



Co-operative Learning: Making it Work in the Classroom



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This paper will discuss the key factors for effective implementation of Co-operative Learning (CL) in primary and secondary schools. Whilst there is a wealth of existing research into both the benefits and the types of CL, studies into effective implementation are less extensive.

The paper will begin with an analysis of existing research into factors in implementing CL. It will then present the context for this research in a network of primary and secondary schools in the North of England. In spite of a background of prescriptive educational context, together with high stakes testing, it will show how this network of schools over a period of five years implemented a very different pedagogy. An analysis of key factors in establishing and maintaining CL in this network are compared with other research findings to ascertain those that translate across cultures. The paper will discuss effective methods of support for a major pedagogical change. It will highlight the importance of a dedicated member of staff, together with the need for a support group across schools, aided by expertise from a Higher Education Institution to help develop and share good practice.

Introduction

Research into Co-operative Learning (CL) in England has established that pupils working together co-operatively to support each other's learning is a relatively rare phenomenon (Baines et al, 2003). Little has changed since the findings by Galton et al in 1980, and a replica study twenty years later (Galton et al, 1999), which showed that real interaction amongst pupils in groups is uncommon. Blatchford et al (2003:155) concluded that "group work ... has a very minor role in government policy". This is a surprising finding set against the background of a wealth of research into its benefits (Johnson and Johnson, 1989; Slavin, 1995; Slavin, 1996; Sharan, 1990), leading to the growth in the use of co-operative learning around the world and an International Association for the Study of Cooperation in Education (IASCE), established in 1979.

This paper will begin by presenting an analysis of existing research findings into the implementation of CL and discuss the extent to which such findings may cross cultural boundaries. In this way, important contributory factors to success may support those wishing to implement CL. The paper will then set out the national context for this study. The impact of recent government policy in relation to curriculum, assessment and pedagogy will be summarised, which in essence has left little scope for innovation.

In spite of this, one network of schools in the North of England has successfully implemented CL (Jolliffe and Hutchinson, 2007). This paper presents research findings undertaken over five years in order to analyse significant factors that led to this. It will examine the nature of the network and how this had contributed to the implementation of a different pedagogical approach. It will also examine how staff and pupils were supported in implementing CL.

Key Factors in Implementing Co-operative Learning

Before analysing the key factors that support the implementation of CL, it is important to clarify what co-operative learning means in the context of this study. There are many claims to pupils working together co-operatively. Indeed seating children in small groups is common practice in UK classrooms (Galton and Williamson, 1992), but this, of course, may not mean they are co-operating. Thus, it is important to be clear about the defining features of CL.

There is common agreement from the major instigators of, and researchers into, co-operative learning for example Johnson and Johnson (2000; 2005), Slavin (1995), Kagan (1994), Cohen (1994), and Sharan and Sharan (1992; 1994) that for learning to be co-operative it must include

certain elements. The crucial aspects that are needed for CL according to these authors are:

- Interdependence (often termed 'positive interdependence'). This is where group members perceive that they are linked with each other and one cannot succeed unless everyone succeeds. Another aspect of positive interdependence is individual accountability, where each member of the group must be accountable for his or her share of the work.
- 'Promotive interaction' which provides the conditions for CL to thrive, and occurs when individuals encourage each other to achieve group goals. This in turn incorporates group and individual reflection where groups monitor and assess their functioning underpinned by the necessary social and small group skills. These skills need explicit teaching; for example, the skills of encouragement, management, communication and conflict control.

Thus certain factors need to be present for CL to take place. In essence it involves: pupils working together in small groups on a joint task which ensures interdependence and promotive interaction, underpinned by the pre-requisite small group and social skills.

Whilst extensive research exists into CL, the majority of this relates to its impact on teaching and learning, a comparison of the many different methods and its use in different subjects, age groups and contexts. However, more recent research, particularly that conducted by Gillies (2003) and that derived from the Social Pedagogic Research into Grouping (SPRinG) project (Blatchford et al, 2003; 2005), sheds important light on successful implementation. A review of research that provides guidance on implementation reveals two recurrent themes in successful implementation: specific teaching of the necessary skills: interpersonal and small group skills; and supporting teachers in implementing CL.

