



# Cooperative Learning Lecturer Training Programme

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March 2011



An Ako Aotearoa publication.  
This project output has been funded by  
Ako Aotearoa through the  
Regional Hub Project Fund.



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## **Executive summary**

This report documents the development of a training programme in cooperative learning (CL) for New Zealand tertiary lecturers. The results of the initial trials and pilot programmes for the proposed programme are documented and analysed, and a suggested final programme is presented. Pre –reading and delivery suggestions are included in the report, and programme details and power point slides for the final programme are to be found in the appendices.

The authors have concluded that a modular approach to training staff in CL techniques and issues is the most successful option. A whole day introduction to CL, followed by optional “stand alone” modules focusing on assessment of cooperative groups and management of diverse groups, allows for flexibility for both participants and trainers. The proposed structure has the potential to be adapted and developed to meet the needs of particular institutions or disciplines. In a section dealing with implications for teaching and learning, a number of evaluative comments from programme participants are followed by claimed advantages to students and teachers who engage in CL. These stem from the authors’ work and the large number of references consulted during the research.

## **Introduction**

International research on CL is very positive about the educational benefits for students of working in diverse groups (Skon, Johnson & Johnson, 1981) but much of this research has been carried out with diverse students from the same society. The authors’ research on CL in New Zealand tertiary institutions, where the student body consists of a diverse mixture of domestic and international students from a range of educational, cultural and societal backgrounds, indicates that the outcomes of CL in New Zealand are not as positive. The major reason for this situation seems to be that tertiary lecturers are not trained in the effective use of CL..

This project was initiated to design a training programme to introduce tertiary lecturers to the concepts and techniques of CL and to encourage pedagogically sound and culturally accommodating group management that would achieve the academic and social benefits promised by the research on group learning.

## **Foundational literature for the programme**

As stated in the introduction, international research on the benefits of cooperative education has repeatedly found that it produces improved student academic learning (Skon, Johnson & Johnson, 1981; Cuseo, 1990; Johnson, Johnson & Stanne, 2000). Researchers have also concluded that students who learn in groups develop increased intercultural understanding and tolerance (Slavin, 1990; Aronson, 2001), improved interpersonal skills (Johnson

and Johnson, 1989), higher level thinking skills (Johnson, Johnson, Stanne and Garibaldi, 1990), and that they are better prepared for the modern participative workplace (Feichtner & Davis, 1992).

Subsequent research suggests that the implementation of CL presents lecturers with new challenges. Johnson and Johnson (1998) warn that simply putting students in groups and telling them to cooperate will not produce the desired outcomes and Oakley et al (2004) highlight the need for students to be trained in handling group problems. The need for lecturers themselves to be given guidance in training students for group work and in structuring appropriate assessments was identified by researchers such as De Vita (2001a). Researchers acknowledged that, despite the positive research, both lecturers and students often resist the use of CL techniques (Panitz, 1997), and that dysfunctional groups are the “Achilles heel” of modern problem based learning (Norman quoted in Mifflin, 2004.).

Much of the literature on CL emphasises that groups benefit from being heterogeneous; mixed groups, it is generally believed, create a diverse environment that will engender wider discussion, more effective problem solving, and superior outcomes as well as developing “a general sophistication in interacting and working with peers from a variety of cultural backgrounds” (Johnson and Johnson, 1989). Johnson and Johnson, however, go on to warn that if students are not prepared adequately for working in diverse groups, diversity can lead to negative outcomes: lower achievement, closed mind rejection of new information, increased egocentrism and negative relationships. Cohen (2002) draws attention to the implications of status in diverse groups; she suggests that an equitable classroom is only achieved by careful design and implementation of group tasks.

Diversity is a feature of the New Zealand domestic tertiary population; the typical classroom includes students from many ethnic cultures –New Zealand European, Pasifika, Asian and Maori – as well as students representing a range of gender, age, academicability, religious and social differences. As well as domestic diversity in the New Zealand tertiary classroom, the twenty first century increase in international students studying at Western universities has led to the inclusion of large numbers of mainly Asian students from very different cultures and educational systems.

Because of the positive overseas research literature on CL, New Zealand tertiary lecturers have been encouraged to use these techniques in their classrooms (Ward, 2006) and they have also been encouraged to see diversity as a pedagogical resource (Alton-Lee, 2003). There has, however, been little research examining the New Zealand tertiary educational environment and analysing the specific training that New Zealand lecturers require to help them implement effective CL with diverse groups. Ward (2006) points out that most research on diverse CL groups has been carried out in the United States with students from one society/ educational background and with students who are mainly pretertiary, and suggests that there is a need for specialised New Zealand research.

New Zealand researchers (Holmes, 2004; Ward, 2006) have identified the need for New Zealand tertiary lecturers to be trained in cross cultural awareness and Campbell and Li, in researching attitudes to Chinese students to group work, have come to the conclusion that New Zealand tertiary lecturers are not adapting to the changing classroom culture in an era of educational globalisation (Campbell & Li, 2006). Ward's research on interactions with international students (2005) found that New Zealand tertiary lecturers believed that students from different cultural groups did not work particularly well together in their classrooms; she considers that the overriding task for lecturers is to "establish a coherent community from the diversity" (p. 64), and that CL methods hold the greatest potential for enhancing social cohesion among international and domestic students. There is a general assumption that Asian, Pasifika and Maori students come from collective cultures and therefore adapt easily to cooperative group work, but current research indicates that we should be critically examining these generalisations (Li, 2003; Waiti & Hipkins, 2002); research also suggests that New Zealand European students are dissatisfied with multi cultural groups (Clark & Baker, 2006). Assessment of diverse groups is a major challenge for lecturers, particularly at tertiary level where marks are seen as crucial by most New Zealand students and many prefer individual assessment (Selvarajah, Pio & Meyer, 2006). There appears to be a gap in the area of training lecturers to implement effective CL in the diverse New Zealand tertiary educational environment.

