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# IMPROVING CLASS PARTICIPATION IN IT TUTORIALS AND SMALL LECTURES

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## IMPROVING CLASS PARTICIPATION IN IT TUTORIALS AND SMALL LECTURES

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### Abstract

*The aim of this paper is to present some initial findings from an investigation into strategies for improving class participation in tutorials and small lectures in the Information Technology (IT) context. The research used a qualitative approach and data collection was undertaken using student focus groups and semi-structured interviews with academics in an Australian IT Faculty. The findings highlight various reasons why students do or don't participate. Also strategies which academics can utilise to encourage student participation in IT tutorials and small lectures were discovered.*

### Keyword

Class Participation, IT Teaching and Learning, Focus Groups

### INTRODUCTION

Participation in class is a valuable teaching method to promote a more active involvement in learning. It allows students the opportunity to receive input from others, to apply their knowledge and to develop public speaking skills. In addition class participation provides a way in which teachers can gain a more accurate idea of how well students understand the concepts being taught (Maznevski 1996).

Our experience shows that class participation represents a major problem for many students, undergraduates more so than postgraduates. Academics often complain about student passivity but to date there has been little research into the promotion of class participation within the discipline of Information Technology (IT), with most studies having been conducted in the social sciences and business studies (e.g., Egan 1996, Hyde & Ruth 2002, Litz 2003). IT has its own particular challenges, for example, a technical subject matter, students who are more focused on technology rather than activities requiring oral or written expression, larger classes than some other disciplines (e.g., 30 in tutorials and labs at the authors' university, with lectures often in the hundreds), and high numbers of International students. In addition, the range of possible participatory activities is very broad in IT including not only whole class or small group discussion, formal or informal student presentations and role plays, but also kinaesthetic exercises, project management simulations and a wide range of programming, internetworking and other hands-on activities.

Moreover though general strategies for encouraging participation have been developed by educational researchers, techniques for encouraging participation are not well documented in diverse student groups. Those that do exist have usually been developed in the American college context to address gender issues and to remedy African-American and Latino student issues with racism and inappropriate behaviour (Sadker & Sadker 1992, Fassinger 1995, Arbaugh 2000). The results of these studies are not readily applicable to teaching IT in the Australian university context where large cohorts of students come from Asian and other cultural backgrounds.

This paper presents the initial findings of an investigation to determine strategies for improving class participation in tutorials and small lecture classes within the IT Faculty at an Australian University. In particular, the research focuses on improving the participation of International students, who are usually under-represented in class discussions. Therefore the contribution of this paper will be useful in shaping our knowledge of how students view class participation, what barriers students put forward for not participating, and how we as instructors can overcome these barriers and ensure that participation is worthwhile to all concerned, particularly in cross-cultural settings.

The paper is organised in the following manner. The first section provides an overview of literature relating to class participation. Details of the research project and methodology are then stated, followed by the preliminary

results of the research including an outline of the findings. Finally the key points are summarised and conclusions drawn.

## LITERATURE REVIEW

### Factors Affecting Class Participation

A review of the literature found a number of barriers to class participation. Many students feel intimidated when asked to participate (Fassinger 1995; CELT 1998). Often they lack self-confidence and fear that they may appear unintelligent to their peers and instructors when responding to questions or providing their point of view on a given topic and therefore feel it is easier to remain quiet (CELT, 1998). These issues can often be traced to a lack of preparation by students (Howard & Henney 1998).

Instructor gender was identified as a factor that affected class participation, but there are a number of conflicting opinions in this area. Fassinger (1995) found that instructor gender had a negligible effect on class participation. Later studies have found this not to be the case. Howard and Henney (1998) suggested that male instructors stimulate more class participation. In contrast, Howard and Baird (2000) found female instructors achieved a higher rate of participation by their students.