Teaching Interpersonal and Small Group Skills

Robyn Gillies' research into the issues in implementation and from a review of five studies found:

The importance of explicitly structuring co-operative small-group work in classrooms if children are to derive the benefits widely attributed to this pedagogical practice (2003: 35).

Each study reviewed the support provided to schools in implementation, including procedures in putting pupils in groups, training pupils in small group skills, topics to be covered, resources available and the data collection procedures. Teachers were then trained in the process and they then set up CL groups in their classrooms.

This showed that children in the structured groups (those where there was task interdependence and the children were trained to co-operate) showed more co-operative behaviour, and were less likely to work independently. Verbal interactions showed that in three of the studies, unsolicited explanations increased over time in the structured groups. The learning outcomes analysed in two of the studies showed that the children in the structured groups used a wide range of strategies (such as using more concrete examples to make an idea more explicit or provided more detailed explanations).

Swing and Peterson (1982) experimented with training in task-related interaction and improving explaining skills, which showed that trained groups produced higher rates of interaction including higher order explanations. Lew et al (1986) also trained students in skills of sharing ideas and information, keeping the group on task, praising and encouraging the contributions of others and checking to make sure everyone understood what was being taught. The teacher awarded bonus points if groups showed three out of four co-operative skills. Both the training and reward was necessary before this showed greater achievement.

Giving pupils specific feedback and asking them to reflect on the group's performance also shows good results (Johnson et al, 1990). The need for specificity in feedback is highlighted by Huber and Eppler (1990), where lack of specific criteria for evaluating performance showed that feedback had no effect on achievement. In summary either pre-training or processing of the group while they are working can be effective in improving performance.

Webb and Mastergeorge (2003) found three aspects to be important in developing pupils' helping behaviour for CL. The first related to developing pupils' ability to ask precise questions

that show what aspect of a problem they do or do not understand. The second is that pupils must be persistent in asking for help from peers until they are satisfied. Third, once an explanation is clear, pupils need to apply it.

Gillies and Ashman (1996) found that children who were given explicit training in the skills of CL were more successful. These children used language that was more inclusive of others, gave more detailed explanations to assist each other, and obtained higher learning outcomes than those in untrained groups. Two types of skills teaching were found to be necessary: firstly interpersonal skills that support communication and secondly small group skills that support full participation.

Johnson and Johnson (1996) also found that pupils who were trained in conflict resolution and peer mediation applied these skills to classroom and non-classroom situations. It was also found that young children of pre-school age could learn these skills (Stevahn et al, 2000).

Fuchs et al (1997) studied 40 primary classrooms where children were randomly assigned to one of three conditions: peer mediated instruction and training how to offer and receive elaborated help, peer mediated instruction with training in elaborated help and in how to provide conceptual mathematical explanations and no peer mediated help. Children, who had received training in elaborated help and how to give conceptual explanations, asked more relevant questions, provided more explanations and the achievement of this group was higher. This study showed not only the benefit of training, but also the more explicit the training, the higher the achievement gains.

All of the above studies demonstrate the clear need for training pupils in the skills required for CL.

Supporting Teachers in Implementing Co-operative Learning

Another key factor in successful implementation concerns training teachers in the procedures necessary to implement co-operative small-group learning. Lou et al (2000) found that when teachers were trained this way, they were more able to adapt their teaching to small group instruction and achieve success. As Gillies says (2003:41):

Research, indicates clearly that both students and teachers need to be trained to manage the demands of small group work effectively. Students need explicit training in the interpersonal and small group skills that facilitate co-operation and helping, and teachers need to be trained in the strategies required to implement and manage small groups.

Abrami et al (2004) examined the reasons for teacher resistance to implementing CL. Teachers' concerns were examined through a questionnaire grouped under three main headings: perceived value of the innovation; expectancy of success; and perceived cost. This was administered to 933 teachers in Montreal in Canada in schools where the use of CL was encouraged. The study found that expectancy of success appeared to be most important factor in differentiating CL users from non-users. It also showed that teachers need to believe that they have the skill to implement CL successfully as well as a suitable context.

One case study in an inner city school in the USA (Nath et al, 1996) proves particularly enlightening. This study examined the implementation of the student teams achievement divisions (STAD) method in an elementary school with nine teachers over a period of one year. Factors that were found to be necessary to implement CL effectively were:

1. Teachers need to be well trained in the philosophy of CL and they need a teacher leader or facilitator with whom they can consult about issues and concerns.
2. Administrative support must be provided.
3. Group meetings amongst teachers must be arranged for support and to exchange ideas.
4. Teachers should be allowed time and experience to become comfortable with CL.
5. In the early stages of implementation, teachers should be allowed to form small teams of two or three pupils until the pupils learn the necessary skills to co-operate in larger groups.

