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NESB STUDENT ATTITUDES TO AN ICT-SUPPORTED TEAM PROJECT

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Abstract
This paper considers attitudes of two groups of students, those from non-English speaking backgrounds (NESB) and native speakers (NS) of English, to working in information and communication technology supported teams in the context of a post graduate Knowledge Management course.

Keywords
NESB students, ICT-supported teams, student attitudes, communication

Introduction and Background to the Study

Despite the wide adoption of information technology for the purposes of research and communication between university researchers and teachers, the integration of collaborative online team-based assignments beyond the level of simple email or discussion is a fairly recent phenomenon (Curtis, 2001). This perhaps reflects a dominance of blended teaching (Bell, Bush, Nicholson, O'Brien and Tran, 2002) with its opportunities for face-to-face (f2f) interaction. An experiential learning assignment requiring students to work in ICT-supported teams in the context of a post graduate Knowledge Management course presented an opportunity to study and compare attitudes of NESB and NS students to this newly introduced mode of learning, as part of a larger study of student perceptions.

Knowledge Management is one of three core courses in the Master of Information Management Program at VUW. The objectives of this course include an overall introduction into the concepts, theories and practices of knowledge management (KM). The KM course was offered for the first time in 2002 and was taught primarily as a lecture course. The assignment featured in this paper consisted of two parts: a team project and individual reports. Students were first required to make extensive use of ICT (in the form of Blackboard(tm) courseware) in a creative KM-based team task and then reflect on their experiences as individuals and think about how they would apply what they have learned in "real life" organizational settings. Each team had eight weeks to complete its task and the individual assignments were due one week later. Students worked in culturally mixed teams, and the background knowledge, experience and English language proficiency of the individual team members varied considerably.

Data analysis
Sixty-one students were enrolled in the course. For the assignment twelve teams of four or five people were created by the lecturer with a deliberate mix of gender and cultures. Participation was voluntary and 33 responses were obtained (54%). Most of the student participants (85%) had never used Blackboard, although 93% of the students reported regular use of their computer for online communications. Nearly

one third (30%) of the students who took part in the survey were from non-English speaking backgrounds (NESB), mainly Asian and Pacific. The majority of the NESB students were international students (80%), while the remaining 20% identified themselves as 'native New Zealanders', suggesting that they were permanent residents or New Zealand citizens.

Both qualitative and quantitative methods were used in this study. The quantitative data was obtained through a survey of 124 questions in formats including multiple choice, five-point Likert scales and text (http://www.utdc.vuw.ac.nz/research/bb/2002MMIMSurveyQuestionnaire.pdf). Floating medians were calculated using a grouped frequency distribution (R. Renner and C. Hall http://www.vuw.ac.nz/utdc/ evaluation/interpret2002/interpreting_the_median_and_mean2.htm). Lower median values represent stronger agreement, higher values stronger disagreement. Where comparisons were performed between NS and NESB students the significance was assessed with a Chi^2 test on the underlying distributions, not on the medians. Significant differences are indicated with an *. Individual reflective accounts were analyzed using the QSR N6 software (http://www.qsr.com.au). Approval was obtained from the university Human Ethics Committee, and students had an opportunity to not have their reflective accounts analysed. Although data covering a variety of areas was gathered in both the individual assignments and the survey, this paper focuses specifically on NESB and NS student perceptions of their learning experiences in the context of ICT-supported teams working on a creative KM task.

Findings

ICT-supported Team Project

Both NESB and NS students were generally positive about the overall value of the ICT-supported team project exercise (medians: NESB = 2.0; NS = 2.5). However, NESB students believed that these teams were more effective in sharing and creation of knowledge than traditional teams (median = 2.2*), while NS students did not (median = 3.5*). As suggested by Littlewood (1999) and Biggs (1999), difference in attitudes between the two groups were observed in their preferences for working alone or as part of a team (medians: NESB = 3.5 [disagree]; NS = 2.8 [agree]), but this was not significant, perhaps due to the low sample size.

Both NESB and NS students generally supported the view that leadership (or lack of it) has a significant impact on a team's effectiveness (medians: NESB = 1.8, NS = 1.7). However, when asked if their own team had a team leader or leaders, a significantly higher proportion of NESB students perceived that they had a leader in their team (70%*) compared to only 47%* of NS students. This could reflect differences in attitudes to authority, based on cultural representations of authority-based relationships in Western and Eastern cultures (Littlewood, 1999).

Attitudes to the Communication Channels Used by the ICT-supported Teams

Teams had only limited opportunities to have f2f contact, making effective utilisation of online communication and collaboration necessary. The multicultural makeup of the teams added another dimension to completion of the project, as students had to identify the best channels for engaging the whole team in the knowledge transfer and construction. Individual reflective accounts suggest that the students were aware of the advantages and disadvantages various communication channels could offer, and that they tried to use these different channels to encourage input and participation of the NESB team members, as well as to overcome preconceptions of NS and NESB students:

> *Team 1 (Chinese NESB student): Language was the obvious difficulty and I found it difficult to contribute effectively in face-to-face and virtual meeting situations where there was rapid discussion and contribution.... It was by asynchronous communication that I felt I could best contribute. This gave me time to read what other team members said, to write something clearly in English and to do some research and discussion with others first. ... The lack of non-verbal clues from asynchronous communications eliminates much evidence of cultural differences and accents. This means that the use of electronic media for communications can increase the perceived similarity between team members.*

Underdeveloped sociolinguistic skills, such as turn-taking, have been recognised as an important reason for difficulties in f2f communication (Markee, 2000; Sato, 1990). The teams that identified such difficulties and provided NESB students with opportunities to make written contributions in the asynchronous mode appeared to have overcome communication barriers more successfully than those that did not. The survey also provided data on student perceptions of difficulty associated with two major aspects of communication, expressing oneself and understanding others, across four communication channels (see Table 1).