Student gender and age also play a role in levels of class participation. Fritschner (2000) found participation by female students increased significantly in more senior classes. Older and mature-age students (mid 20s or older) usually participated more in class (Fritschner, 2000; Howard, 2002)

Different cultural backgrounds can also lead to different perceptions of what is appropriate classroom behaviour. For example, Winbush (1995) notes that with Japanese students the respect for hierarchy, long silences in interpersonal dealings and protection of face are reflected in their behaviour in class. Vietnamese students appreciate being right more than being the first to speak up (Chu & Kim 1999). Asian students have a different concept of class participation than other students. They believe that class participation is responding to questions, as opposed to actively interacting with peers and asking their own questions. Furthermore, they are hesitant to comment on other students' presentations and prefer direct feedback from the instructor, compared to whole class critiques. Consequently, Asian students have become stereotyped as passive and unresponsive in class participation. (Chu & Kim 1999).

Dunphy (1998) provided some insights from experience teaching foreign students at MIT and surmised that western-style universities are full of their own social conventions which may be unclear or unknown to overseas students. These conventions include rules for class presentations, student attitudes to hierarchy and the subtleties of English usage. Dunphy suggested a range of strategies to help enhance participation by these students including improved questioning techniques, clarification of guidelines for presentations, and a general appreciation of the cultural differences of students.

### Strategies for Improving Class Participation

A number of strategies to improve class participation were identified in the literature.

Breaking a class into a number of small groups for student discussion will reduce the fear of intimidation from negative peer feedback (CELT 1998; Chu & Kim 1999). This can also increase direct instructor feedback which many Asian students treasure (Chu & Kim, 1999). Encouraging students to show supportive behaviour to their fellow students and discouraging students who undermine the confidence of other students can also help improve student confidence (Fassinger 1995).

To ensure students have every chance to participate in class, better questioning strategies are needed. The use of open ended questions, allowing a waiting time for students to respond, providing the questions beforehand so that students can prepare answers, calling on students by name, repeating answers and if necessary asking for an explanation of answers, and praising those students who answer questions were all mentioned as techniques that could be used to improve the quality of question and answer time (CELT 1998, Howard & Henney 1998, Nunn 1996).

Both Dunphy (1998) and Howard and Henney (1998) commented that establishing and clarifying the guidelines for class participation with all students and also with regards to the cultural backgrounds of the students was a key element in making participation happen. This was supported by Fritschner (2000), who noted that instructors need to explicitly encourage students from the beginning so as to set the class participation expectations of both the students and the instructor.

The use of structured discussions has been proposed as a means to improve participation. Winbush (1995) suggested that each student make notes of the discussion that is being conducted on a card and read these notes out at the end. Junn (2004) took this further and described the "Pearls of Wisdom" strategy of improving class

participation: at the beginning of a course each student was given 60 blank cards and a description of their purpose. When a student spoke up in class, they wrote their name, date and the comment on the card and put the card in a collection box. During the course students were expected to contribute at least 20 cards. While a novelty in the beginning, the students found the exercise enjoyable and equitable and this ensured all students participated. It also gave the instructor an objective basis for marking class participation.

Marking of class participation is a means that can reward students for their efforts. However, students must be made aware of parameters of participation, e.g., what is the expected level of participation, how the marks will be allocated and that there is no negative marking (Fassinger, 1995). To address the concern of subjectivity of marking, Melvin (1998) suggests the "Prof/Peer" method where the instructor and students grade the participation in class. Under this technique peer marking corroborates the instructors marks, identifies errant instructor marks as well as reassuring students who fear lack of objective marking by their instructor. Research by Lord and Melvin (1994), Melvin (1998), and Kamvounias and Dancer (2005) found that the marks correlated well and this suggests that the fears of subjectivity were largely unsubstantiated. In order to improve the objectivity of instructor marking, Kamvounias and Dancer (2005) emphasized the importance of clear marking criteria.