Overseas literature on teacher training in collaborative learning is predominantly concerned with the primary and secondary school environment, although the principles there are similar to those for the tertiary sector. Cohen (1992) states that: "the implementation of CL of any sophistication has major implications for staff development, for the ways that lecturers work together and for the principal's role" (Cohen, p. 52), and argues for long-term, detailed teacher training. She supports the basic principles advocated by Sharan and Hertz-Lazarowitz (1982): work with staff as intact subsystems, emphasize and model experiential learning, ask for voluntary participation, help lecturers develop learning materials during the training, and provide sustained and systematic follow up. They also warn that trainers should not expect significant implementation of the new techniques immediately; Johnson and Johnson (1999) in fact, estimate that the average amount of time required for a teacher to become a skilled user of CL techniques is two to three years. There is some disagreement on the emphasis that should be placed in workshops on the theory and research underpinning collaborative learning although Lotan (1985) found that lecturers who understood the theory were better able to delegate authority to the students. Johnson and Johnson (1999) also argue that conceptual understanding is important as it "provides teachers with a framework to organise what they know about CL, guides their practice, and integrates their new knowledge" (Johnson & Johnson, p. 17). They go on to claim that the more cognitive processing required, the greater the retention and transfer, and they therefore recommend ensuring that staff training is challenging. Peer support is seen as a crucial element of teacher training (Putnam, 1985) and follow up and feedback sessions with staff developers are consistently associated with more successful training (Sacca, 1991; Johnson & Johnson, 1999;). Interestingly, the organisational context is considered crucial to the success of CL training programmes: Ellis (1990) reports that more teachers acquired and used CL strategies on a regular basis when their principals had attended training

sessions and actively promoted their use. Similarly Johnson and Johnson (1999) stress the importance of institutionalising CL as a standard instructional practice and state that if the organisation has clear goals, incentives and job aids for using what was learned in the training, transfer is more likely to occur. In 1998 Ishler, Johnson and Johnson found that the factors most highly related to long term use of CL were involvement in a collegial teaching team; personal encouragement and support from colleagues, administrators, and students for using CL; and personal commitment to CL. They consequently argue strongly for training teachers in their teaching teams rather than as individuals (Johnson & Johnson, 1999). An interesting perspective was contributed by Brody and Davidson (1998) when she identified the importance of aligning new training with existing individual teachers' beliefs and value systems.

An issue identified by Johnson and Johnson (1999) prepares trainers for the possibility that staff development sessions liked by staff and perceived by them as effective are not necessarily shown by research to be the most effective.

### **Relevant prior research by Jill Clark and Trish Baker**

The authors became interested in researching CL in New Zealand when they realised that there were discrepancies between the published research on the benefits of CL groups and anecdotal evidence from New Zealand tertiary lecturers and students of significant problems in implementing CL in this country.

**Capitalising on diversity: strategies for effective group work. (2005)** This was a discussion paper presented at tertiary lecturer groups in Auckland, Wellington and Christchurch. The participants identified that the main problems facing them in the diverse cooperative classroom were the language and cultural challenges presented by international students and the difficulty in developing a fair assessment system for students of diverse ability and motivation.

**Collaborative learning in diverse groups: a New Zealand experience. (2006)** This research paper reported on a survey on attitudes to CL that the authors carried out at the Wellington Institute of Technology and Whitireia New Zealand. Results indicating that lecturers and students were generally positive about the social benefits of group work were consistent with international research findings. There was, however, a significant difference between the replies of New Zealand European students and those of other ethnicities. This confirmed the findings of Beaver and Tuck (1998) and could be a cause for concern. Open ended questions showed that most students did not cope well with group problems; the reason for this appeared to be a lack of lecturer and student training.

**Teamwork skills for the workplace: are employers getting what they need? (2007)** This paper, a preliminary investigation into the effectiveness of tertiary student groups in developing skills that are useful in the workplace, reported on surveys and interviews with recent graduates and employers. The results indicated that although

students did learn to work in diverse groups and did learn about accountability in their tertiary groups, students were generally not trained to deal with group management issues and consequently did not develop the intended interpersonal or problem solving skills.

**Student success: bridging the gap for Chinese students in collaborative learning. (2007)** This research paper, prepared with Dr Mingsheng Li from Massey University, concentrated on international students as it was delivered at the ISANA International Education conference in Adelaide. Results from this research project indicated that there was an urgent need to train New Zealand tertiary lecturers in effective CL techniques. The main areas where training was required were awareness of intercultural differences and issues, and the ability to structure and assess cooperative assignments effectively.

**Cooperative Learning: a double edged sword. (2008)** This research paper was presented at the “Cooperative Learning in Multicultural Societies: critical reflections” conference in Turin, Italy. In the paper the authors presented the model of CL that they had developed for the New Zealand educational environment. Their model emphasised the importance of lecturer and student training, monitoring of the process, and staff and student reflection at the end of the process. It stressed that both staff and students must be cognisant of the implications of cultural differences in diverse classes and must be trained to deal with these differences positively and constructively.

**Cooperative learning: theory into practice. (2008)** This research paper was presented at the Japan Association for Study of Cooperation in Education (JASCE) conference in Nagoya, Japan, and reported on a pilot programme using the authors’ model of CL. The model was piloted with a third year business degree class which included New Zealand European, Maori, Pasifika and Asian students and results indicated that the model was an effective process for delivering CL in diverse groups.

