

UNIVERSITY OF
NEWCASTLE UPON TYNE



Learning Together: Implementing Cooperative Learning in a Secondary School



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◆ PROJECT AIMS

This project aims to, firstly, investigate the impact of co-operative learning strategies to discover if they improve engagement and confidence among students and if they facilitate more interaction in lessons. Secondly, from a staff perspective, to investigate whether the model used to train the teachers involved was an effective one in terms of bringing about lasting changes in practice.

◆ RESEARCH FOCUS

How the adoption of Learning to Learn (L2L) approaches impacts on teacher motivation and capacity to manage change and whether learning to learn approaches support the development of confident and capable lifelong learners. In addition, how different learning environments impact on achievement with environment taken to mean the layout and groupings of the classroom.

◆ DIMENSIONS OF THIS CASE STUDY

A teacher from each Year 7 subject area was trained in co-operative learning approaches, based on the work of Dr Spencer Kagan. The broader context for Learning to Learn in the school was that all Year 7 students experience a Learning to Learn day off-timetable to help them discover their learning preference and the qualities of successful learners. To promote the transfer of skills, departments linked some of their subsequent work to the Learning to Learn day and parents were informed and involved through the tutor consultation process and through a handbook sent home to them.

Focus in the 5Rs for
Lifelong Learning:

Resilience



Remembering



Resourcefulness



Reflectiveness



Readiness



◆ SUMMARY OF FINDINGS

- Staff viewed the co-operative structures as practical and worthwhile, although there was an initial increase in workload while learning and planning to use the structures.
- Staff felt that individual accountability and co-operation among students had increased.
- Student feedback about the classroom groupings was positive, which commented on the peer learning opportunities and increased involvement. They wanted more lessons to be organised in this way.
- The model for delivering training was successful and maintained enjoyment and momentum.

CONTEXT

School

Fallibroome High School is a successful, oversubscribed, mixed comprehensive school situated in Macclesfield, Cheshire. It had 1467 students, including 260 in the sixth form, 3.7% Special Educational Needs (SEN), 2% Free School Meals and very few pupils with English as an Additional Language. Attainment on entry to the school was above average and this was maintained or improved, with very strong results at Key Stage 3, Key Stage 4 and Key Stage 5, which is reflected in sustained A or A* scores in the PANDA reports. The intake of the school reflects a wide socio-economic spectrum and most parents are pleased with the school because of its high expectations and high attainment.

Involvement in the Learning to Learn Phase 3 Evaluation grew initially from our participation in the Cheshire Inclusion Project, as part of which six teachers received ongoing training over a year on mind friendly strategies. Beyond that, however, the school has a very strong commitment to teaching for learning and the research undertaken for Year One of our project was closely linked to strands of our school improvement plan and our Networked Learning Community (NLC) project.

Our NLC is comprised of Fallibroome and four associated primaries. Teachers from each of the schools had been sent to the USA to attend the Learning Brain Expo® and bring back the latest ideas on teaching for learning and, as an extension of this, two primary colleagues received intensive training on the work of Dr. Spencer Kagan. They were leading the dissemination of the ideas of co-operative learning across the network and have acted as the main trainers for the secondary staff involved.

The Teachers

Thirteen members of staff from all the Key Stage 3 subjects participated in the project, ranging in experience from those in their second year of teaching to those with more than 25 years experience. Their roles within school also varied greatly: five are Heads of Department or have a paid responsibility in their department, three are Heads of Year or Assistants, two are Heads of House and two are closely involved in strands of our Performing Arts College plan.

The Children

All Year 7 students were taught by at least one of the participating teachers although some students had up to four teachers who were involved in the project. The co-operative structures were gradually introduced to all staff but those in the project worked at a more intense pace. Students in Year 7 tended to be taught in mixed ability form groups but setting took place in English and Mathematics.

As well as exposure to co-operative learning strategies, all Year 7 students participate in a L2L day off-timetable that gives them basic information about their own learning preference as well as guidance about the qualities of successful learners using the 5Rs framework as a model.

In the Ofsted Report of November 2002, students at Fallibroome were described as being keen to learn, considerate of others and able to form good relationships with their peers and their teachers.

Year 7 were described by their Head of Year as a truly comprehensive intake:

- 242 students, 117 boys and 125 girls from 19 primary schools;
- 100 achieved Level 5 in English at Key Stage 2;
- 102 achieved Level 5 in Mathematics at Key Stage 2;

- 153 achieved Level 5 in Science at Key Stage 2;
- six students are statemented.

He went on to describe the general ethos throughout the year as one of optimism with students who were motivated both academically and socially to get involved in all that the school had to offer, such as performing arts concerts, sport, music lessons etc. For example, in November 2003, 36 students took part in a Swimathon, raising over £500 for Children in Need and other charities. Attendance, punctuality and behaviour were all excellent and House Points and Good Conduct forms were given out regularly for positive contributions to lessons and school life in general.

PROJECT OBJECTIVES

Rationale

The school chose co-operative learning as the main focus for its Learning to Learn Phase 3 Evaluation project because it complemented and extended the school's existing model of teaching for learning.

Issues such as Multiple Intelligences and Visual, Auditory and Kinaesthetic (VAK) had previously been explored as had structuring lessons in such a way as to promote learning, including how to involve students more actively in the lesson. Work on emotional intelligence supplements the emphasis on teaching for learning, as does the Pacific Institute Investors in Excellence programme that staff are currently following, prior to the introduction of the accompanying 'Go For It' programme to the students in Key Stage 4 and Key Stage 5.

Co-operative learning strategies are a cross-phase focus for our Networked Learning Community and are being introduced into our partner primary

schools. The benefits of having a common approach in Key Stage 2 and Key Stage 3 are evident and so we chose to investigate how the strategies would work in the secondary context.

The teaching for learning agenda within our NLC is influenced by the work of Charles Desforges and his paper for the National College of School Leadership (NCSL), 'On Learning and Teaching'. In this paper Desforges identifies four 'major drivers of attainment':

- pupils' cognitive and metacognitive activity;
- the flow of challenging work;
- time on task;
- home support.

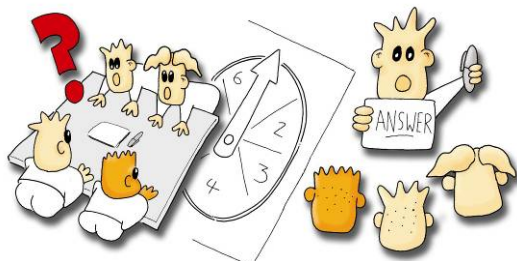
He goes on to highlight various 'lost learning opportunities', one of which occurs at transition points between Key Stages. Another is classroom work, which, he sustains, can often be occupying rather than challenging. The question he poses is whether the 'work' done in class keeps students busy rather than enhancing their learning.

Following research into co-operative learning, we felt that this approach could help us as we sought to enhance the major drivers of attainment in our lesson content and delivery and that it would go some way to addressing the lost learning opportunities described above.

Co-operative learning offers a way of delivering the content of the curriculum in a varied and interesting manner. It consists of a set of structures that can be adapted to any lesson which promote more engagement and interaction between students, thus moving away from the model of the teacher at the front controlling all aspects of the lesson. The structures are based on four key principles:

- Positive Interdependence – is a gain for one a gain for all?