## THE RESEARCH METHODOLOGY

This research set out to investigate strategies for improving class participation in tutorials and small lecture classes (about 25-40 students) and was funded by a grant from the authors' Faculty. The focus of the research was to find ways to improve participation, particularly with International students, who are usually under-represented in class discussions. This was achieved by investigating:

Student perceptions and expectations in relation to learning, in particular their attitudes to discussing, speaking and presenting in class;

Cross-cultural issues and barriers with regard to participation; and

Teacher experiences and strategies to foster effective participation.

The research followed a qualitative approach as the intent was to investigate the area under study in some depth (McGovern 2003; Morse & Richards 2002). Two qualitative techniques were used for the collection of data: focus groups and semi-structured interviews (McGovern 2003; Morse & Richards 2002). Two distinct sets of data were collected (focus group notes from students and partial transcripts of the semi-structured interviews held with Faculty staff) and these were analysed separately. Within each set of data common themes were identified (McGovern 2003, Morse & Richards 2002) and thematic analysis used to consolidate the preliminary findings (Attride-Stirling 2001).

### Student Focus Groups

Students volunteered to participate in the focus groups by responding to an advertisement placed on the Faculty's intranet. This may have created a limitation to the focus group composition as students who rarely participate may not have responded to the advertisement. Hence the focus group composition may be biased towards students who are more likely to participate and therefore respond differently.

All students who responded were pursuing an IT degree or a double degree in IT and another discipline. Most student volunteers were undertaking a mixture of core and elective IT subjects at the time the focus groups were conducted. Respondents to the advertisement were asked to complete questions which were used to allocate them to one of the following categories:

1. Postgraduate Students
2. Undergraduate International
3. Undergraduate Local.

A combined Postgraduate focus group of local and International students was conducted because the low Postgraduate response rate meant that there were insufficient numbers to warrant separate focus groups.

Two focus groups for each category were conducted over two semesters (Spring 2005 and Autumn 2006), with a total of 40 participants. At the completion of each focus group students were rewarded with a double movie pass.

In each focus group students were asked the following questions:

1. What is your preferred learning style?
2. Do you like subjects that require you to participate in the tutorials / small lectures? Why? Why not?
3. Do you participate in class? Why? Why not?

4. Have you ever been in a class where you enjoyed participating or found participating easy? What was different about the way that class was conducted?
5. Do you think class participation is worthwhile? Do you think you learn from it?
6. What prevents you from participating in class?
7. How do you feel if you participate and you can't be understood?
8. How do you feel when you are encouraged to participate in class?

The focus groups were run by two of the researchers, one moderating and the other recording the student comments. Each student responded to all questions. Responses were not attributed to an individual student and as such there is no way to link sets of responses to particular students.

### **Staff Interviews**

Twenty academics from the Faculty were interviewed by the other member of the research team. Staff members were chosen partly on the basis of their availability and willingness to be interviewed, and partly in order to represent a broad cross-section of the various subject areas of IT. Interviewees were also selected to cover the full spectrum of academic levels from part-time tutor and associate lecturer to professor. The interviews were audio recorded and a partial transcription of each interview was undertaken. Interviews were semi-structured and based on the following seven questions:

1. Do you use activities involving class participation in your subjects?
2. Do you think class participation is a worthwhile learning strategy? If so, what benefits do you think students gain from it?
3. What sort of participatory activities do you use?
4. Have you noticed that there are problems with class participation for some students more than others? If so, for whom?
5. Do you have strategies to promote class participation, particularly with students who are reluctant to participate?
6. Are there any methods you have tried which you noticed did *not* work well?
7. Is there anything more you would like to say about class participation that we haven't covered?

## **FINDINGS**

### **Student Focus Groups**

*The preferred learning styles of the students were mostly aligned to content presentation or the type of the class or subject.*

Students suggested it was important to know what was required to be done for the class and having the material provided before the class to allow them to prepare. They then thought they would be properly prepared to take part in some form of class interaction (i.e. question and answer, discussions etc). Gaining the key points on the topic from the instructor and then doing your own work on the topic was also a preferred learning style. Classes that were conducted in an informal manner rather than a rigid and structured manner were considered an important part of the learning process. The actual subject also played a role in the preferred learning style of students, for example, elective subjects versus core subjects, or where the topic area and content provided was of interest to the student. In these situations students commented that they were more inclined to do the work required and to contribute their thoughts in the class. Students also commented that it was important to have their efforts in the class recognised.