**Perception is reality: Chinese and New Zealand students’ perceptions of cooperative learning. (2009)** This paper, prepared with Dr Kam Wing Chan from the Hong Kong Institute of Education, was presented in Beijing, China and presented the findings of a research project examining differences between Chinese and New Zealand pedagogies and attitudes to education in the area of CL (group work). In Western countries this style of learning is believed to develop the analytical, problem solving and interpersonal skills that are essential for the workplace and most New Zealand students are familiar with the concept and the practice from an early age. The prior socialization processes of Chinese international students, however, and the learning context that they have come from, means that having to work in groups can be problematic for them. Misunderstanding and stereotyping by both Chinese and New Zealand students can result in conflict, hostility and mismatched expectations and New Zealand lecturers do not always have the skills or the willingness to manage the culturally sensitive issues that can develop in diverse groups. The authors concluded that training in intercultural awareness is essential for lecturers managing diverse groups.

**Educational equity in ethnically diverse groups. (2009)** This paper, presented in Athens, Greece, explored issues of status based on race, ethnicity and cultural background in the New Zealand tertiary classroom where there is a diverse mix of domestic and international students. The findings of the research project indicated that initial assumptions of relative status and ability of group members have a major effect on the outcomes of the group. These assumptions, demonstrated by both domestic and international students, may be based on expectations of language ability and familiarity with the pedagogical environment and may disadvantage students from different cultural backgrounds. This can become a self-fulfilling prophecy reducing the effective interaction and participation in the group by international students and other students perceived to be of low status, and limiting the development of trust and interdependence among group members. The authors recommend training lecturers to use a range of strategies to weaken the effects of status, promote more equitable interaction, and foster productive group outcomes.

**“It’s not fair!” Cultural attitudes to social loafing in ethnically diverse groups. (2010)** This paper, which examines cultural attitudes to group responsibility, was presented in Guangzhou, China in June, 2010. One of the essential pre-conditions of successful collaborative learning is individual accountability but in practice students frequently report issues with inequitable participation in culturally diverse groups. This paper analyses the attitudes of Chinese and Western students towards accountability in diverse groups and finds that concerns about social loafing and inequality are consistent across the cultures. The study did not support the claim by some earlier researchers that people from collectivist cultures are less likely to withdraw their efforts from a group; the findings suggest that, on the contrary, some Chinese students were not only fully aware that they were not contributing equally in their groups but that they were also aware that it was not in their interests to do so. The paper suggests that, while many of the antecedents for student social loafing are generic, some antecedents for Chinese international students might be based on different cultural values, different prior experiences, and inadequate levels of linguistic competence, and that tertiary lecturers in New Zealand should be using a range of strategies to modify the social loafing effect in diverse groups.

**Cooperative learning - a double edged sword: a cooperative learning model for use with diverse student groups. (2010)** This paper, published in a special edition of the Intercultural Education journal, presents the model of CL that the authors have developed for use with diverse student groups in the New Zealand educational environment. The model emphasises the importance of lecturer and student training, monitoring of the process, and staff and student reflection at the end of the process. It stresses the need for both staff and students to be cognisant of the implications of cultural differences in diverse groups and to be trained to deal with these differences positively and constructively.



## **Aims**

Research by the authors of this report has shown that, in the diverse New Zealand tertiary educational context, students and staff often experience difficulty in achieving the well documented benefits of CL. Their research project, conducted over the last five years, has identified reasons for these difficulties and has led to the development of a model for CL with diverse student groups in the New Zealand tertiary classroom. A crucial element in the model is the effective training of tertiary lecturers in CL techniques and in the management of diverse groups. Anecdotal evidence and research indicates that tertiary lecturers are not currently receiving in-depth training in these areas; the authors' aim in this project was to develop such a training programme to be used in tertiary institutes in New Zealand.

The aim of this project was to enhance the effectiveness of tertiary teaching and learning practices by providing lecturers with training in the use of CL techniques with diverse student groups. The programme includes the preparation of students for group work, the development of group processes, the importance of monitoring and supporting groups, the options available for fair assessment, and the development of specific guidelines for working with groups from diverse cultural, social and educational backgrounds. The programme is intended to provide effective training for tertiary lecturers and to improve the experiences of students required to work in diverse groups in their first year of tertiary study in New Zealand.

## **Methodology**

The following methodology was used to develop the programme:

- A literature review was carried out
- Data from the authors' prior research papers on lecturer training needs in tertiary institutes in New Zealand was used to formulate aspects of the training programme
- The Academic Staff Developers of the Universities of New Zealand (ASDUNZ) network, personal networks and the Adult Community Education (ACE) report on professional development programmes in tertiary institutions in New Zealand (2006) were used to identify existing programmes in New Zealand for training lecturers to use CL techniques with diverse student groups
- Overseas practitioners who are conducting research to develop similar training programmes were consulted. The following practitioners, who are all international leaders in the fields of CL, intercultural education and diversity, were contacted; they all proved willing to contribute their experience and expertise to the current project:
  - Dr Kam Wing Chan, Hong Kong Institute of Education, Hong Kong
  - Professor Robyn Gillies, School of Education, University of Queensland, Australia

- Dr Celeste Brody, Central Oregon Community College, Oregon, USA
- Dr Rachel Lotan, Director of the Stanford Teacher Education Program, Stanford University, Palo Alto, California, USA
- Dr George M Jacobs, education consultant, JF New Paradigm Education, Singapore
- Dr Neil Davidson, University of Maryland, USA
- Dr Carl A Grant, Professor Hoefs-Bascom Professor of Education, University of Wisconsin, Madison, USA
- Dr Lawrence Sherman, Professor of Educational Psychology at Miami University, Ohio, USA
- Dr Richard Cambro, Western Illinois University, USA
- Dr Laurie Stevans, Seattle University, Seattle, Washington, USA
- Yael Sharan, Group Investigation Projects (GRIP) Tel Aviv, Israel, co-author of a number of influential publications on CL
- The Director and staff of the Foreign Language Department, University of Posts and Telecommunications, Beijing, China

Collaboration allowed the authors to evaluate similar international training programmes and to determine aspects that would be valuable in, or could be modified to suit, the New Zealand educational context.