Statement	Email		Discussion Boards		Virtual Chat / Classroom		F2F	
	NESB	NS	NESB	NS	NESB	NS	NESB	NS
I experienced problems expressing myself	3.5*	4.3*	3.5	4.3	3.5*	3.6*	3.2*	4.5*
	Difference: 0.8		Difference: 0.8		Difference: 0.1		Difference: 0.7	
I found it hard to understand other group members	3.2*	3.6*	3.5	3.6	3.3	3.1	3.8	4.1
	Difference: 0.4		Difference: 0.1		Difference: 0.2		Difference: 0.3	

Table 1: Medians of student perceptions of difficulty in using communication channels.

As expected, NESB students experienced more difficulties expressing themselves in their second language than NS students. However, little difference was found in understanding other team members between NESB and NS students. In their reflective accounts some NS students indicated that having NESB students in their teams interfered with effective communication, both because of language difficulties and cultural issues. However, it cannot be claimed that language and cultural issues were the only reason for communication problems. Other reasons cited by students were unfamiliarity with the medium, especially synchronous online tools, individual behaviours and the make up of the teams. In response to whether other team members dominated communication, NESB students perceived that some level of domination was present when using all communication channels, while NS did not perceive that this was the case at all (see Table 2).

Statement	Email		Discussion Boards		Virtual Chat / Classroom		F2F	
	NESB	NS	NESB	NS	NESB	NS	NESB	NS
Some members of team attempted to dominate communication using this channel	3.0* neutral	4.3* disagree	2.9 agree	3.6 disagree	2.5* agree	4.3* disagree	2.0* agree	3.1* disagree
	Difference: 1.3		Difference: 0.7		Difference: 1.8		Difference: 1.1	

Table 2: Medians of student perceptions of domination by other group members

NESB students experienced the least domination by other team members when communicating via email, and the most in f2f meetings. The difference between the perceived levels of domination experienced by the two groups was most noticeable when using the synchronous online tools. The survey also revealed different preferences of the two groups for asynchronous or f2f communication modes to support knowledge sharing and knowledge creation (see Table 3).

Statement	Email		Discussion Boards	
	NESB	NS	NESB	NS
I found this channel has advantages over f2f in the <u>sharing of knowledge</u>	2.0*	2.8*	2.2	2.5
	Difference: 0.8		Difference: 0.3	
I found this channel has advantages over f2f in the <u>creation of knowledge</u>	2.3* agree	3.4* disagree	2.5 agree	3.0 neutral
	Difference: 1.1		Difference: 0.5	

Table 3: Student evaluation of usefulness of asynchronous online communication channels as compared to the f2f channel for knowledge sharing and knowledge creation.

NESB students indicated that both of the asynchronous channels (email and discussion boards) had advantages over the f2f mode for both knowledge sharing and knowledge creation, while NS students were of a similar view in regard to knowledge *sharing*, but believed that the f2f channel was superior as far as knowledge *construction* was concerned.

Conclusions and Implications

The findings presented suggest that NESB students were more positive about the ICT-supported team-based approach adopted for the project than their NS counterparts. This is consistent with the findings reported in Watkins and Biggs (1996) of research conducted in Singapore, Hong Kong and in Australia. These findings show that the cultural values that promote collectivist orientation predispose Asian students towards cooperative learning and group culture, overriding educational paradigms of their home countries, which promote knowledge preservation and transfer from the teacher to the pupil, rather than knowledge creation.

The study shows that when NESB students work in a team environment with NS students, both groups may experience communication problems, some of which can be related to NESB students' language proficiency and socio-linguistic skills. The findings also show that these difficulties can be overcome with course design which takes advantage of NESB students' preference for team work, defined team leadership and online asynchronous communication. These features would also be worth considering in distance courses with a high percentage of international student enrolments, as experiential learning techniques, ICT-supported team environment and personal reflective accounts are appropriate for distance learning.

The study also shows that NS and NESB students have contrasting views on a number of aspects of collaboration and team work (Speece, 2002) and different preferences for particular communication channels, such as email or f2f channels. Thus, when using collaborative experiential learning, instructors must be open to a variety of learning approaches, in order to allow the learning process to progress. This requires new kinds of teaching skills (Hickcox, 2002). In regard to teaching NESB students, the approach of focusing on "what students do" rather than "who they are" (Biggs, 1999), adopted in this course, appears to promote a positive perception of learning, as it encourages students to focus on the learning process and fosters deep learning, allowing NESB students to address cultural and language issues if and when required.

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