*In relation to subjects that required students to participate the focus group participants commented as follows:*

Participation is relatively easy when content is interesting and the class is productive in covering the material. When the content provides a combination of theory and practice it is much easier to understand and grasp the key points and contribute your own understanding. This benefits fellow students who may not have the same level of understanding as they hear comments from the instructor and students and gain information and knowledge from different sources. This interaction with other students is a key benefit of participation.

Some students indicated that there is no need to participate in subjects if you have prepared for the class as you have no need to explore the topic further. But if you need more detailed information, participation is a good way to achieve this.

Overall the students in the various focus groups liked subjects that required participation, mostly because the instructor seemed to give consideration to topic content when students participated. However, they also thought more could be done from an instructor point of view in relation to encouraging participation. For example the instructor should use a number of different techniques in a class to encourage participation such as, general

class level question and answer, small and large group discussions, and marks for participation rather than what appears to be just marks for attendance.

*As to whether students actually participated in class most of the students agreed they did to some degree. Their comments were mostly content related.*

It depends on the knowledge to be gained and/or the content being provided and how this is delivered in the class such as group or individual learning. The use of challenging questions by the instructor was also raised as a reason why students participated in class. The comments of fellow students can be valuable in the learning process as they provide different views on the content. A number of students agreed that the attitude of the instructor in encouraging students to participate was the main reason that they did in fact do so. The style of the class and the instructor are important in making students participate.

When students are confident with their knowledge of the topic area they are more inclined to participate to explore the topic further, gain a better understanding and clarify any doubts they have in relation to the content.

One student commented that participation had become a habit and they enjoyed voicing their opinion in a group situation. Another student commented that they forced themselves to participate because it would be good training for the workplace. While another commented that they only participate if there really is a question they have to ask. Several students agreed that they only participate when asked and never volunteer an answer. Another student only participates to overcome the deadly silence that occurs in the class. One student indicated that they would only participate when they thought they could learn more.

*When considering situations where they enjoyed participating or found participating easy the students made the following comments about how that class was conducted.*

The class style and instructor style were seen as key elements that made participation enjoyable or easy. Where no or limited preparation was required students commented that they were more inclined to participate as your own thoughts could easily be presented, and more perspectives on the topic were discussed. Situations where there was no one right answer made participation enjoyable and easy and seemed to trigger more interaction within the class situation. To compliment this, an instructor who encouraged participation also ensured that participation was enjoyable. Other factors highlighted included the furniture arrangement of the room and having a relaxed, laid back or fun class which made it easy to talk as nobody seemed to talk down.

Conversely, class situations where the instructor presented challenging or complex content also made the participation process enjoyable. The students inferred that in this case there was much more interest in the topic area and they could gain more knowledge from the class. Another area which made participation easy was the presentation of real-life situations by industry speakers. Students indicated that they were more inclined to follow-up and discuss this so-called practical content because they felt they learned more than when the content came from a text book.

Group work made participation easy and enjoyable as working with friends in the class was always good. Students were more inclined to get involved because they knew who they were working with and didn't want to let their friends down.

However, several students commented that participation was never easy and that the more formal participation became the less easy it gets. Others noted that when participation focussed on practical work (such as programming, discussing and documenting case studies, or drawing models) it was relatively easy.

*When asked to consider if class participation is worthwhile, students believed, that when the participation style was either question and answer or facilitation of a class wide discussion, then it was a worthwhile exercise.*

Several participants thought participation helped clarify their understanding of the topic area. Participation helped absorption of the material presented as they could learn from fellow students by getting their interpretation of the content.