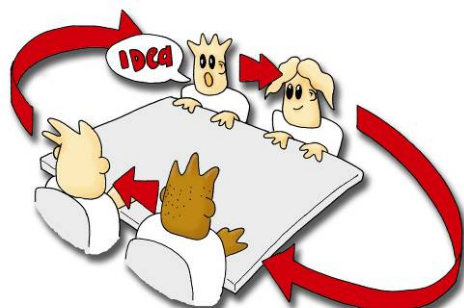
- Individual Accountability – is individual public performance required?
- Equal Participation – do all students participate equally?
- Simultaneous Interaction – what percentage are overtly active at once?



Numbered heads together

Example of poster designed to illustrate the different classroom strategies

The environment of the classroom is affected because students are seated in mixed ability teams of four. Group work therefore takes on a much greater importance, but established team roles and responsibilities and controlled allocation of 'time to tasks' mean that on-task behaviour from all students is maximised. The teacher needs to invest in team-building to create a spirit of positive interdependence amongst the students. In this way a productive climate for learning can be established. One of the lead learners prepared posters to illustrate the structures, which were then displayed in classrooms, and examples of these are used throughout the report.



Round Robin

Posters were displayed in the classrooms

A further factor in our interest in co-operative learning is that it offers a way to address spoon-feeding since it stresses individual accountability and equal participation and therefore reflects the school's vision of creating independent lifelong learners, able to cope with a rapidly changing future. It reflects the 5Rs of the Campaign for Learning because it prioritises the social skills of learners, developing the Rs of Resourcefulness and Resilience in particular, although addressing Readiness and Reflecting as well.

The research was structured to involve a lead learner from each department, receiving ongoing INSET through the year, because this model had proven successful in the Cheshire Inclusion Project and we felt that regular, incremental INSET was the best way to bring about sustained changes in practice. We recognise that progress towards change quickens or slows depending on a variety of factors, and therefore the longitudinal model of delivering the training was felt to be the one that would meet with most success.

Objectives

Our objectives were to help the students become more resourceful about their own learning and more ready to use their peers to help them rather than relying on the teacher. We wanted students to develop the capacity to cope with 'being stuck' and to develop the social skills involved in forming teams and working with others. Through improving levels of interaction in lessons we hoped to encourage students to become more engaged with their learning.

From an organisational perspective our objective was to create, by the end of the year, a lead practitioner in each department who would subsequently be able to coach and advise other colleagues, once the rest of the staff were trained more

fully in the use of co-operative strategies in subsequent years.

Hypothesis

Our hypothesis was that using co-operative learning techniques would improve engagement and confidence among the students about their ability to learn and make them more aware of the learning process itself. From a staff development perspective, our hypothesis was that the model of targeting training at lead learners over a year would lead to sustained and sustainable changes in practice.

RESEARCH PROCESS

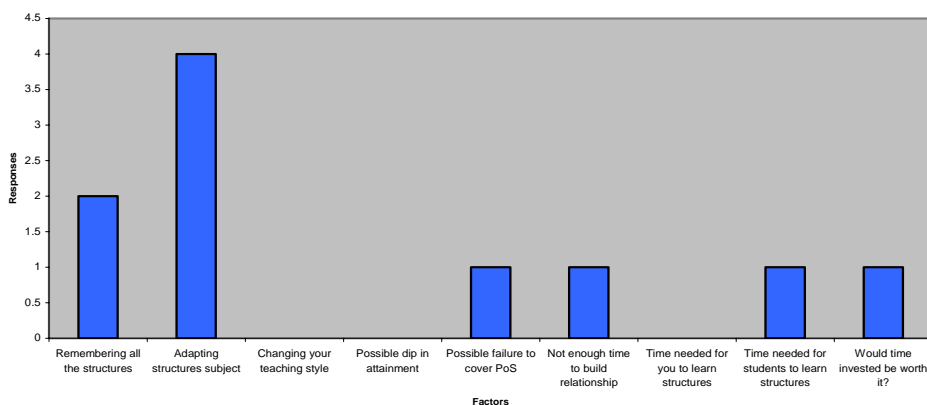
Teachers' Choices

Given that this action research project contributes to our wider teaching for learning agenda, including projects in our partner primary schools, we chose Year 7 as the focus cohort to maximise the potential cross-phase benefits. Moreover, we wanted the teachers involved to feel able to innovate and try out strategies and we felt that they might be more reluctant to do so with a group approaching external examinations. The model of a lead learner receiving intensive training over a year had previously proved successful and so we decided to adopt this format. The longer-term benefits would be that each department would then have an advocate for co-operative learning, who would be

able to give practical advice, tailored to the specific subject, once the project was extended to the whole school.

The Year One of the research ran between July 2003 and July 2004. It started with a whole day INSET session arranged for the participating teachers during which they were introduced to the philosophy and ideas behind co-operative learning. Subsequent training sessions took place after school between 4.00pm and 6.00pm once per half-term. The teachers involved were also provided with their own copy of Dr Kagan's book, *Co-operative Learning* to act as a reference guide. The training sessions were led by two colleagues from our partner primary schools, who had been more extensively trained in the techniques and who had been implementing them with their own classes.

All of the staff involved were committed to improving their practice and were interested in the project for many reasons. They recognised the potential of the co-operative learning structures as a way to build more productive relationships both with and between students. Similarly, the teachers perceived a benefit in seeking to raise levels of participation and engagement in lessons, as this was part of a more general whole-school move to try to create more learners who were more self-reliant and less dependent on spoon-feeding.



Graph of teachers' main worries before the start of the Phase 3 project

In terms of their own professional development the staff valued the fact that being part of a project team which was ongoing throughout the year meant that there was a sense of momentum to keep learning and moving forward, despite all the day to day distractions of a busy school. In addition they enjoyed the opportunity to liaise more closely with other colleagues and other departments.

Understandably the staff had some worries at the start of the project as well. These are summarised in the graph above and will be discussed further in the discussion section. Throughout the year it was stressed to the participating teachers that they should take the time to become familiar and confident with the co-operative learning techniques and that there was no expectation that they should become experts overnight. Moreover, problems were just as valid to the research as successes, since our aim was to arrive at a considered evaluation, based on evidence from practitioners in a variety of subject areas, which could then be presented to their peers. Ideas delivered in isolation during an INSET day can sometimes be dismissed as 'not practical with our students' or 'not relevant in our context' or can become lost once back to the hurly-burly of a typical school day. To counteract this, it was important to our research that it was undertaken by our teachers, for our teachers.

Evidence Collected

The research evidence included data from staff, students and lesson observations. The purpose of the evidence collection was twofold; firstly, to assess whether students in co-operative classes demonstrated higher levels of engagement and confidence (showing more Resourcefulness, Resilience and Readiness); and secondly, to assess staff attitudes to the co-operative structures and to the format of their training. By including evidence from staff, students and lesson

observations, some of which were conducted by an impartial outsider to the project, it was hoped to provide several sources of data. Correlations between the various sources would enhance the reliability and validity of our findings.

One of the initial hypotheses was to assess how the adoption of L2L approaches impacted on teacher motivation and capacity to manage change. Specifically, whether the longitudinal model adopted would prove effective in maintaining the momentum towards a sustainable change in practice, creating advocates for the strategies who would feel able to guide other staff. To provide evidence to assess this, the teachers involved were asked to complete a questionnaire and their feedback from each training session was also recorded.

Campaign for Learning Research Questionnaire

Section A

The first questions are about how you felt about the project.