These factors concur with the author's own experience at supporting the implementation of CL

(Jolliffe and Hutchinson, 2007).

The foregoing research reveals the need for a carefully staged programme in implementing CL in the classroom. Firstly, an understanding by teachers of what makes learning truly co-operative (Lou et al, 2000; Gillies, 2003; Johnson and Johnson, 1996), together with a commitment to implement it (Abrami et al, 2004). Secondly, a programme of teaching the necessary skills to pupils (Gillies and Ashman, 1996; Blatchford et al, 2003; Stevahn et al, 2000) and applying these skills to appropriate tasks (Cohen, 1994; Gillies and Ashman, 1998). To do this, teachers will require a range of expert and peer support (Nath et al, 1996; Gillies, 2003; Jolliffe and Hutchinson, 2007).

Co-operative Learning in the UK

CL in the UK has received limited attention: the reasons for this need further examination. The national context in England for the past two decades is one of significant educational change, notably from the starting point of 1988 Education Reform Act, described by Osborn et al (2000: 3) as “the most radical education legislation in half a century, and a decade of unremitting change followed it”.

A major longitudinal study, the *Primary Assessment, Curriculum and Experience (PACE)* project was established in 1989 and ran until 1997 to monitor the impact of the National Curriculum together with assessment arrangements on curriculum and pedagogy. The development of external testing published in the form of league tables of schools was shown to have a significant effect on classroom practice and on the primary curriculum. It led to a divorce of testing to inform teaching and increased concern by pupils that they would ‘fail’ the tests. The impact on teaching was an increase in whole-class teaching (often teaching to the tests) and more individual pupil work.

The PACE research (Osborn et al, 2000) showed that, despite massive changes to the work of primary school teachers brought about by the demands of changes in curriculum and assessment, primary teachers had up until 1996 not made any fundamental changes to their classroom practice nor to their values concerning what good practice was. In a related paper from the project, McNess et al (2001) reported that: “whole-class teaching and individual work increased at the expense of group work” (2001:12). The third publication from the PACE project, (Osborn et al, 2000), aimed to find out teachers’ views on changes and various policy initiatives. This found a common view of “a pressurised classroom context” (p140), and as Wyse et al (2008: 9) comment, there was “significant curriculum overload and work overload” which is “highly teacher controlled, with little scope for pedagogic flexibility and little pupil autonomy”.

With little scope for pedagogic flexibility, it becomes increasingly obvious why there has been little evidence of CL in England. In essence, primary education in England had become narrowly focused on delivering the prescribed curriculum due to the emphasis on high stakes testing and accountability.

Apart from a flurry of interest in CL over twenty years ago (Cowie and Rudduck, 1988; Dunne and Bennett, 1990), the only major research project has been the ‘Social Pedagogic Research into Grouping’ or ‘SPRinG’ project (Blatchford et al, 2003), which stated that they understood this to be the “first study of group-work in the UK to show positive achievement gains in comparison to other forms of classroom pedagogy” (Blatchford et al, 2005: 33). One of the main reasons for the lack of group work in the UK cited by the SPRinG project is a lack of research in ‘authentic’ settings which provided limited practical advice for teachers to use and adapt group work to their particular contexts. The SPRinG research showed that when this was provided, teachers were able to put group work into practice more effectively. These findings are reinforced by other international research, particularly, Gillies (2007; Gillies et al, 2008) which examined factors in implementing CL.

The final SPRinG research report identifies the significance of the study for the UK and states that:

It seems to us, therefore, that we need to rethink current pedagogical theories, both formal and informal, which seem to favour teacher led situations and individual work. It is hoped

that this project is helping to put group-work on the educational map. We hope that this is the beginning of more systematic use of group-work; it deserves to be given a much more central role in educational policy and school practice. (Blatchford et al, 2005: 34)

Context for the Study

Set against a national picture of limited interest or use of CL, one network of schools from an area of high social and economic deprivation in an inner city area in the North of England, developed and embedded the use of CL. The city itself, Kingston upon Hull, is a city of over 250,000 inhabitants that has suffered from a poor image; indeed one publication gave it the dubious honour of first place out of 'crap towns' in the country to live (Jordison and Kieran, 2004). The statistics however show that there is real deprivation. Almost half of the people in Hull live in electoral wards that are amongst the 105 most deprived in the country. In 2009 Hull had been ranked fifth for unemployment of UK cities and figures doubled in a year (Humber Business, 2009).