Class participation was viewed as having a number of positive outcomes as it: helps build public speaking skills, improves teamwork; improves class communications (instructor-student, student-student) and can make a class more interesting and enjoyable. Some International students commented that participation was very worthwhile as it gave them the opportunity to practice their English. Being encouraged by the instructor to participate was also considered a good practice as this helped to eliminate the fear many students had of asking a question. Other students believed that participation opened the way for new areas or ideas to be discussed in class.

*There were a variety of responses put forward as reasons which prevented students from participating in class which could be grouped as follows –Content, Instructor and Personal.*

By far the most common responses were content related. A majority of students cited a lack of topic area knowledge or understanding, or a lack of preparation for the class as the main issues that prevented participation. Students also considered a boring topic or a topic presented in too much or too little detail prevented participation as it was hard to determine what was required.

Instructor issues included the quality of instructor's presentation, the attitude and availability of the instructor for discussion, the English level of the instructor and whether or not the student liked the instructor. Another issue raised was related to the actual running of the class: several students commented that the dominant student who always answers or comments prevents other students from getting a chance to participate and they believed that the instructor must control this to be fair to the whole class.

From a personal point of view there were several reasons put forward. Shyness and language problems were seen as major inhibitors to participation. The fear of saying something stupid and the fear of speaking in front of the whole class also prevented some students from participating. Several local undergraduate students suggested that class timing played a role in the level of participation. For example in a night class they did not participate as they wanted to get out early; or when they had back-to-back classes they were not in the mood to participate in the second class.

*Students provided some of thoughts on how they would feel if they participated in class and were not understood.*

Many of the students commented that they would feel embarrassed or frustrated if they found themselves in this situation. Several comments made in the focus groups inferred that a student would lose confidence and become discouraged and may not participate again (at least in that particular class).

To overcome this problem several students indicated that they would try to clarify or rephrase their comments and provide examples to help get their point across. If this further elaboration did not work they might give up and not worry about it. Alternatively, some students took notes for discussion after class in either a one-on-one situation, via email or via an online discussion forum. Several students suggested that this would be a lesson for them and commented that they may have to improve their English skills or IT knowledge.

*Students provided some good insights into how they feel when they are encouraged to participate in class.*

Many students commented that being encouraged to participate made them feel good as they have the opportunity to ask questions, give their own views and potentially help other students. This helped to build a good working relationship with the instructor and several students felt that this made the instructor more approachable.

Encouragement can lead to becoming engaged in a topic area and can help gain a better understanding of the topic area. Several students suggested that knowing participation was encouraged led to students becoming more alert and focused and also it livened up the class. Other benefits of encouraging participation identified were: it increases confidence; reduces shyness among students; improves people skills; and students are more likely to be prepared for the class knowing that participation is encouraged.

Some students qualified this by stating that the encouragement of participation was OK but the onus was on the instructor to make it interesting and allow enough time for students to reply to questions or put their point of view forward. Another point raised was that even though participation may be encouraged there was still a need for rewards or marks to be given based on the level of participation.

However when participation became repetitive they started to feel uncomfortable or it become embarrassing as nobody wanted to become involved. Several students did not like classes where participation was encouraged as they did not want to be forced to participate and did not like being asked questions without notice.

## **Staff Interviews**

### *Student Participation in the IT Classroom*

All staff interviewed used class participation as a learning strategy. The whole point of tutorials, in particular, was seen to discuss issues, ask questions and undertake learning activities. Participation in labs was also seen as an obvious part of these practical sessions. However, the inclusion of participation in lectures depended on the preferred teaching style of the interviewee as well as the size of the class, some believing that it was essential in lectures, too, but others seeing it as optional or unnecessary, and in large lectures impossible.