1. What was your **main** motivation to take part in the project?
Please tick one

a. Interest in knowing what co-operative learning meant	
b. Potential to improve levels of interaction in your class	
c. Potential to improve standards of attainment	
d. Continuing professional development	
e. Opportunity to work collaboratively with other colleagues	

2. What was your **main** worry at the start?
Please tick one

a. Being able to remember all the structures	
b. Being able to adapt the structures to your subject	
c. Changing your teaching style	
d. Possible dip in standards of attainment	
e. Possible failure to cover content of Programme of Study	
f. Not seeing the group often enough to build up the relationship	
g. Not enough time for you to learn the structures	
h. Not enough time for the students to learn the structures	

3. Did you feel that you overcame this worry? Yes / No
Please give brief details below:

A questionnaire was used to gather information from teachers

There were four main areas in the questionnaire: the teachers' feelings about the project; their evaluation of the training they had received; their professional judgement about how they felt a co-operative class compared to a traditional one; and their reflections on the

practicalities of using the co-operative structures.

The hypothesis for the student-focused aspect of the research was whether L2L approaches support the development of confident and capable lifelong learners and, if so, how. It also sought to assess the nature and impact of different learning environments on achievement, with environment taken to mean the layout and groupings of the classroom. To gauge these factors students completed a project questionnaire which investigated their attitudes towards learning. Focus group interviews were also conducted with a sample of students to discover their reactions to co-operative learning lessons.

want students and staff to be enabled to become better learners, inspired to carry on learning in the future.

Over the past few years we have explored various strategies that help learning to become more efficient and effective. For example we have worked on structuring lessons more carefully and more explicitly, ensuring students are aware of their preferred learning style and multiple intelligence profile, and helping staff to learn how to cater for different styles in their lesson delivery.

Beyond this, though, we have focussed on creating a conducive climate for learning which encompasses an awareness of how the 5Rs, emotional intelligence and self esteem impact on learning. As a result of this wider vision, we have invested in the Pacific Institute's personal development programmes for staff and for students in Key Stage 4 and Key Stage 5. This wider understanding of what creates a successful learner and learning environment led us to want to investigate the potential benefits of the co-operative structures.

SYSTEMATIC OBSERVATION OF INDIVIDUAL PUPILS							
SCHOOL: CLASS: DATE: LESSON: TEACHER: SUBJECT: OBSERVER:		Tally Chart of Observed Behaviours for 5 focus pupils					
		Pupil 1	Pupil 2	Pupil 3	Pupil 4	Pupil 5	TOTAL
ON TASK	BEHAVIOURS						
	working						
	listening						
	at work						
OFF TASK	working						
	listening						
	at work						
	any other						
TOTAL							

Observation schedule used to compare co-operative learning lessons and in 'traditional lessons'

Evidence from lesson observations came from a student tracking exercise in which four students were observed in co-operative classes and also in traditional classes. In this exercise the observer recorded what each of the four students was doing at five-minute intervals during the lesson. To supplement this, an LEA adviser used her monitoring visit to observe four co-operative classes with a focus on the following:

- challenge;
- engagement and time on task;
- learner-centred activities;
- assessment for learning.

The Role of Learning to Learn

Fallibroome's approach to L2L covers a broad spectrum. To put it succinctly, we

Use of the structures allows teachers to address many of the multiple intelligences. Since they are often tightly time controlled they facilitate lesson organisation and pace. Many of them are ideal as starter or plenary activities, whilst, in the main part of the lesson, their use can offer opportunities to the students to make sense of new material and put it into action, thus breaking down teacher centred delivery into more manageable chunks. Furthermore their focus on team building and class building means that the skills of learning, for example: teamwork, asking questions, knowing what to do if stuck can be more easily and explicitly addressed.

We designed the project to run over a year to reflect our view that learning is not a straightforward linear process. The teachers involved would have peaks and

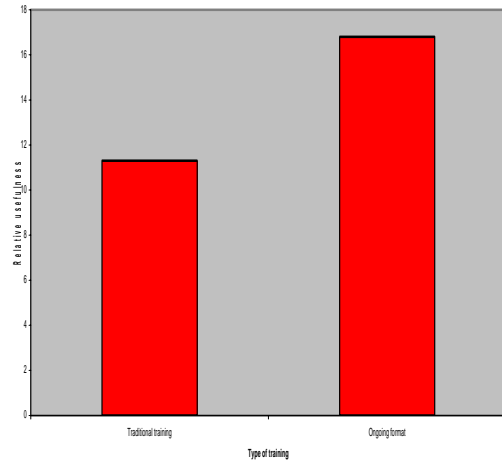
troughs in motivation and so regular injections of new ideas and consolidation of previous work could occur during the half-termly meetings. Similarly, the focus on just one class was designed to help the staff feel that the change process they were experiencing was manageable.

DISCUSSION OF RESULTS

Findings

The staff questionnaire revealed a positive response to the project and demonstrated the amount of time and care that the participating teachers had committed to the research. Their considered and reflective responses will be used to inform planning for the future dissemination of the ideas to the rest of the staff.

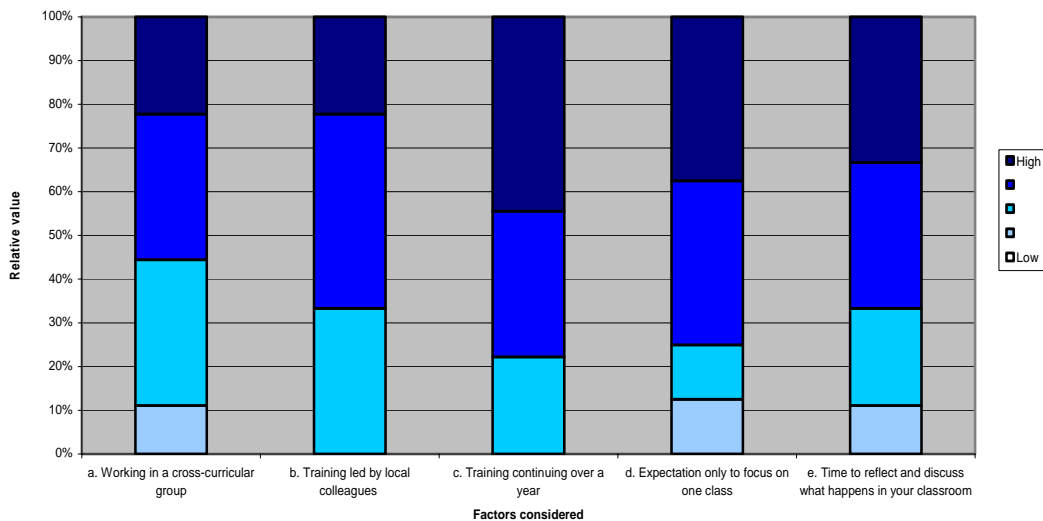
The participating teachers were asked to compare the ongoing model of training with the more traditional method of whole day INSET sessions or courses. Unanimously they felt that the ongoing format was of more benefit.



Graph comparing the different formats of training

When asked to explain why, they quoted reasons such as:

- revisiting the ideas;
- more involvement;
- practical ideas;
- the sessions were delivered using the structures so you could see how they would work;
- there was time for reflection;
- small, friendly group so more time to discuss and share;
- the momentum was maintained



Graph of teachers' attitudes to training and its usefulness

The graph above shows their aggregated rating of various aspects of the training in which it is instructive to note the preponderance of 'high' ratings.

Having been asked to identify their main worry at the start of the project, at the end of the year the teachers had the opportunity to explain if it had been overcome. Their responses showed recognition that bringing about long-term sustained change is not an easy task, but they did feel it was worth pursuing.