The schools had previously been part of an Education Action Zone (EAZ), a Government initiative with a clear aim of raising standards and providing additional support in areas of deprivation. The EAZ later evolved into a networked learning community (NLC); a programme set up by the National College of School Leadership (NCSL) in 2002 with over 134 networks established over four years. Evidence from the NCSL showed significant benefits to schools in working together.

The use of CL in the network of schools in this study began with four primary schools in 2000, based on Slavin's model of CL incorporating team incentives (1978). This approach was developed as part of a particular literacy strategy (Success for All), which as its name suggests aims to ensure that all children are supported in developing key literacy skills. Since then, a further eight primary schools and two secondary schools received training and implemented CL underpinned by Johnson and Johnson's approach (1989). These schools provided data for the study.

Based on findings from an evaluation in 2005 (Jolliffe and Hutchinson, 2007), which identified the central importance of the role of the CL facilitator (or co-ordinator) in each school, one of the specific aims of the NLC was to develop the expertise and confidence of the facilitators. From November 2005, the author began to organise meetings with the aim of supporting facilitators in their understanding of CL and its development in schools.

Methodology

This research set out to analyse what key factors contributed to the implementation of CL in this networked learning community. The focus of research is therefore a case study, a concept which has received much discussion (Stake, 1995), in particular the applicability of a 'case' to other instances and thereby its validity as a method of research. Bassey (1999) makes a helpful contribution to this debate by differentiating three types of generalisation: scientific, statistical and 'fuzzy generalisations' (1999: 44). The latter is a prediction that arises from empirical research and says something may happen without offering any measure of probability. As Bassey summarises: "Case study is study of a singularity conducted in depth in natural settings" (1999: 47).

Empirical research in this case study focused on the central research question: *What key factors have contributed to the implementation of CL in this networked learning community?* This incorporated two aspects:

1. A holistic picture of the case, ie the networked learning community. This entailed gathering the views of key persons, (principally headteachers) to the NLC and its impact.
2. Factors that had supported the implementation of CL. Kagan (1994) has emphasised that teachers need the 'will' and the 'skill' to use CL successfully. It was therefore necessary to ascertain:
 - a) The views of staff and pupils to the use of CL.

b) The support teachers received in implementing CL.

The table below sets out a summary of the methodology selected:

Results

Data Required	Methods Selected
A holistic picture of the networked learning community.	Semi-structured interviews with headteachers and facilitators. Facilitators' questionnaires.
Factors in implementing CL.	Semi-structured interviews with headteachers and facilitators. Questionnaires – headteachers, teachers. Observations in classrooms. Minutes of meetings of facilitators. Focus group discussions of pupils.

Impact of the network

The research provided a longitudinal picture over five years (2004 to 2009) of the implementation of CL within this network, and in 2008 and 2009, it reviewed the impact of the network in implementing CL.

One of the principal aims of the network was to embed the use of CL. There were strong indications in 2004 that CL was becoming part of everyday classroom practice across the schools. By 2008, questionnaires completed by teachers indicated a 100% response to the use of CL in classrooms, which included both informal paired work as well as more formal group work, which is more difficult to implement. Teachers' responses from questionnaires regarding their confidence in using CL showed that in 2008 a total of 85.7% of respondents reported that they were either very confident or confident in using CL.

Interviews with headteachers and facilitators in 2008 highlighted partnership and mutual support, and clearly indicated that the role of the network provided independence and ownership over the curriculum. Such independence led the network, in its earlier form as an Education Action Zone, in 2000, to adopt a very different method of teaching literacy: *Success for All*, which is based on Slavin's model of CL (1996) and originated from the US, to support all pupils to acquire essential literacy skills.