Various reasons were given as to why class participation was worthwhile. A predominant theme emerged that students learn by doing:

*It's the classic thing: if you hear it you get something, if you see it, you get something more, but if you do it, you get a lot more out of it. ... The doing is a lot better learning than the other.*

A related reason given was that students learn by asking questions. Sharing ideas in collaborative learning activities and learning from others was also seen as important: this introduced multicultural viewpoints and allowed students to learn from those who had work experience in the area. Participation improved attention, kept students awake and made it more enjoyable and interesting. It helped students develop critical thinking and generic skills such as communication and team skills. It allowed them to apply their knowledge. One academic also noted that it provided an opportunity for the teacher to find out what the students' perceptions of the subject were and where any weaknesses existed. For several academics it was a way of keeping abreast of the subject matter and learning from their students, particular those from industry.

Academics used a variety of participatory classroom activities but by far the greatest number recommended small-group discussions, with a representative of each group reporting back to the class afterwards:

*First they have to be in small groups so that they know what they can tell and they can hide behind the group. Specially I think some cultures, they don't dare to express their opinion, but if they have to speak for a group they would do and indirectly give their own opinion.*

On the challenge of trying to get all students to actively participate, there was general agreement that a select few students will do all the talking if allowed. With few exceptions, interviewees agreed that the biggest challenge was getting International students to participate because they are:

*a lot quieter and not able to communicate as well – it could be because English isn't their first language; that's obviously going to inhibit them – but there is also the cultural part where they don't think it is appropriate to question the lecturer.*

One interviewee described Asian students as 'culturally shy', not used to speaking up and afraid of losing face if they made a mistake. They were seen as used to a 'more didactic learning space' and unaware of educational practices in Australia. Some academics saw the Asian women students as the most timid about participating: in addition to the reasons already cited, the overwhelming predominance of men in IT classes was thought to be intimidating and create a 'blokey' atmosphere.

#### *Strategies to Promote Class Participation*

There was general agreement that it was 'quite a challenge' finding ways of promoting class participation in multicultural classes with mixed race, gender, ethnicity and culture. However, there was no clear consensus about the best way of tackling this problem except that one needed to be very proactive. Various approaches were used by different staff members with more or less success. A couple of lecturers talked about the need to clearly convey one's expectations to the students at the beginning of semester so that they knew what was expected of them. Several staff members noted the importance of openly encouraging students to speak out, and also creating a comfortable atmosphere in the classroom, for example by telling jokes to relax them. A number of academics regularly asked students to introduce themselves to the class or to the student sitting next to them as a way of creating activity and getting students over the first hurdle. Learning student's names so that one could nominate them to answer a question was also recommended by one interviewee.

Regarding what teaching strategies do *not* work well for class participation a few suggestions were made, although generally interviewees had much greater trouble thinking of these than what did work for them. The major item that emerged was not to denigrate students once they had contributed something because they would then be extremely reluctant to participate again. A way of avoiding having to correct students was to think carefully about the way the question was framed:

*I try not to ask the sort of question where they will have a right or wrong answer necessarily. If it's a discussion they should be putting their points of view.*

Jumping in too quickly after asking a question, without allowing students the time to respond, was another way of stopping participation. One lecturer suggested that one should *never* answer a question that one has put because students will learn that if they don't respond the lecturer will eventually do it for them. Setting meaningless questions and activities was also seen as an important discourager of participation.

## **DISCUSSION**

The most important alignment between lecturers and students in our study was the concept that participation in class is a learning strategy. Learning from peers, sharing ideas, group work, engaging students in the topic and encouragement were considered important aspects of learning in a classroom situation by both groups.

The findings show that the key to having good levels of class participation is the responsibility of both the lecturer and the students. For the lecturer, it is setting challenging and interesting work that will engage the students. It is also important to clarify the rules for participation, which supports previous research by Dunphy

(1998) and Junn (2004). The lecturer needs to allow time for the student to respond, and this is confirmed by CELT (1998) and Howard and Henney (1998). Various opinions were given by our respondents regarding attributing marks to participation, with a mixture for and against. Junn (2004), Melvin (1998), and Kamvounias and Dancer (2005) all mention the need for objectivity in marking by providing clear criteria, and this may explain the different perspectives found in our study.