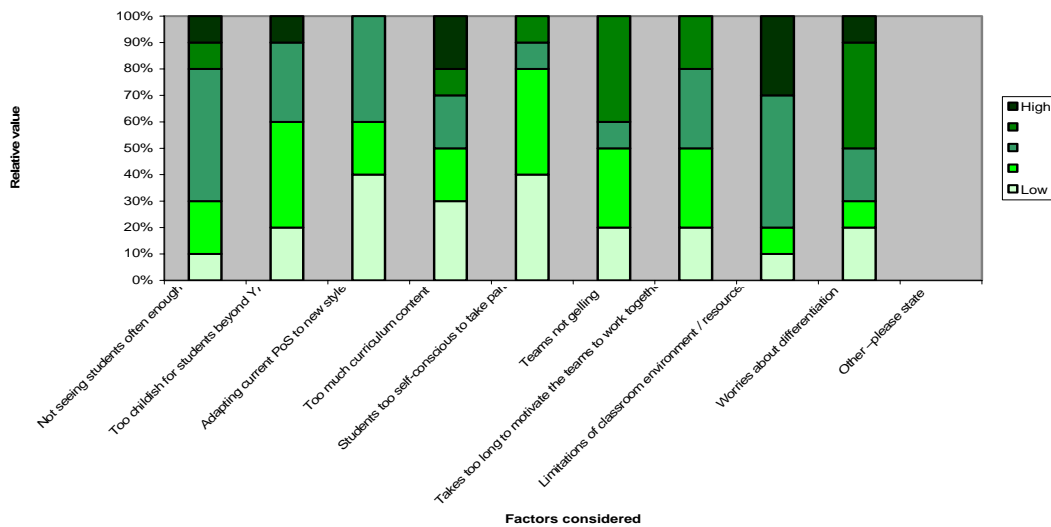
Many of the staff had initially felt overwhelmed about learning the co-operative structures and had experienced some apprehension about how they could be adapted to their subject. Most felt that they had proved that they could adapt them but that they needed more practice before they became second nature. Teachers in modern foreign languages and drama had some reservations, either because they already had existing techniques, which they preferred, or because the nature of their subject demanded a certain amount of teacher-centred delivery.

The teacher quoted below reflects the concern that some subjects already involve a lot of group work so the question was,

what else could co-operative learning structures bring?

Initially I felt that a lot of the structures were aimed towards improving enthusiasm for subjects that could potentially be quite non-physical/non-interactive. My subject has always been very active, team driven and easily enjoyable for pupils. I therefore felt that including structures for the sake of it would be unbeneficial for *my* subject. However, I have found that picking and choosing certain structures has enhanced areas of the curriculum and has made structures that we already had in place more effective and pupil driven.

When giving feedback on the obstacles they had encountered, the teachers were asked to rate factors that had been identified during the training sessions in term on a five point scale between low and high. Their responses are shown in the graph below.



Graph showing teachers' perceptions about 'obstacles' to the use of co-operative learning techniques

Co-operative learning techniques place great emphasis on team building and class-building. In the primary context this is much easier but presents a real challenge in the secondary context where teachers in some subject areas might only see their Year 7 class for two or three lessons in the two week timetable. One of the results of the research is that a debate is beginning about the compartmentalisation of the Year 7 curriculum and whether Year 7 students should have fewer teachers who would therefore see them more often and get to know them better. Another obstacle identified was that the emphasis on team building had taken up time, meaning that not all staff had managed to cover the whole Year 7 Programme of Study (PoS), as they would have done normally.

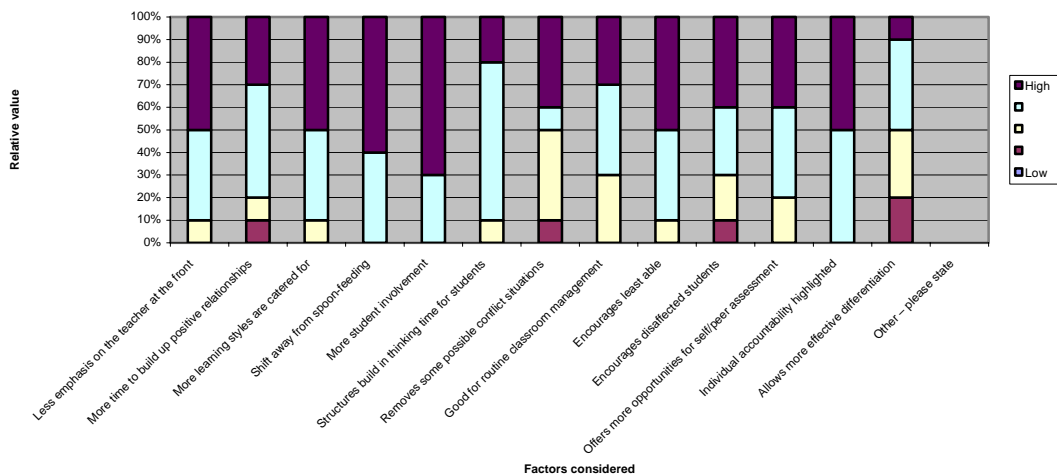
Many pupils were involved in feedback / scribing.
I was less concerned this time that everyone wrote down answers – the process is now seen as more important.
By going through the answers as a class, everyone could see how the mystery could be solved.

Clearly the issue of coverage and in-depth learning needs further investigation.

Regarding the coverage of the PoS the teacher who was most concerned about this nevertheless made the following points in a review of a lesson that had used a lot of co-operative learning techniques:

The concern about the classroom environment can largely be explained by the fact that many teaching rooms were shared, meaning that the teachers had to negotiate a preferred layout to the classroom between themselves. In some cases teachers not involved in the project preferred a horseshoe layout or rows rather than the tables of four which best suit co-operative strategies. Furthermore, rooms such as the ICT suite or laboratories present specific difficulties because of their fixed layout. Similarly, in drama or PE for example, the teacher has to give prior thought to how they can deliver lesson content through the medium of co-operative strategies.

This lesson worked better than in the past.
I had more time to go round the groups.
The co-operative element meant that more sensible / thoughtful answers resulted.



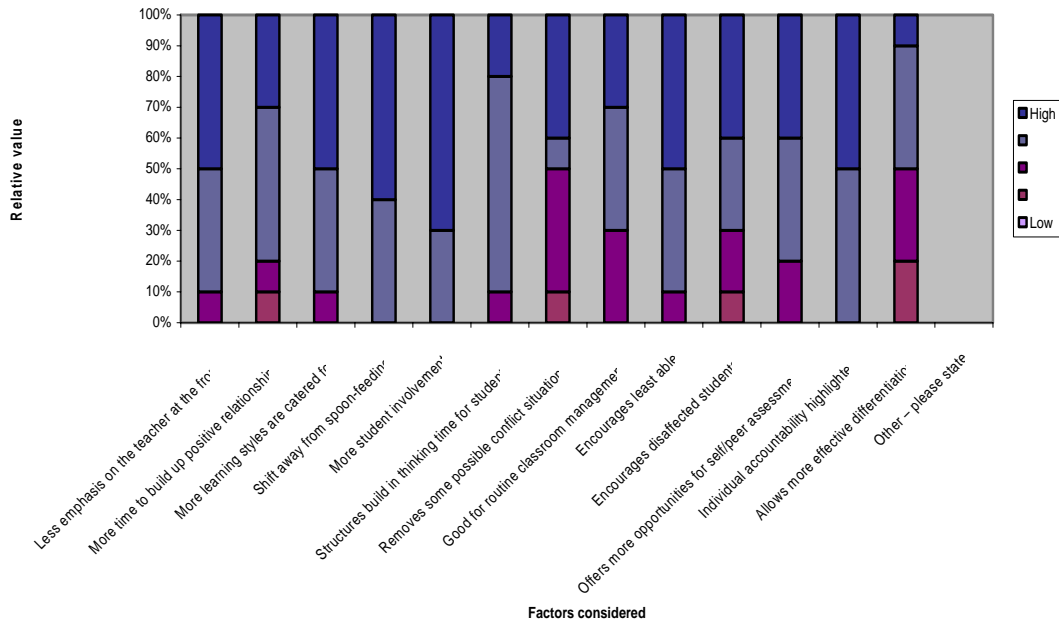
Graph of perceived benefits for teachers

Having considered the obstacles, we then needed to assess the benefits both to teachers and students. The participating teachers' views on these are summarised in the graphs. It is encouraging to see the preponderance of high or very high ratings and we feel that the highlighted benefits to both staff and students represent a vote of confidence from the teachers involved, despite their awareness of the obstacles that remain to be overcome as teachers enhance their expertise and confidence. This will be important when presenting the findings to the rest of the staff, because the fact that the techniques have been thoroughly trialled by teachers in our school, with our children, and found to be worth further development, provides momentum to our teaching and learning agenda.