The introduction of *Success for All* in four primary schools in the network in 2000 provided the stimulus to develop the underpinning pedagogy of CL throughout the network in 2003. The repeated mention of the network supporting 'innovation' and developments in pedagogy by headteachers and some facilitators from interviews, showed that the network "was ahead of the game" (Headteacher 10). This was largely due to the level of independence the network afforded the schools, so that they were "totally independent from the Local Authority" as one recently-retired and long-standing headteacher acknowledged. This was because of a group of "risk-taking heads" who were able to make "the judgements and the decisions" (Headteacher 10). It is clear from this that without such a level of independence, implementing a totally different pedagogy in a climate of heavy prescription would have been extremely difficult. In other words: the network enabled it to happen.

The fact that the network could do this was largely dependent on the nature of the network, and analysis of the interviews with headteachers and facilitators showed that the strength of this network revolved around the relationships that had been built up, based on mutual trust and support and a sense of altruism. The analysis of these interviews using a grounded theory approach showed that the following words resounded: trust, partnership, honesty, support.

Facilitators also highlighted the role of the network in implementing and developing CL and

maintaining the focus. They identified that it empowered them and they valued the benefits of sharing and mutual support. In many ways there were particular features of this network that led to its success. It had become a community of practice (Wenger, 1998) and as such it became fertile ground for the development of CL.

There was yet one further factor that supported this network in implementing CL: it was a *network within a network*. This 'nested' form of networking, which consisted of interdependent layers, provided a unique feature. It represented a multi-dimensional community of practice. Not only were headteachers a mutually supportive group, but also teachers and facilitators. The strong facilitators' group that developed from 2005 and was documented until 2009, proved powerful in cross-fertilisation of practices, resources and psychological support. The agenda for the group was driven by the needs of the schools and provided a wealth of resources, including a handbook for staff, support for in-house training, and importantly visits to each other's schools to observe good practice. This in turn was cascaded to staff in schools. Facilitators' enthusiasm and developing expertise was a key factor in driving forward the continued development of CL. The extent to which they were influential in supporting staff, further depended on the commitment by headteachers and a willingness to fund release from teaching, for facilitators to provide the required support.

To summarise, the impact of the network was viewed as supporting:

- Partnership.
- Mutual support.
- Independence and ownership over the curriculum.
- 'Innovation'.



The attitudes of staff and pupils to Co-operative Learning

It is significant that the most common response in interviews with headteachers and facilitators to the question: "What are your views on the use of CL in promoting effective teaching and learning?" was that it is an effective "tool for learning" (Headteacher 1). This was because respondents found pupils were "engaged" and "active" (Headteacher 11) in their learning, and the learning became "deeper" (Headteacher 9) because pupils had to "verbalise something", it "clarifies their thoughts" and "you embed that learning ... you have got to be able to teach that to somebody else and you can do that through CL" (Headteacher 9). Teachers' responses on questionnaires showed that over 90% agreed that CL had an impact on academic skills. Heavily linked to this was the repeated response from interviews to the impact that CL had on oracy skills due to the "amount of emphasis that is on the discussion" (Facilitator 1). This they found particularly significant due to the low levels of oral language skills that many children started school with, and the marked difference that CL made on "vocabulary and language" (Facilitator 2) and the ability to "talk to each other in a very co-operative manner" (Facilitator 3). Pupils themselves commented in interviews on how important it was to have "friends to teach you" (interview May 2008) and it "helps with learning" (interview February 2009) and observations in classrooms found that there was clear evidence of pupils supporting and helping each other.

The other key theme from interviews with headteachers and facilitators was the impact that CL has on inclusion, with more able children taking on "the mentor role" (Facilitator 1), as it is the "responsibility of the group to tutor the weakest member" (Facilitator 3). This also reflected the improved social skills, and the majority of facilitators discussed this in interviews, agreeing that working in this way made the pupils "far more emotionally mature and able to kind of relate to other people" (Facilitator 3). Classroom observations revealed a strong willingness to share and pupils were observed mentoring each other. Pupils themselves talked about "helping each other" being a key part of CL and something they valued. Questionnaires to teachers also showed that almost all (99%) strongly agreed or agreed that CL had an impact on social skills

and, in addition, almost as many (92.8%) felt it improved their attitudes to learning. Triangulation of data therefore showed that there was strong evidence of impact on learning and pupils' attitudes to learning.