For the students, ensuring that preparation has been performed prior to the class is crucial, and this concurs with findings from the literature (Howard & Henney 1998). Also students should be appreciative of the comments of their peers.

Class participation has a number of positive outcomes that can enhance student skills in certain areas. Both groups of participants saw it as good preparation for what students would encounter in the IT industry, in particular as a method of improving their communication skills. The ability to speak up in front of colleagues at meetings, present to clients, discuss results of work undertaken or answer questions when asked are skills that will be needed when students move from university into the workforce. This was also identified in parts of the literature (CELT 1998; Chu & Kim 1998) where it was noted that group work improves student confidence. Class participation is a mechanism that can help prepare students for these workplace challenges.

The type of work to be undertaken in class was also an important contributor to the level of class participation. According to our informants IT classes require interesting and challenging content, in particular practical exercises based on IT case studies and industry examples; small group activities which encourage participation among the group (with groups then reporting back to the class); and discussions for which there may be a number of answers rather than the one correct answer.

The style of the class and the class makeup were also identified as factors that can have an impact on levels of participation. Informal, relaxed or fun classes appeared to be more successful at attracting student participation than those classes that were structured and attempted to dictate what the students would achieve in the class. Classes with a dominant student(s) may have good participation levels from these select few individuals but this was seen as a hindrance to the class in general participating. The personality of an individual student will impact their willingness or otherwise to participate. The more confident the student is the more they will contribute and, conversely, shy students will hesitate and miss their opportunity to contribute.

Gender and cultural background can also impact participation. Having a good class gender mix also appeared to have a positive impact on participation levels. However, generally in IT this is hard to achieve because of the dominance of male enrolments. Also in relation to gender several academics commented that Asian female students are the least inclined to participate. Our study confirms what the literature states (Winbush 1995) that many International students consider speaking out of turn or questioning the lecturer to be not correct classroom protocol due to their more formal educational upbringing. Also, the language issue in impeding International students from speaking out was highlighted in both our study and the literature (Dunphy 1998).

Some of the findings in the literature were not supported by our study. For example, age was identified by Fritschner (2000) and Howard (2002) as a factor affecting participation but was not mentioned by any of our participants despite the fact that mature age students were included in our study. Moreover, some of the suggestions to improve class participation from the literature were not raised in our study, and this may be because of the different context – Information Technology versus the social science and business studies context of much of the reported research.

## **CONCLUSION**

In conclusion, the focus groups and interviews provided a rich body of knowledge about how to promote class participation in the IT teaching context. Most students found class participation a worthwhile activity provided they had a clear understanding of what was expected. Encouragement, real life scenarios and challenging content all helped make participation interesting and enjoyable. They also had several ideas for improving class participation which teachers in IT could use to improve students learning.

Academics see class participation as one of the greatest priorities in creating an effective learning environment since they recognise that 'learning by doing' is far superior to passive, didactic educational methods. Some were very confident about how to do it and what worked well for them, but most were still searching for better methods, particularly with respect to International students from Asian backgrounds. Though there was a great deal of consensus on some issues and some activities (for example, the value of small group discussion), there were also notable differences, with some lecturers, for instance, finding 'getting to know each other' exercises helpful and others thinking them to be totally useless. Recommendations regarding suitable class participation activities, therefore, cannot be prescriptive since individual teaching styles must be taken into account.

To date the research has provided many insights into both student perspectives and teacher experiences of class participation. The findings augment those reported in the literature and are particularly insightful in the IT

teaching and learning context. With many IT academics lacking formal training in Education, investigations into more interesting teaching approaches, such as this research into class participation, can only be beneficial to our discipline.

Future work on this research project will consist of a complete analysis of the data. From this we will develop the following:

1. A teachers' handbook of practical strategies to encourage participation;
2. Tutor and staff workshops to disseminate these strategies throughout our Faculty.