To provide another source of evidence for the research, our LEA adviser conducted some general observations and reported back positively on what she had seen. Her bullet point findings about Learning and Teaching are given below:

Strengths

- Real 'buzz' observed in lessons with the majority of pupils engaged, on task and supporting each other's learning.
- Pupils spend time in lessons learning from each other and being involved in a variety of activity as independent learners, as appropriate.
- Pupils very aware of their individual learning styles which help them make effective contributions to the variety of roles possible in group activities.
- Strategic grouping of pupils in lessons offers challenge to the majority of pupils in the groups
- A real sense of enjoyment and fun alongside the learning and progress which was evident in the lessons observed.
- Positive interaction between pupils and between teachers and pupils.



Graph of perceived benefits for students

Areas for Development

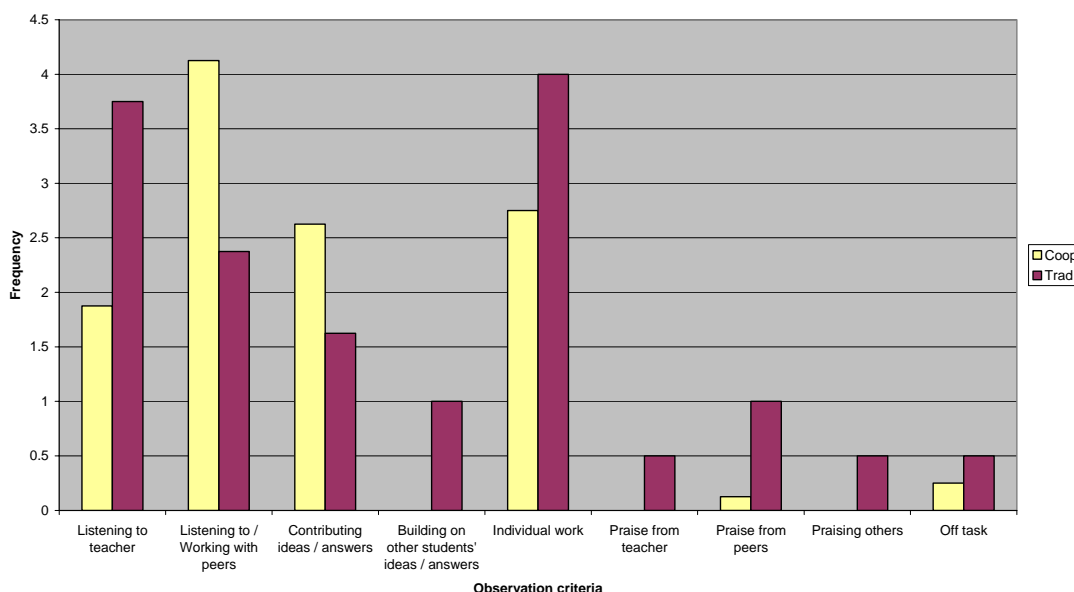
- Develop strategies to support those pupils for whom co-operative learning poses difficulties.
- Test out the challenge for the most able in groups.

(Quoted from SISE Visit, March 2004)

The areas for development refer to the groupings of students in teams. The guiding principle is that the teams should be heterogeneous, that is have a range of abilities, although not so great a range as to hold back the most able or intimidate the weakest. A lot of interaction takes place between 'face partners' and 'shoulder partners' and there are built in checks such as when teams have to agree on their team answer rather than just one individual's. As such, opportunities for self and peer assessment are created as well as opportunities for peer coaching. This should be beneficial as it is accepted that being able to explain a concept to someone else demonstrates thorough learning and understanding. Difficulties could arise if a student felt unable or unwilling to contribute to the team or if the students' behavioural problems meant that other students were reluctant to work with

him/her. None of the teachers involved in the project have reported such extreme cases but many of them say that, in retrospect, they should have invested more time in building a sense of team identity and explaining to students why they were being asked to work in this way.

The second area for development, concerning differentiation, echoes one of the obstacles identified by the participating teachers. Longer term monitoring needs to be continued to ensure that the needs of all students are being met. As the graphs above show, when asked to rate the benefits to students of using co-operative learning approaches, the teachers strongly highlighted that more help is available if the student is 'stuck'. In this initial phase of developing expertise with co-operative strategies our teachers seem more confident that they help the less able but do not yet feel that they are using them to their full potential to help the most able. Research shows that the co-operative strategies combine well with thinking skills approaches and so this will be an area to concentrate on in the future.



Graph of results from pupil tracking: comparing co-operative learning lessons with traditional lessons

Further evidence came from a student tracking exercise which recorded what students were doing at five-minute intervals in lessons using co-operative structures and 'traditional' lessons. The aggregated results of the tracking exercise are shown in the graph.

The school has done a lot of work on teaching and learning in recent years and so the focus for all staff is to make lessons active and engaging and, as such, all of the lessons observed were good lessons with students on task. Within this context though some interesting trends appeared which will be worth monitoring in the future. There seemed to be more opportunities in co-operative lessons for on-task group work during which a greater proportion of students had the opportunity to contribute.

The 'traditional' lessons were more teacher-centred and students spent more time listening to the teacher and so perhaps were less actively engaged. The scores for praise from the teacher and peers seem disappointingly low in both situations but can be explained to some extent by the format of the tracking exercise which recorded what students were doing at five minute intervals and these did not coincide with the praise used, although it was plentiful.

Nevertheless, we had anticipated more evidence of praise from peers in the co-operative classes because team celebration of shared successes is an important aspect of the philosophy behind co-operative learning. This aspect will therefore need further development, although the students questioned did identify peer praise as a characteristic of co-operative lessons.

To gain an insight into the student perspective, we selected a sample of five students from a class that had had four teachers using co-operative structures and they were asked to reflect on various

issues by completing thought bubbles on a proforma sheet. They were asked about how they felt in co-operative lessons; if they were different to other lessons and why they thought the teacher wanted them to work like this. In addition they were asked about what happened if they were stuck; about praise; on-task talk; thinking time; and if they felt self conscious in the team. Finally, would they recommend that other teachers adopt this approach?

All of the students were positive about co-operative lessons (we called them team lessons to clarify the terminology for the students) and perceived the value of working in teams. All of them highlighted the social benefits of making new friends and being able to work with different people to share ideas and they saw these as the main reasons why their teachers had chosen this approach. One of the students came close to identifying the concepts of resourcefulness and resilience:

The teachers put us in teams so we develop our talking skills with people. Also if we get stuck we don't have to keep bothering the teacher, we just ask our group members.