Another recurrent theme from interviews was the impact on providing opportunities for ensuring 'pupil voice' was heard. It led to greater pupil ownership over their learning. One headteacher of a secondary school commented that "students' voice is linked to this and students are empowered" and the facilitator from the same school commented "it gives them more responsibility ... ownership over their own work". In lessons observed, it was reported, pupils were consistently on task as a result, and in interviews they commented that working this way was "more enjoyable" (Interview 11 February 2009).

The other key aspect of the impact of CL, frequently cited in interviews, was improved pupils' confidence and self-esteem, with pupils now having the '*confidence to speak out*' (Facilitator 10) and interviewees agreeing that "it builds self-esteem" (Facilitator 3). This, many schools found, had been borne out by visitors to the schools, including Ofsted inspectors. Pupils themselves said during interviews that they felt "more confident" (Interview 11 February 2009) as a result of working co-operatively.

A further impact, particularly noted by the secondary schools, was on transition from primary to secondary school; with assertions that they were "feeding off other schools" (Facilitator 4) and that was a "natural progression" (Facilitator 10).

Thus, there were strong indications that teachers had developed 'the will' to implement CL.

Methods of support in the implementation of Co-operative Learning

Longitudinal data obtained from yearly questionnaires completed by facilitators from 2005 to 2008 showed that there was a strong preference for schools to have in-house support through the facilitator, alongside co-coaching and opportunities to observe good practice. In particular, the facilitators' network meetings were rated very highly by facilitators themselves in developing their own expertise.

Teachers responded in questionnaires that in addition to support from facilitators, which many rated highly, they appreciated resources that had been produced by the network group of facilitators, as well as peer support. Interviews with headteachers and facilitators showed that particular support strategies that were valued included: a handbook for staff; peer mentoring which had resulted from the introduction of CL; a comprehensive induction programme for new staff, but again verified that, as headteacher 8 commented: "the work of the facilitator has probably been the most successful".

Interviews with facilitators in 2008 also aimed to test out the key factors that had been identified from the literature review that supported implementation. The key factors identified from a review of the research literature were verified in this case study. The only aspect that caused some dispute centred on the use of extrinsic rewards – some facilitators finding that if given to groups or pairs, these rewards could provide motivation. The key factors were also cross-checked with the views of facilitators, pupils' responses and observations in classrooms. This showed two differences: firstly the nature of groupings differed according to age. Older secondary pupils felt much more secure in friendship groupings, whereas primary age pupils were much happier for the teacher to decide on groupings, recognising that this way they worked better. The second difference was that whilst facilitators valued the importance of making clear the success criteria to pupils for co-operative group work, this was not consistently witnessed in classrooms. Two facilitators stated that this was an area to be worked on in their schools.

To summarise, this case study verified the key factors found from a review of the research literature, but also found that for this research the most important aspect in successfully implementing CL was the role of the facilitator, particularly when a network of support existed for those facilitators, as was present here. One further factor that was present and proved valuable in supporting the implementing of CL was the developing of coaching and mentoring skills in all of the schools, which provided teachers with enhanced skills of peer support.

Implications for practice

This research provided clear evidence that the following factors are necessary in successfully implementing CL:

1. It requires a whole-school commitment that links CL to other key priorities of the school.
2. It requires teachers to have a clear understanding of the underlying theoretical bases upon which CL is built, linked to an understanding of how to support effective learning; in particular the role of talk for learning.
3. It requires a phased introduction linked to the needs of different aged pupils, moving from informal paired work to more formal group work.
4. It needs a facilitator or coordinator to support teachers, with time to work alongside them.
5. It is necessary to ensure that the key elements of CL are in place of positive interdependence and promotive interaction, underpinned by the necessary small group skills.
6. It requires a programme of teaching small group skills and continually revisiting and developing them, with differentiated support for pupils who encounter difficulties.
7. Teachers need support to plan appropriate tasks and to incorporate CL into their lessons.
8. Teachers need support in the composition of groups.
9. The assessment of group work skills together with clear success criteria needs to be developed alongside assessment of pupils' learning.
10. It flourishes best within a network of schools, or a community of practice.