- The initial training programme was developed, trialed, evaluated and modified
- The final training programme was developed.

## **Current Cooperative Learning Training in Tertiary Institutions**

The ASDUNZ network, personal networks and the ACE report on professional development programmes (2006) were used to identify training programmes in CL currently offered to lecturers at New Zealand tertiary institutes. Although a number of the training programmes available include segments on CL there did not appear to be any formal programmes offering indepth training in CL techniques. Victoria University's Teaching Development Centre does offer written publications on aspects of CL and assessment of cooperative activities. Further information on programmes offered at a number of New Zealand tertiary institutes is available in Appendix A.

## **Development of the programme**

The training programme was developed over three phases.

### **Phase one: Initial trials**

Phase one involved trialing potential elements of the proposed training programme with tertiary lecturers in a number of different settings. These included workshops held at Whitireia New Zealand, Wellington Institute of Technology and a workshop presentation at the International Association for the Study of Cooperative Education

(IASCE) conference in Nagoya, Japan. These workshops identified a major training gap for tertiary lecturers in CL and group work for assessment. The elements used in the workshops were modified to reflect feedback from the workshop participants and were included in the initial training sessions for the first pilot programme.

## Phase two: Pilot one

The first pilot programme was delivered at the Wellington Institute of Technology in August-October, 2009. The pilot was offered as part of a week-long Professional Development programme and all WelTec staff were invited to attend. Twelve participants, including 11 tertiary lecturers from a broad range of disciplines and the Academic Manager from the Faculty of Trades and Technology, took part in a workshop consisting of one full day and two half day sessions. The lecturers' disciplines included automotive, hospitality, business and Information Technology. It was originally intended to offer the training to teaching teams rather than individuals, as suggested by the literature, but this was not practicable. As it turned out, participants on the pilot programmes commented favourably on the value of working with lecturers from different disciplines.

All the participants used group work in their classes but most had had little or no formal training in CL techniques. Most had experienced difficulties in implementing effective group work in their teaching programmes. It was decided that the programme would include theoretical as well as practical content as much of the literature supports the value of conceptual input. The designers of this course ensured that the theory was well integrated into the practical activities.

It was decided to trial a modular approach to training staff in CL techniques and issues. The pilot programme was designed as a whole day introduction to CL, followed by optional "stand alone" modules focusing on assessment of cooperative groups and management of diverse groups, to allow for flexibility for both participants and trainers. This would also allow participants to experiment with the techniques taught in each module and to discuss problems and successes with the group in subsequent modules. The proposed structure would also have the potential to be adapted and developed to meet the needs of particular institutions or disciplines.

### **Day One (17 August 2009) Introduction to Cooperative Learning (Full day)**

Participants were supplied with the following pre-reading for the first session:

- Johnson D. W., & Johnson, R. T.(n.d.). *Cooperative learning*. This seminal document on CL gives participants a broad overview of CL principles.
- Oakely, B., Felder, R., Brent, R., & Elhaj, E. (2004). *Turning student groups into effective teams*. This article gives practical advice on CL and examples of documentation for use with student groups. It is particularly useful for tertiary lecturers with larger classes and content intensive prescriptions. Oakley, Felder, Brent and Elhaj are involved with engineering degree courses in the United States so have particular credibility

with technical institute trades and with engineering lecturers who are now being encouraged to diversify their teaching methods.

- Baker, T., & Clark, J (2008). *Cooperative learning: A double edged sword*.

This article, written by the authors of this report, arises from a five year study of CL in New Zealand and addresses specific issues in the New Zealand tertiary education environment. It concludes with a CL model for use with diverse student groups.

Permission to use these articles and other material used in the training programme was requested and obtained from the original authors. The authors of this project concluded that material in the CL field is freely shared among researchers and practitioners and that other New Zealand CL trainers would probably have no difficulty in obtaining permission to use the material.

The pre-reading material was intended to provide background knowledge which could be built on during training. Although all participants were encouraged to read the articles not all did so. Those who did complete it expressed the view, in their evaluation feedback on the session, that it was beneficial to them. A participant commented: "It was good to have an overview of the topic prior to the first class and it gave rise to questions to ask. It also gave more depth without using valuable class time."

The first session was designed to give participants an understanding of the principles of CL and to give them experience of learning cooperatively. Participants took part in CL activities in groups, reflected on the purpose of each activity, and discussed how they could use each technique in their own teaching. (Refer to Appendix B for more details).

### **Day Two (21 August 2009) Assessment (Half day)**

The second session was designed to give participants an understanding of the principles of assessment of projects involving CL.

Participants were supplied with the following pre-reading for the second day:

Race, P. (2001). *Assessment: A Briefing on Self, Peer and Group Assessment, LTSN Generic Centre Assessment Series Number 9*. This article was intended to encourage participants to reflect on their knowledge of assessment and to introduce them to various methods of assessing group work.

On day two participants analysed five case studies of CL tasks and discussed the characteristics of effective cooperative tasks for a range of academic levels. This was followed by a discussion on assessment principles and processes; participants were then asked to design a task and assessment programme for a given learning outcome involving CL.

As most of the participants experienced difficulty in mastering the concepts and completing the tasks this section of the programme was extensively modified for the next pilot programme. Most participants lacked a basic knowledge of the general principles of assessment and were therefore unable to apply these principles to CL. It was clear to the trainers that any subsequent course needed to introduce participants to methods of thinking about assessment in a systematic way before specific CL assessment issues could be discussed. Details of the tasks, therefore, have not been included in this report.