Concerning their feelings about working in teams, the following comments stand out:

Quite happy because we got to share ideas and build on the ideas we already had.

I felt more comfortable in the teams because we all contributed something to the team and didn't say anybody was wrong. I think that working in teams has made me contribute more in class as it was a

team answer. I prefer working in teams.

Responsible for the whole team. Teamwork can promote self esteem, but I find that in team lessons there is an atmosphere that can make thinking harder as it is generally more competitive.

The student who made the last comment clearly appreciates the value of teamwork but associates it with competition. Many of the structures are active and can seem like games, so, particularly when first learning them, their most obvious application seems to be as starters to make the beginning of the lesson fun and engaging. However, two of the lead learners subsequently went on a five day intensive course about co-operative learning at the end of the year and now feel that it is important to stress the balance between very active structures, 'calm-down' structures and more discussion based ones. This refining of our understanding of the potential of the structures will be ongoing throughout Year Two.

The student who made the middle comment above highlights the confidence building aspect of co-operative structures, namely that it was safe to answer because it was a team answer, but also the individual accountability that any member of the team might be called upon to answer.

Four of the five students mentioned peer support as a major advantage of teamwork:

It helps a lot as we can talk to each other and eventually get around the problem.

I didn't really feel self conscious but if someone did the teacher would encourage the rest of the team to make them feel better.

I might have felt a bit self-conscious at the beginning but as time went on we all became really friendly and supported each other.

One student didn't feel that teams were especially helpful when stuck. This may be because the student in question is very much an intrapersonal, quite self-contained learner. It is the same student who made the point about competition and makes it again when asked about feeling self conscious in the team:

I didn't feel self conscious, but I thought that some people did due to the more competitive atmosphere.

The same student also expressed the following view:

Sometimes when we are working in rows I feel as though I have more free rein over my work, as I don't have to include others' ideas into it.

A similar issue about lack of individuality arose from analysing the students' comments about praise. They associated the co-operative lessons with praise from peers and did not feel that this occurred in 'traditional' lessons:

In teams you normally get praise from your team mates and in rows you get praise from your teacher.

In team lessons the teachers encourage us to praise each other if we work well or get a correct answer. Whereas in non-team lessons we don't get as much praise.

Usually in team groups the whole class thinks of some praising words, then if someone does something well the rest of the team praise them with one of the words. So there's a lot more praise.

Working in teams we did have more praise and even in maths we thought of a team praise word and we used it all the time. Some teams even came up with a chant.

However, one student reported that:

In team lessons praise sometimes doesn't feel particularly rewarding, as it is extended towards the whole team rather than to the individual.

Co-operative structures have proven to be a very good way of raising confidence among some students but, as we develop our implementation, we will need to emphasise how important it is to maintain a balance between individual time and team time. It must be clear to the students that

while answers in class may be team answers, their own individual work is also valued and respected. It is always individual progress that is recorded and monitored by the teacher even if, when planning, drafting or practising in class, there has been team input.

A positive aspect to the students' comments was that they all agreed that there was more on-task talk in co-operative lessons and that more people had the opportunity to contribute to the lesson. Concerning thinking time, the students said they had more time in co-operative lessons and were also able to describe how it was structured:

In team lessons they use a timer and ask us how much time we think we will need.

In teams you get more time to think then talk about the answer with your face or shoulder partner and discuss as a team so you do get a lot of time to think.

We get 10 seconds to think on our own. Then we discuss it with a partner and then with the team. So we get quite a long time to think before sharing our answer to the class.

Finally they were asked if they would recommend that more teachers used the co-operative strategies. All of them responded that they would, as can be seen from the comments below. Even the intrapersonal learner agreed that, on balance, co-operative lessons contributed positively to learning:

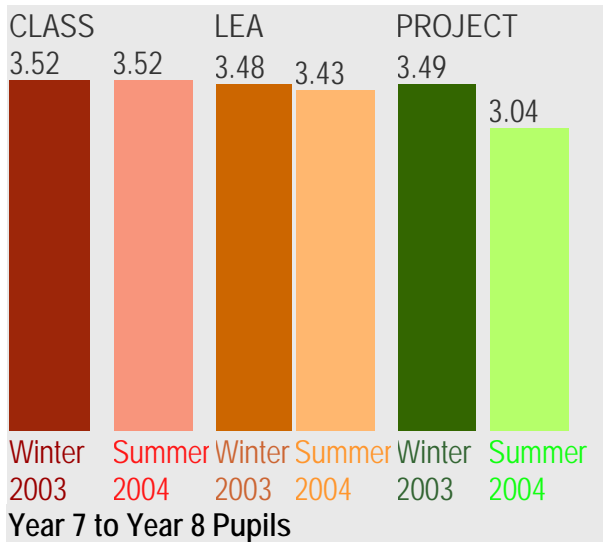
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I prefer teams and I would ~~recommend~~ hope that other teachers do it too

I think that being in a team is a really good idea. I contribute much more, I'm not self conscious and think other teachers should do it too.

I think that while I don't find that teams lessons benefit me, they do benefit others.

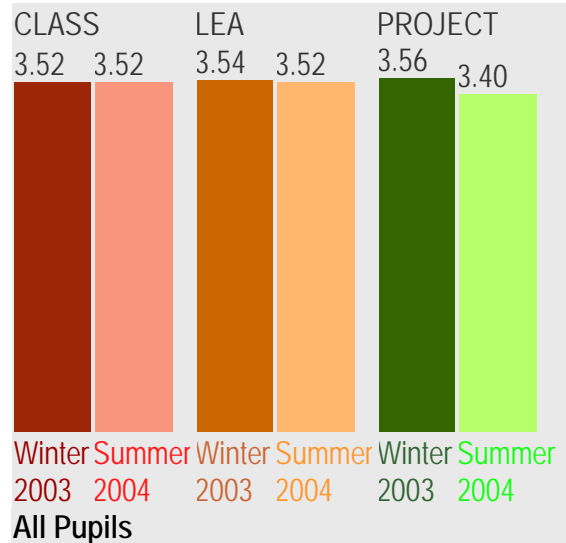
All of our Year 7 students completed the Project Questionnaire at the beginning of the year and again at the end. The questionnaire contains 40 questions: 32 universal questions for all pupils, and eight questions for older (Y5+) pupils.



Attitudinal data from Year 7 and 8

The questions are designed to give a snapshot of a particular pupil's perspective regarding their own learning and their learning environment and pupils respond by indicating which point on a five-point scale best represents their view. The charts show the comparative results between Winter 2003 and Summer 2004

from Fallibroome, from participating schools in our LEA, Cheshire, and from participating schools in the Campaign for Learning.



Attitudinal data from all pupils

The bar charts show how the Fallibroome mean score does not significantly change over the year. Male pupils' attitudes towards learning become marginally more positive and female pupils' attitudes marginally less so, but the variation is so slight it is hard to say that it is significant at this point.

These students will be tracked over a key stage and that should provide a more reliable picture.

We are pleased that students about to enter Year 8 remain as positive about learning as they were at the beginning of Year 7, since it is often felt that students arrive in Year 7 full of enthusiasm, keen and eager to settle in to their new school, but that this dissipates through the year, for a number of reasons, including the onset of adolescence.

Year 8 is often regarded as a 'dip' year but we are optimistic that our focus on teaching for learning is helping to address this issue in our school. It is difficult to use this questionnaire to give specific feedback about the co-operative classes since it is

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about students' attitude to learning in general rather than in one particular lesson, hence our decision to conduct the student-tracking exercise and the student interviews to provide data specifically about co-operative lessons.