Conclusion

This research confirms factors identified from a review of the literature into implementing CL. However it also demonstrates the level of support required to teachers and pupils in order to embed its use. Set against a national context that is not conducive to either innovation or to developing group work, it demonstrates that one school working in isolation would struggle to implement CL. This case study involves a particularly successful network and it has aimed to show the richly interwoven elements that might be described as a multi-dimensional community of practice. As has been shown, without it, CL would not have flourished, or even have begun. The network provided independence and in challenging circumstances. There was a clear drive to find something 'different'; not only to impact on academic standards, but as the comments from headteachers have shown, to impact on communities. This is based on the strong realisation that schools alone cannot fundamentally change the aspirations and educational climate of a local area.

The Author

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References

- Abrami, P C, Poulsen, C and Chambers, B (2004) "Teacher Motivation to Implement an Educational Innovation: Factors differentiating users and non-users of cooperative learning." *Educational Psychology*, 24, 201-216.
- Baines, E, Blatchford, P, Kutnick, P (2003) "Changes in Grouping Practices over Primary and Secondary School." *International Journal of Educational Research* 39, 9-34.
- Bassey, M (1999) *Case Study Research in Educational Settings*. Buckingham: OU Press.
- Battistich, V and Watson, M (2003) "Fostering Social Development in Preschool and the Early Elementary Grades through Co-operative Classroom Activities." In R Gillies, and A Ashman (eds)

- Co-operative Learning: The Social and Intellectual Outcomes of Learning in Groups.* (pp19-35) London: RoutledgeFalmer.
- Blatchford, P, Galton, M, Kutnick, P and Baines, E (2005) *Improving the Effectiveness of Pupil Groups in Classrooms.* ESRC End of Research Report, ref: L139 25 1046 (<http://www.spring-project.org.uk> accessed 08.02.06)
- Blatchford, P, Kutnick, P, Baines, E and Galton, M (2003) "Toward a Social Pedagogy of Classroom Group Work." *International Journal of Educational Research*, 39, 153-172.
- Bossert, S T (1988) "Co-operative Activities in the Classroom." *Review of Research in Education*, 15, 225-250.
- Chang, G L and Wells, G (1987) "The Literate Potential of Collaborative Talk." *The International Oracy Convention.* Norwich.
- Cohen, E (1994) *Designing Groupwork: Strategies for the heterogeneous classroom.* Second Edition. New York: Teachers College Press.
- Cohen, E G, Lotan, R A and Leechor, C (1989) "Can Classrooms Learn?" *Sociology of Education*, 62, 75-94.
- Cohen, E G, Lotan, R A, Abram, P L, Scarloss, B A and Schultz, S E (2002) "Can Groups Learn?" *Teachers College Record*, 104, 1045-2068.
- Cowie, H and Rudduck, J (1988) *Learning Together: Working Together.* London: BP Educational Services.
- Dunne, E and Bennett, N (1990) *Talking and Learning in Groups.* London: Macmillan Education.
- Fuchs, L, Fuchs, D, Hamlett, C, Karns, K and Dutka, S (1997) "Enhancing student helping behaviour during peer-mediated instruction with conceptual mathematical explanations." *The Elementary School Journal*, 97, 223-249.
- Galton, M, Hargreaves, L, Comber, C, Wall, D and Pell, A (1999) *Inside the Primary Classroom 20 Years on.* London, Routledge.
- Galton, M, Simon, B and Croll, P (1980) *Inside the Primary Classroom.* London:
- Galton, M, and Williamson, J (1992) *Groupwork in the Primary Schools.* London, Routledge.
- Gillies, R. & Ashman, A.F. (1998) Behavior and interactions of children in cooperative groups in lower and middle elementary grades', *Journal of Educational Psychology*, 90: 746-57.
- Gillies, R. M. (2003) Structuring cooperative group work in classrooms. *International Journal of Educational Research*, 39, 35-49.
- Gillies, R M (2007) *Co-operative Learning: Integrating theory and practice.* Thousand Oaks, CA: Sage.
- Gillies, R M, Ashman, A and Terwel, J (eds) (2008) *The Teacher's Role in Implementing Co-operative Learning in the Classroom.* New York: Springer.
- Gillies, R.M., & Ashman, A.F. (1996) Teaching collaborative skills to primary school children in classroom based work groups. *Learning and Instruction*, 6: 187-200.
- Huber, G and Eppler, R (1990) "Team learning in German Classrooms: Processes and outcomes." In Sharan, S (Ed) *Co-operative Learning: Theory and research.* (pp15–172). New York: Praeger.
- Humber business (2009) *New Figures Show Unemployment Rise in Hull.* <http://www.humberbusiness.com/news/New-figures-unemployment-rise-Hull/article-1167579-detail/article.html> (accessed 16.08.09)
- Johnson, D W and Johnson, R (1989) *Cooperation and Competition: Theory and research.* Edina, MN: Interaction Book Company.
- Johnson, D W, Johnson, R T and Stanne, M (1990) "Impact of Goal and Resource Interdependence on Problem-solving Success." *Journal of Social Psychology*, 129, 507-516.
- Johnson, D W and Johnson, R T (1996) "Conflict Resolution and Peer Mediation Programmes in Elementary and Secondary Schools: a review of the research." *Review of Educational Research*, 66, 459-506.
- Johnson, D W and Johnson, F P (2000) *Joining Together: Group Theory and Group Skills.* (Sixth edn). Boston, MA: Allyn and Bacon.
- Johnson, D W and Johnson, R T (2005) "Essential components of peace education." *Theory into Practice*, 44, 280-292.
- Jolliffe, W and Hutchinson, H (2007) "Implementing Co-operative Learning in a Networked Learning Community." *Education 3-13*, 35, 5-16.
- Jordison, S and Kieran, D (2004) *Crap towns.* London: Boxtree Publications.
- Kagan, S. (1994) *Cooperative learning.* San Juan Capistrano, CA, Kagan Cooperative Learning.
- Lew, M, Mesch, D, Johnson, D and Johnson, R (1986) "Positive interdependence, academic and collaborative skills, group contingencies and isolated students." *American Educational Research Journal*, 23, 476-488.