### **Day Three (5 October 2009) Putting it all together (Half day)**

The third session was designed to introduce the authors' CL model for use with diverse groups and to give participants practice in applying the concepts outlined in the model to a case study. This proved to be an effective way to reinforce effective methods of setting up and managing groups.

The final session of the programme was held some weeks after the second session to give participants time to experiment with CL techniques and time was allocated for participants to share their experiences in implementing CL in their teaching. Unfortunately the time delay and the Friday afternoon time slot meant, in practice, that the momentum was lost and a number of the participants did not attend the final session. As a result few experiences of the use of CL techniques were shared during the time slot allocated but on reflection it was realized that these conversations had regularly taken place in the previous sessions. The disappointing attendance for the final session, however, highlighted the importance of timing in running a professional development programme.

As this session was modified for the final programme details are not included in this report.

### **Feedback for pilot one**

For Evaluation form refer to Appendix H.

Evaluations for this pilot course were very positive. Participants felt the scope and depth of information presented were appropriate, the structure of the course was clear and helpful, the content was practical and the delivery was effective, as illustrated by the following comments:

1. "The presenters were excellent. I found them to be very well prepared with an obvious passionate depth of knowledge about the subject. There was also a very clear structure to the course content and handouts."
2. "The course delivery was excellent. I liked the way the trainers seamlessly took over from one another to deliver the different sections."
3. "Allowed us to bring in things that we were already doing as part of the discussions – gave us the opportunity to have our peers critique what we are doing."
4. "Helpful for both higher-level understanding as well as suggesting some things that can be immediately taken back to the classroom."

5. "I have already benefitted from the course. I have now twice applied the jigsaw exercise method and was absolutely astounded at how well the students worked together."
6. "I appreciated the chance to read some original sources of rationale for why and how this approach to learning and teaching is relevant."

Enthusiasm for the first session was greater than for the subsequent sessions, with some participants expressing difficulties in mastering the material on assessment. It was clear that some participants did not have the basic understanding of assessment principles that the trainers had expected and they had consequently found the assessment activities difficult and confusing.

As a result of the feedback it was decided to make no changes to session one of the programme but to revise the exercises on assessment. The timing of the course was also revised as some participants had difficulty in attending all three sessions. It was decided to create standalone modules for the second pilot.

### Phase three: Pilot two

The second pilot programme was delivered at the Wellington institute of Technology on 1 February and 5 February 2010 as part of Weltec's 'Professional Development training month'. The 16 participants, again tertiary lecturers from a broad range of disciplines, two learning support tutors and the Academic Manager from the Faculty of Health, Business and Service Industries, took part in two full day workshops. It was decided to hold two sessions rather than three with each session being a standalone module. Participants had the option of attending one or both of these sessions.

The lecturers' disciplines included trades, business, veterinary nursing, foundation studies and technical drawing . All the participants used group work in their classes but, as in the first pilot, most had had little or no formal training in CL techniques and most had experienced difficulties in implementing effective group work in their teaching programmes.

It was decided to continue with the modular approach to training staff in CL techniques and issues as this had been successful in the first pilot. Participants had commented on the value of experimenting with CL techniques and having the opportunity to discuss problems and successes with the group and the trainers in subsequent modules.

#### **Module One (1 February 2010) Introduction to Cooperative Learning (Full day)**

No changes were made to this session as both trainers and participants had considered it a success in the first pilot. In this pilot it was equally successful and equally well received.

#### **Module Two (5 February 2009) Assessing Cooperative Learning and Diversity in Groups (Full day)**

Participants were supplied with the following pre-reading:

Race, P. (2001). *Assessment: A Briefing on Self, Peer and Group Assessment, LTSN Generic Centre Assessment Series Number 9*. This article was intended to encourage participants to reflect on their knowledge of assessment and to introduce them to various methods of assessing group work.

Johnson, D.W., & Johnson R.T. (1989). *Cooperative learning, values, and culturally plural classrooms*. This article was used to reinforce ideas from Day One of the programme and to introduce concepts of diversity in groups.

Major changes were made for this session to address the issues raised in the feedback, both written and verbal, from the participants in the first pilot programme. It was no longer assumed by the trainers that participants had prior knowledge of the theory of assessment so the exercises on the assessment of CL were, therefore, pitched at a more basic level. The jigsaw technique was introduced to provide essential information on assessment to participants to allow them to participate in the modified activities more easily. This proved to be a successful method of covering a complex and demanding topic.

As this was a standalone session the sharing of cooperative experiences, as scheduled in pilot one, was not appropriate. Instead, the second half of the session focused on diversity in groups. A group exercise on status in groups was carried out, followed by a discussion on what lecturers can do to modify the status effect. The next group exercise was designed to use the participants own knowledge of the pedagogical and cultural backgrounds of New Zealand European, Maori, Pacific Island, Chinese and Indian students but it became apparent that participants had minimal knowledge of these areas and needed more guidance from the trainers, or from supplied material, than had been anticipated. This session was therefore modified for the “Working with Diverse Groups” module in the final programme when participants would be supplied with relevant pre-reading and course documentation.

### **Feedback for pilot two**

Feedback from this pilot was consistently positive. Participants appreciated the interactive nature of the first session and the fact that they took away practical strategies that they could use immediately. Feedback for the second session was also positive indicating that the modifications to the programme had been successful. Several participants suggested that the assessment section be made a compulsory part of staff training.

The following comments represent typical participant responses:

I liked “The interactive nature of the delivery and the way we all worked together.”

“A refresher course with clear examples of real classroom experiences.”