Nevertheless, we do feel that we can draw positive feedback from it, in general terms, about our L2L pastoral programme and the efforts being made by all our staff, not just the lead learners, to make learning active and engaging.

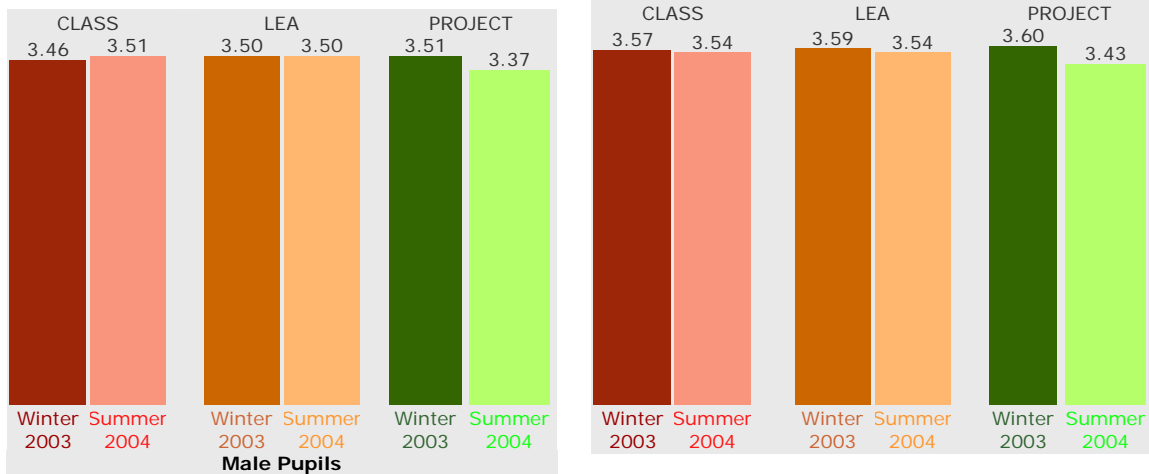
In addition to the bar chart representation of the data, the statistical breakdown of the range of response is also provided and this shows how the range of response from students at Fallibroome has narrowed over the year.

Students who were exceptionally positive about learning are now marginally less so, but students who were very negative about learning are now more positive. Again it

will be interesting to track this trend over the key stage.

Extensions and Changes to the Method

We did not change the parameters of the research project through the year as we felt that staff would need that time to experiment before feeling able to reflect in detail on what they had learned. As the lead learners became more confident with the co-operative structures they started to use them in other lessons, not just with Year 7. Their comments on this echo the findings of the main investigation: students enjoy the structures and work purposefully using them but it is essential to spend time class and team building, especially with older students who perhaps are more used to working in friendship groups or are less willing to cooperate with each other.



Graphs showing gender differences in attitudinal scores over the school year

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Survey A: Winter 2003 'Universal' Questions (Q1-Q32)				
5 Point Scale				
	Class	LEA	Project	
All	3.52 (1.78-4.75) n=192	3.54 (1.03-5.00) n=765	3.56 (1.00-5.00) n=2024	Mean (range) sample size
Male	3.46 (1.78-4.72) n=94	3.50 (1.03-5.00) n=389	3.51 (1.00-5.00) n=1041	Mean (range) sample size
Female	3.57 (2.00-4.75) n=98	3.59 (1.25-4.94) n=376	3.60 (1.13-4.97) n=983	Mean (range) sample size
Year7 to Year8 ONLY	3.52 (1.78-4.75) n=192	3.48 (1.25-4.75) n=502	3.49 (1.25-4.75) n=527	Mean (range) sample size
1=low, 3=mid, 5=high				

Survey B: Summer 2004 'Universal' Questions (Q1-Q32)				
5 Point Scale				
	Class	LEA	Project	
All	3.52 (2.31-4.41) n=173	3.52 (2.09-4.78) n=486	3.40 (1.13-5.00) n=1815	Mean (range) sample size
Male	3.51 (2.31-4.25) n=84	3.50 (2.09-4.59) n=247	3.37 (1.13-5.00) n=914	Mean (range) sample size
Female	3.54 (2.78-4.41) n=89	3.54 (2.09-4.78) n=239	3.43 (1.34-5.00) n=901	Mean (range) sample size
Year7 to Year8 ONLY	3.52 (2.31-4.41) n=173	3.43 (2.09-4.50) n=317	3.04 (1.34-4.50) n=656	Mean (range) sample size
1=low, 3=mid, 5=high				

Survey A: Winter 2003 'Year5+' Questions (Q1-Q40)				
5 Point Scale				
	Class	LEA	Project	
All	3.55 (1.90-4.75) n=187	3.50 (1.03-4.78) n=652	3.56 (1.00-4.90) n=1442	Mean (range) sample size
Male	3.50 (1.90-4.68) n=92	3.47 (1.03-4.78) n=326	3.53 (1.00-4.78) n=736	Mean (range) sample size
Female	3.61 (2.18-4.75) n=95	3.53 (1.20-4.78) n=326	3.60 (1.20-4.90) n=706	Mean (range) sample size
Year7 to Year8 ONLY	3.55 (1.90-4.75) n=187	3.52 (1.20-4.78) n=497	3.52 (1.20-4.78) n=522	Mean (range) sample size
1=low, 3=mid, 5=high				

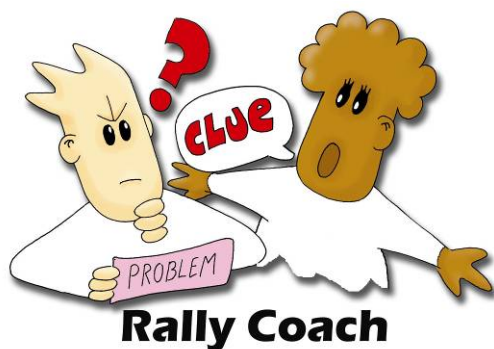
Survey B: Summer 2004 'Year5+' Questions (Q1-Q40)				
5 Point Scale				
	Class	LEA	Project	
All	3.54 (2.18-4.40) n=173	3.50 (2.13-4.75) n=451	3.23 (1.10-4.95) n=1374	Mean (range) sample size
Male	3.53 (2.18-4.23) n=84	3.48 (2.18-4.55) n=230	3.21 (1.10-4.95) n=688	Mean (range) sample size
Female	3.55 (2.80-4.40) n=89	3.52 (2.13-4.75) n=221	3.24 (1.35-4.75) n=686	Mean (range) sample size
Year7 to Year8 ONLY	3.54 (2.18-4.40) n=173	3.46 (2.13-4.55) n=317	3.05 (1.35-4.58) n=656	Mean (range) sample size
1=low, 3=mid, 5=high				

Tables showing the statistical breakdown of the attitudinal questionnaire results

CONCLUSION

Developing this Approach

We are very satisfied with the model of Lead Learners being given intensive training in, and opportunity to experiment with, new teaching and learning strategies over a year before reporting back to the rest of the staff. We feel that it gives teachers the chance to contribute actively to whole school policy.



Example of posters used to stimulate the students about activities relating to co-operative learning

The fact that our teachers have participated in the research lends credibility and validity to it in the eyes of the other staff and gives us an impetus for change as we train the rest of our colleagues. We were also pleased with the cross phase aspect to the project. Having primary colleagues lead the training has created a better understanding about the nature of the teacher's role in each context and has led to more cross phase links. Being asked to concentrate on just one class also kept the research more manageable for the teachers because any change in teaching style carries with it an extra workload until the changes have been assimilated.