- Lou, Y, Abrami, P and Spence J (2000) "Effects of Within Class Grouping on Student Achievement: an exploratory model." *Journal of Educational Research*, 94, 101-12.
- Lieberman, A J (1999) "Networks." *Journal of Staff Development*, Summer 1999 20:3.
- McNess, E, Triggs, P, Broadfoot, P, Osborn, M and Pollard, A (2001) "The changing nature of assessment in English primary schools: findings from the PACE project 1989-1997." *Education* 3-13, 29 (3), 9-16.
- Nath, L R and Ross, S (1996) "A case study of implementing a cooperative learning program in an inner-city school." *Journal of experimental education*, 64, 117-136.
- Osborn, M, McNess, E and Broadfoot, P (2000) *What Teachers Do: changing policy and practice in primary education*. London: Continuum.
- Sharan, S (1990) *Cooperative Learning: Theory and research*. Westport, CN, Praeger.
- Sharan, Y and Sharan S (1992) *Expanding Cooperative Learning Through Group Investigation*. New York: Teachers College Press.
- Sharan, Y and Sharan S (1994) "Group Investigation in the Cooperative Classroom." In Sharan, S (Ed) *Handbook of Cooperative Learning Methods* (pp374). Westport, CT: Greenwood Press.
- Slavin, R (1978) "Student Teams and Achievement Divisions." *Journal of Research and Development in Education*, 12, 39-49.
- Slavin, R E (1995) *Cooperative Learning: Theory, research, and practice*. Boston: Allyn & Bacon.
- Slavin, R (1996) *Education for All*, Lisse: Swets & Zeitlinger.
- Stake, R E (1995) *The Art of Case Study Research*. Thousand Oaks: CA: Sage.
- Stevahn, L, Johnson, D W, Johnson, R T, Oberle, K and Wahl L (2000) "Effects of Conflict Resolution Training Integrated into a Kindergarten Curriculum." *Child Development*, 71, 772-84.
- Swing, S A and Peterson, P (1982) "The Relationship of Student Ability and Small-Group Interaction to Student Achievement." *American Educational Research Journal*, 19, 259-274.
- Veenman, S, Kenter, B and Post, K (2000) "Cooperative Learning in Dutch Primary Classrooms." *Educational Studies*, 26, 281-302.
- Webb, N M and Mastergeorge, A (2003) "Promoting Effective Helping Behaviour in Peer-Directed Groups." *International Journal of Educational Research*, 39, 73-97.
- Wenger, E (1998) *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.
- Wyse, D, McCreey, E and Torrance, H (2008) *The Trajectory and Impact of National Reform: Curriculum and Assessment in English Primary Schools* (Primary Research Survey 3/2). Cambridge, University of Cambridge Faculty of Education.