“I loved the examples of doing cooperative exercises with the group especially the jigsaw one.”

“I did love the constructive controversy.”

“Course delivery was very clear and instructions were precise. Having two different tutors is helpful as each tutor has a different approach.”

“Inspiration for more lively communicative classes.”

“A good introduction to cooperative learning. I appreciated the way the course was run as group learning so that the different techniques were experienced.”

“I would have liked a little time on trying to modify some class work so that it became suitable for group work.”

## Final programme

The final programme was developed from the two pilot programmes and is a series of three standalone modules (one full day, two half day) which may be incorporated into one training programme or delivered separately.

**Module One: Introduction to Cooperative Learning** This full day module is unchanged from the pilot programmes as it has been consistently successful. It is an introduction to CL principles and techniques and consists of the following pre-reading and activities:

### Pre-reading:

Johnson, D.W., & Johnson R.T. (n.d.). *Cooperative learning*. Retrieved February 23, 2010, from <http://www.cooperation.org/pages/cl.html>

Oakley, B., Felder, R. M., Brent, R., & Elhajj, I. (2004). Turning student groups into effective teams. *Journal of Student Centred Learning* 2 (1), 9-34.

Baker, T., & Clark, J (2008). Cooperative learning: a double edged sword: A cooperative learning model for use with diverse student groups. In *Proceedings of the International IAIE/IASCE Conference [CD ROM]: 19 – 22 January 2008, University of Torino, Italy*. Italy: Conference Organising Committee for the International IAIE/IASCE Conference.

### Activities:

#### 1. Think/pair/square (What's in a name?)

- **Think:** Participants think individually about their name, its meaning, why they were given it, and how they feel about it
- **Pair:** In pairs each participant relates the story behind their name to their partner



- **Share:** Each pair joins with another pair. Each participant introduces their partner to the group and relates something interesting about their partner's name

A whole group discussion after the exercise highlights the importance of:

- ensuring that everyone has individual knowledge they can share to complete the exercise (Interdependence; individual accountability, confidence building)
- face-to-face interaction
- allowing students time to think about the issue and discuss it in a small group before moving to a larger group (confidence building)

## 2. Zoom activity: a team building activity

Details of this activity can be found at:

*Zoom and Re-zoom.* (2009). Retrieved February 21, 2010, from <http://wilderdom.com/games/descriptions/Zoom.html>

This exercise is designed to demonstrate the importance of:

- ensuring that everyone has individual knowledge they can share to complete the exercise. (Interdependence; individual accountability)
- group discussion and face-to-face interaction rather than the simple pooling of information
- communication skills, particularly effective speaking and listening
- team building to foster constructive participation

## 3. Three part interview (Kagan)

- Each participant reads the handout on Beliefs about Teaching (Appendix B) and decides where their beliefs fit on the continuum
- Participants line up on a split value line depending on whether their beliefs fit more into the transmission, transaction or transformation area
- Pairs with different beliefs discuss the following questions:
  - What is important to you as a lecturer?
  - What are your beliefs about teaching?
  - What is your teaching style?

- How do you see your role in a cooperative classroom?
- What is your classroom management style?
- How are we similar; how are we different?

A whole group discussion about teaching beliefs completes the exercise.

This exercise is intended to focus participants' minds on their personal beliefs about teaching and to give them the confidence to include CL in their teaching no matter where their beliefs are on the continuum.

#### **4. Jigsaw activity (Aronson): Principles of cooperative learning**

- Participants work in groups to read and discuss a short article on a specific aspect of CL. Each group has a different reading from the list below:
  - Johnson and Johnson's five principles (What Makes Cooperative Groups Work?)
  - Types of CL groups
  - Oakley's Coping with Couch Potatoes and Hitchhikers
  - Group processing

Each group reads and discusses their given material and all group members note the main points. The aim is for each group member to become an 'expert' on their topic and to be able to clearly explain the information to another group of participants.

Participants are then regrouped so that each member of the new group is an 'expert' on a different reading. Each member in turn presents the main points of their reading to the new group for discussion.

Each group then uses their combined information to answer the question: "What are the principles of successful cooperative learning?" and reports back to the whole group.

- A whole group discussion after the exercise highlights:
  - The effectiveness of the jigsaw technique in presenting large amounts of information in an interesting and interactive way
  - The effectiveness of the jigsaw technique in engaging students in understanding complex material
  - The power of peer teaching

- The potential for using the jigsaw technique in content heavy courses

## **5. Constructive controversy (Johnson & Johnson)**

- Participants work in groups of four to debate the issue “Ethnically diverse groups: promise or problem?”
- Two members of each group are assigned the ‘pro’ position. The other two members are assigned the ‘con’ position. Using pre-reading materials, additional material provided by the trainers and their own ideas and experiences they prepare to present their assigned position to the other pair.
- One pair presents their assigned position on the controversy to the other pair. While they present the other pair remains silent, listens and takes notes. They may ask questions for clarification only.
- The other pair presents their assigned position on the controversy.
- The pairs debate the issue keeping to their assigned positions.
- The pairs change their assigned positions, take what they consider to be the best arguments of the other pair, and add their own ideas. Following the same format as before the pairs present their new positions and debate the issues.
- The group as a whole tries to reach a consensus on the issue and prepares a statement to present to the whole group.
- The whole group comes back together and the statements are presented and discussed.

Workshop participants were quick to point out the advantages of this technique over a traditional debate in that the participants must consider and argue both sides of an issue before reaching a consensus. Owing to the time constraints of this workshop, participants were given material to discuss but in a classroom situation students could be asked to research the material themselves.