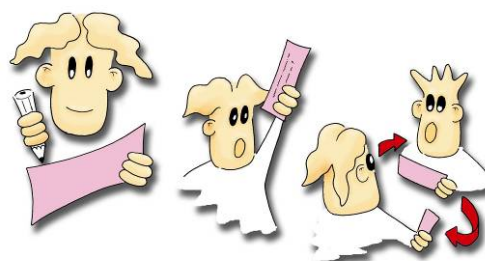
The changes we would make to the method involve putting in more support and more active demonstration of techniques for the participating teachers. When asked how the training could have been made more effective many of the staff suggested more opportunities for peer observation or team teaching. This had been envisaged

but a number of long term absences arose unexpectedly, putting pressure on teacher cover and precluding much of what had been planned.

In retrospect, we think we ought to have prioritised it more because one of the strengths of having the group of lead learners was that they started to bond together as a cross curricular team and, by not exploiting this opportunity fully, we feel we missed the chance to enhance the culture of sharing ideas across departments, which is something we want to encourage.

In addition, we think it would have been useful to provide some time for the lead learners to meet informally, grouped together by similarities in subject area. For example, drama and PE might have been able to share ideas about how to adapt the structures to their classroom environment.

Another suggestion was to have asked the primary colleagues leading the training to come and deliver a lesson in the secondary context. This was difficult, again for supply reasons, but will be possible next year because the two colleagues involved are now on secondment to share their expertise across the schools in our NLC. A further development that we hope to establish next year is to video some of the strategies in action so that colleagues can see an active demonstration.



Quiz, quiz, trade

Over the next year co-operative learning structures will be linked to thinking skills development

We asked the participating teachers what advice they would give to colleagues about to embark upon similar training and again we were pleased with the positive yet considered responses, such as:

Try not to be overwhelmed, take it in small doses and just go for it one bit at a time.

Stick with each new structure for a few weeks. Better to learn one thing than nothing at all.

Have an open mind. It's not a new way, just a change of focus.

Be prepared to experiment.

Don't be afraid to experiment.

Understand the philosophy behind it and use what is useful to you.

Many of these comments echo what a teacher might say to a student in their class and an interesting part of the research has been the opportunity it has created for

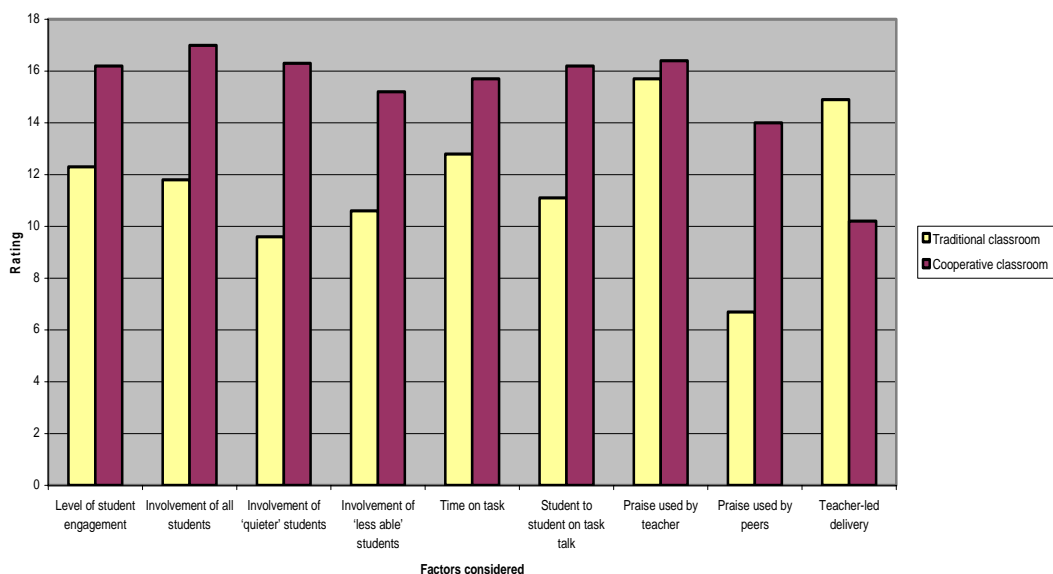
adults to reflect on their own learning and their own feelings about learning. The longitudinal model for the training was the ideal vehicle for teachers to experience what the 5Rs for learning mean for them, as well as giving them an insight into the students' perspective when faced with learning something new or different.

Both staff and students view the introduction of co-operative learning strategies favourably and we are now disseminating the training more widely. All staff attended INSET sessions in the summer term and a new lead learner project, building on the work done to date, is about to start. This time co-operative structures will be linked to thinking skills development.

Two of the lead learners from Year One have attended a five day intensive course and will play a greater role in supporting other staff as they develop their confidence and capabilities. There is a co-operative learning question and answer board in the staffroom, the teaching for learning bulletin will feature a structure each month and a drop-in structure a month club has been established.

We are fortunate to have a staff who are open to new ideas and willing to try different approaches and, since interest in and excitement about, the co-operative structures built up through Year One of the project, we are now ensuring that new initiatives such as Assessment for Learning, questioning techniques and thinking skills feature the use of the structures so that staff can see how they all blend together to offer a holistic way to improve learning.

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Graph of results from teacher perceptions: comparing co-operative learning lessons with traditional lesson

The 5Rs influenced the design of our project from the staff training perspective and influenced our choice of co-operative learning as our area of focus. However, we do not yet think that staff and students engage with the concept regularly and consistently, in such a way as to make the explicit link between the 5Rs and what is happening in the classroom. We hope to try to find ways to address this in Year Two and, as a result, we are looking at approaches such as Professor Guy Claxton's Building Learning Power, which offers a way to track students in their development of the skills and qualities of the successful learner.

Department development planning for the next year has been focused around co-operative learning; behaviour for learning; assessment for learning and the potential of ICT. All of these key areas reflect our broad understanding of L2L and, whilst all staff will receive training in these areas through the year, we are keen to continue with the model of training used for this project, having a representative from each department receiving more intensive training, trialling new strategies and then reporting back.

Summary

This project has proved successful and thought provoking. It has been very rewarding to work with an enthusiastic group of lead learners and to see how different subject areas have implemented the strategies. As we continue to develop our understanding of the potential contribution of the co-operative approach to our wider teaching for learning agenda, it has been very encouraging to receive such positive feedback from both staff and students.

As the graph shows, when comparing traditional lessons to co-operative learning ones, over a series of key indicators, the lead learners consistently rated the co-operative lessons more highly, with the only exception being teacher-led delivery.

However, the questions raised by the research are equally important, since they will lead us to refine our practice. In Year Two of the project we want to find more sophisticated and explicit ways of monitoring the 5Rs, in order to reinforce to students that a successful learner is someone who has these qualities, rather than someone who is just 'good' at the

subject. We want to use the co-operative structures to help us move forward with developments in Thinking Skills and Assessment for Learning and we also feel that we need to monitor how working co-operatively supports the most able students.

Research into successful learning is a dynamic and rapidly changing field. It can seem overwhelming trying to keep abreast of developments and then translate them into practical strategies tailored to your particular school context. The experience of this project has been enormously beneficial to the school because it has provided us with data, systematically collected from different sources, which allows us to take stock of what we are achieving. Our recommendation to others seeking to introduce a different approach to teaching for learning would be to keep a specific and manageable focus, ensure that training is ongoing and that those involved receive lots of support. We are looking forward with optimism and excitement to Years Two and Three.

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