## REFERENCES

- Arbaugh, J.B. (2000) 'An Exploratory Study of the Effects of Gender on Student Learning and Class Participation in an Internet-Based MBA Course', *Management Learning*, Dec., 503-519.
- Attride-Stirling, J. (2001) 'Thematic networks: an analytical tool for qualitative research', *Qualitative Research*, 1(3), 385-405.
- CELT (Centre for Excellence in Learning & Teaching) (1998) 'Encouraging class participation and student interaction', January.
- Chu, S. and Kim, J.H. (1999) 'Comparison of the Perceptions of Classroom Participation among Asian and Non-Asian Design Students', *Multicultural Education*, 7(2), 21-24.
- Dunphy, J. (1998) 'Special Considerations for Teaching in the Multicultural Classroom', *Teacher Talk Articles in the Faculty Newsletter*, 10(6), URL Available at: <http://web.mit.edu/tll/published/multicultural.htm>. Accessed 1st November 2004).
- Egan, M.L. (1996) 'Condoms and Culture: An exercise to foster classroom participation of international students', *Journal of Management Education*, 20(1), 98-103.
- Fassinger, P.A. (1995) 'Understanding Classroom Interaction: Students' and Professors' Contributions to Student's Silence', *The Journal of Higher Education*, 66, 82-96.
- Fritschner L.M. (2000) "Inside the undergraduate college classroom: Faculty and students differ on the meaning of student participation", *The Journal of Higher Education*, May/June 2000. 71(3), 342-362.
- Howard J.R. (2002) "Do college students participate more in discussion in traditional delivery courses or in interactive telecourses?: A preliminary comparison", *The Journal of Higher Education*, 73(6), 764-780.
- Howard J.R. and Baird R. (2000) "The consolidation of responsibility and students' definitions of situation in the mixed-age college classroom", *The Journal of Higher Education*, 71(6), 700-721.
- Howard J.R. and Henney A.L. (1998) "Student participation and instructor gender in the mixed-age college classroom", *The Journal of Higher Education*, 69(4), 384-405.
- Hyde, C.A. and Ruth, B.J. (2002) 'Multicultural Content and Class Participation : Do Students Self-Censor', *Journal of Social Work Education*, 38(2), 241-256.
- Junn, E. (1994) "'Pearls of Wisdom': Enhancing student class participation with an innovative exercise", *Journal of Instructional Psychology*, 21(4), 385.
- Kamvounias, P. and Dancer, D. (2005) 'Student involvement in assessment: a project designed to assess class participation fairly and reliably", *Assessment & Evaluation in Higher Education*, 30(4), 445.
- Litz, R.A. (2003) 'Red Light, Green Light and Other Ideas for Class Participation-Intensive Courses: Method and Implication for Business Ethics Education', *Teaching Business Ethics*, 7(4), 365-378.
- Lord, A.T. and Melvin, K.B. (1994) "The Prof/Peer Method: A Technique to Rate Class Participation", *Issues in Accounting Education*, 9(3), 109-117
- Maznevski, M.L. (1996) 'Grading Class Participation', *Teaching Concerns*, Jan., 1-3.
- McGovern, Y. (2003) *The Practice of Market and Social Research*, Pearson Education FT Prentice Hall, Harlow, England
- Melvin, K.B. (1988) "Rating Class Participation: The Prof/Peer Method", *Teaching of Psychology*, 15(3), 137-139.
- Morse, J.M. and Richards, L. (2002) *Readme First for a User's Guide to Qualitative Methods*, Sage Publications, Thousand Oaks, California.

Nunn, C.E. (1996) "Discussion in the college classroom: Triangulating observational and survey results", *The Journal of Higher Education*, 67(3), 243-266.

Sadker, M. and Sadker, D. (1992) 'Ensuring Equitable Participation in College Classes', *New Directions in Teaching and Learning*, 49, Spring, 49-56.

Winbush, D.E. (1995) 'Building Bridges: Healthy Multicultural Relationships Highlighted at Conference on Diversity', *Black Issues in Higher Education*, 12(4), 20-23.

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