## **6. Ranking**

Participants are provided with a list of practical guidelines for using CL with multi cultural classes and are asked to select what they consider to be the three most important points. They then compare their ranking with that of their neighbour before joining a whole group discussion on the use of CL with multi cultural classes. Further suggestions of guidelines from the whole group are encouraged.

## 7. Review

- Participants work in groups of four to list and describe the CL techniques they experienced in this workshop
- Participants discuss ways they could adapt these techniques in their own teaching environment
- The whole group reviews the techniques

## 8. Minute paper

Participants are given a small sheet of paper and are asked to record the following:

- What was the most important thing you learnt at this session?
- What questions do you still have about cooperative learning?

This gives the trainers an indication of topics that may need to be included or may need more time when the module is offered again.

**Module Two: Assessment of CL** This half day module was delivered successfully in the second pilot programme and introduces participants to the principles of assessing CL. (For details refer to Appendix D)

The module consists of the following pre-reading and activities:

### Pre-reading:

Race, P. (2001). *Assessment: A Briefing on Self, Peer and Group Assessment*, LTSN Generic Centre Assessment Series Number 9. York: LTSN Generic Centre

### Activities:

#### 1. Group activity: the ultimate team member

The participants work in groups to draw a picture of the ultimate team member, combining all the best traits of an effective group member in one imaginary person. Each group presents their ultimate team member to the class and explains why they chose his/her attributes.

## **2. The process of assessment**

A whole group discussion introduces the process of assessment and the characteristics of cooperative tasks for assessment.

## **3. Jigsaw activity (Aronson): Group assessment principles**

Participants work in groups to read and discuss a short article on one of the three basic principles of assessment. Each group has a different reading from the list below:

- a. Assessment practices and processes must be transparent and fair
- b. Assessments must be reliable
- c. Assessments must be valid

Each group reads and discusses their given principle. The aim is for each group member to become an 'expert' on their topic and to be able to clearly explain the information to another group of participants. The group discusses the principle and tries to come to a consensus about the issues in applying the principle to group work.

Participants are then regrouped so that each member of the new group is an 'expert' on a different principle. Each member in turn explains their principle to the new group and reports on their first group's conclusions about the issues.

## **4. Group assessment methods (Think/share)**

Participants read through the table of different assessment methods for group work and highlight the method/ methods that appeal to them and would be appropriate for courses that they teach. They reflect on any adaptations that they might want to make in implementing the methods.

Participants discuss their thoughts on the assessment methods with their group, concentrating particularly on how to overcome any disadvantages of methods that appeal to them.

## **5. Group assessment task**

Participants work in groups to decide how to assess and document a cooperative task. They are given the option of working from their own prescriptions or from a supplied learning outcome.

**Module Three: Working with diverse groups** This half day module is an expanded version of the material used in the second pilot and focuses on the setting up and management of diverse groups. For details refer to Appendix F.

**Pre-reading:**

Clark, J., & Baker, T., & Li, M. (2007). Student success: Bridging the gap for Chinese students in collaborative learning. In *Proceedings of the 87th ISANA International Education Conference, 27 – 30 November 2007*, Adelaide, Australia.

Ministry of Education. (2008). *Designing for diversity*. Retrieved February 28, 2010, from <http://akoaooteaoroa.ac.nz/community/recommended-resources-ako-aoteaoroa/resources/books/designing-diversity>

Baker, T., & Clark, J. (2010). The educational and cultural background of Indian international students. Unpublished manuscript.

**Activities:**

1. **Group activity: Barnga**

Participants play a simple card game in small groups. Each group believes they are playing by the same rules but there are slight variations in the rules for each group. Conflicts begin to occur as participants are asked to move from group to group. This simulates real cross-cultural encounters, where people initially believe they share the same understanding of the basic rules. In discovering that the rules are different, players undergo a mini culture shock similar to actual experience when entering a different culture. They then must struggle to understand and reconcile these differences to play the game effectively in their "cross-cultural" groups. Difficulties are magnified by the fact that players may not speak to each other but can communicate only through gestures or pictures. Participants are not forewarned that each is playing by different rules; in struggling to understand why other players don't seem to be playing correctly, they gain insight into the dynamics of cross-cultural encounters. (McGregor, 2008).

Participants reflect on their experience and recognize that:

- Different cultures perceive things differently, and/or play by different rules
- Students must understand and reconcile these differences if they want to function effectively in a cross-cultural group

- A set of written rules that is understood and followed makes it easier for a group to function effectively

## **2. Hofstede's dimensions**

Participants are given a summary of Hofstede's cultural differences in teaching and learning to read individually.

Participants discuss in their groups:

- Where their own culture and the different cultural groups they teach fit into Hofstede's dimensions
- The implications of the four dimensions for multicultural group work
- What they could do to help multicultural groups develop a group culture to override individual cultures and expectations

Groups report back to the class.

## **3. Diversity in Groups**

A whole group discussion is held on the ways that educational background, cultural attitudes and perceptions, and expectations may affect students' performance in diverse groups. The following ethnic groups are discussed:

- New Zealand European
- Maori
- Pacific Island
- Chinese
- Indian

## **4. Who has to go?**

Groups are given information about the members of a diverse group and are asked to reach a consensus about one member to be removed from the group. This activity highlights issues of status hierarchies and stereotyping in groups.

## **5. A cooperative learning model for use with diverse student groups**

The authors' model is explained and discussed. The steps required to prepare diverse student teams before group work begins are outlined and the importance of a written group contract is emphasised.

## **6. Putting it all together: Group activity**

Groups read a short scenario about setting up and managing groups in a diverse classroom and prepare responses to the following questions:

- How would they prepare their groups for the group assignment?
- What is the lecturer's role once the groups have begun the group task?
- What plans would they put in place to ensure issues of status and diversity do not cause conflict in the groups?

