaint from the MSc students that the PM were not able to dedicate enough time to them.

Further work to support a repeat of this work needs to focus on developing more instructional information to support the PM in dealing with the differences between cultures in group work. In addition, this year it was difficult to get volunteers to act as PM and so extracts of the transcript could be structured to demonstrate to students the benefits of their involvement. Finally further study also needs to be done to verify the PM statements that they functioned more professionally for the MSc groups. This will involve an analysis of tapes of the MSc PM supervision and comparing equivalent tapes for the PM for Level 2.

7. REFERENCES

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