## **Learning and teaching Implications from this training programme**

There is an obvious need for training in this area in New Zealand tertiary institutions and this training programme is intended to fill this gap.

### **Immediate benefits to programme participants**

The outcomes from this project will provide a basis for the development of tertiary lecturer training in CL in New Zealand. Participants in the pilots completed a feedback survey immediately after the programme. Several reported that they had immediately used the techniques to enhance their teaching. All participants were positive about the immediate value of the course as evidenced by the following comments:

"Lots of valuable information that I will use again."

"I always appreciate being able to take away practical tools."

I enjoyed this workshop and will be sure to utilize the strategies and activities shown."

"I am still reflecting on the various components yet I have made a start discussing a number of aspects with my fellow tutors."

"More tutors should attend this course."



"I was a little dubious about spending two whole days on this course but thoroughly enjoyed all (or most) of it and I think I will find it invaluable for my teaching this year."

"I did not realize how important preparation and monitoring of groups was for the process to be successful."

"Inspiration for more lively communicative classes."

"Thanks for making this training available. It would be nice if more people could take advantage of this sort of training."

"I have already benefitted from the course. I have now twice applied the jigsaw exercise method and was absolutely astounded at how well the students worked together."

"Took so much away from yesterday- already using think /pair /square group exercise with the funeral directors today!"

#### **Follow-up survey 2010**

Six months after the second pilot programme participants from both pilots were invited to comment on how useful the course had proved to be in practice and to suggest any modifications to the course. Fifteen participants responded; all were very positive about the value of the course and all had incorporated aspects of CL into their teaching programmes or professional development programmes. Four respondents suggested that the course become a compulsory part of professional development training in the institute. One lecturer who had had extensive experience of group work prior to attending the programme felt he also had gained the opportunity to reflect on his CL practice and make changes to the way he worked with groups.

Comments included:

"I went back to my notes quite a few times during the year to refresh my memory and to try out something else that we did in the workshop. I also use some of the exercises you used in my classes and have found them extremely effective."

"I use the team skill 'jigsaw' a lot in my courses. I found the course very informative especially because we actually did the different exercises to see how they actually worked."

"The content you covered on group work was excellent for me to use with my level 4 students. These students work together in a team situation to develop a conference plan. I enjoyed being able to put your suggestions in place particularly when deciding how to select teams and how to motivate those who weren't working as a team member."

“The programme I tutor on involves several team projects which require the students to work cooperatively together to meet required outcomes. I often refer to the ‘Hitchhikers and Couch potatoes handout and various other handouts and tools we were given.”

“As you know I have been running group based projects since 2002....the course confirmed expert support for many of the things I have been doing in terms of the way groups are formed and managed. It has also caused me to reflect on some things I could structure differently in terms of group formation and group operation – this will be incorporated into the upgrade of Applied Management that will happen over the summer as well as a new course I am developing which will take the Applied Management model into the space I have long thought it ought to be in.”

“Although I do not teach I found the workshop really helpful and a good reminder about the issues that can occur when students are involved in cooperative learning. I have recommended to many tutors that they should participate in the course especially for ideas for how assessment can take place for cooperative learning.”

“Great course, very informative, great cooperative learning strategies I have used in the classroom.”

A suggestion was made that a quick reference card of do’s and don’ts or a tool box of ideas for successful group collaboration would be useful. This will be incorporated into future programmes.

### **Long term implications**

Benefits for tertiary lecturers:

- Increased knowledge and understanding of the principles and practice of CL
- Confidence in using CL techniques
- Awareness of a wider range of teaching methods
- Experience in participating in CL activities which then is transferred to the classroom
- More effective documentation for group work
- Improved ability to prepare, monitor and manage groups
- Awareness of the usefulness of CL in content – heavy courses
- Improved ability to design and assess group tasks
- Increased knowledge of the pedagogical and cultural backgrounds of students

Benefits for students:

- More interactive classes
- More engagement with learning
- More engagement with other students
- Practical development of small group skills
- More positive experiences and outcomes from group work
- Opportunity to develop interpersonal and intercultural skills
- Fair, equitable assessment of group work
- Preparation for the workplace

## **Dissemination of the training programme**

### **Conferences:**

Aspects of the programme were presented at a workshop at the New Zealand Communication Conference (NZCA) in Dunedin in December 2009. Feedback from the participants was extremely positive.

The authors have been invited to present a workshop based on the programme at the International Association for the Study of Cooperative Education (IASCE) at the University of Queensland in Brisbane, Australia in November 2010.

A further workshop based on the programme will be presented at the NZCA conference in December 2011.

### **Ongoing dissemination:**

It is anticipated that the programme will be run on an on-going basis at Whitireia New Zealand and the Wellington Institute of Technology as part of these institutes' professional development programme and that an outline of the training programme will be available on the Ako Aoteroa website.

## **Conclusion**

This training programme was developed in response to the particular challenges that New Zealand tertiary educational institutions face in establishing CL with diverse groups of students. Its aim was to provide effective lecturer training to allow institutions to meet these challenges and make CL in diverse groups a rewarding experience for all students. Feedback from participants in both pilot programmes indicated that this aim was met.

Follow-up from the programme:

- An evaluation form was distributed to pilot participants mid 2010 to assess the long term benefits of the course
- Individual discipline groups have expressed interest in discipline specific follow-ups
- Lecturers have asked the trainers to speak to classes about the benefits of working in groups

- Individual lecturers who participated in the programme have asked for assistance in assessing cooperative groups
- A CL group may be established to offer ongoing informal support and encouragement to lecturers implementing CL techniques in their classrooms

The authors are appreciative of the financial support given by Ako Aotearoa and the Wellington Institute of Technology and would like to thank Ian Rowe for his personal support and encouragement.

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