Evaluation of Aspects of the Critical Skills Project in Glasgow

FINAL REPORT

Stephen Baron
Margaret Martin
Fraser McConnell
Alastair McPhee
Irene McQueen
J. Eric Wilkinson

Faculty of Education
University of Glasgow

November 2004

Tender Ref. 2CV/P002/021

CONTENTS

Executive Summary

Introduction

This report is an evaluation of aspects of the Critical Skills Project (CSP) in the Smithycroft Learning Community, City of Glasgow Council. The evaluation was undertaken by members of the Faculty of Education in the University of Glasgow as part of the national evaluation of projects supported through the Scottish Executive Education Department's Future Learning and Teaching programme (FLaT). The evaluation was undertaken between April 2003 and October 2004.

The Critical Skills Programme (CSP) has been acclaimed as a form of teaching and learning that will better equip young people for the challenges of the future. Before this can be validly accepted, however, it needs to be established whether such pedagogic methods can effectively be introduced into existing procedures and, perhaps more importantly, whether the critical skills pedagogy impacts on young learners in a meaningful way that better equips them with the tools they will need to think and act both independently and with others when faced with a new learning challenge.

CSP has its origins in the US and is now located and extensively used in Antioch University in New Hampshire. It is a particular model of co-operative learning – an approach to teaching used widely in USA and Canada. It involves learners in an active, collaborative and student- centred learning process.

In 2001 CSP was introduced into a cluster of schools in the Smithycroft Learning Community in the City of Glasgow. Formal training sessions were organised for teachers in a number of schools and pre-five establishments within the Community.

Aims of the evaluation

The evaluation was undertaken in two phases:

Phase 1 focused on the understanding, adoption and implementation of CSP teaching and learning methodologies in the schools and pre-five establishments in the Smithycroft Learning Community in Glasgow. More specifically the research questions were:

- how are staff new to CSP inducted into the CSP model and supported in its application?
- can staff identify changes to their pedagogic practice?
- what are staff's perceptions of the model's value, including its limitations?
- how do staff implementing CSP collaborate both within and between schools and across sectors?
- what support is required for changes in pedagogic practice to be sustained?
- how does the LC leadership promote and support CSP?
- are parents aware of any changes in their child's approach to learning?

Phase 2 used a quasi-experimental design to explore the impact of CSP on two age groups of learners in one primary school in the Smithycroft Learning Community. More specifically, the research questions were:

- does involvement in the CSP learning experience impact on children's strategies when faced with a new learning situation?
- can differences be identified in two learning skills (problem solving and communication) and two dispositions (collaboration and community) between those children who have experienced the CSP model for a period of time when compared to similar groups of children who have had no or very little CSP experience?
- does the deployment of CSP skills and dispositions change over time? If so, are the changes sustained?

Evaluation Methods

For Phase 1, a qualitative methodology was used based on interviews with key stakeholders involved in delivering CSP at each stage of the schooling process – secondary, primary and pre-five establishments. The evaluation focused on participants' responses to the training sessions and their adoption of CSP good practice. Of the ten schools and six pre-five establishments in the Smithycroft Learning Community, nine schools and all pre-five establishments had sent representatives to the training sessions. 34 staff from a total staff complement of 192 in Smithycroft Learning Community had participated by the summer of 2003. It was decided to interview all pre-five and primary school staff and a cross-section of secondary school staff. In addition, seven heads of establishment who had not been trained were interviewed.

In Phase 2 a quasi-experimental design was used to explore the impact of CSP on children's learning strategies. In order to make the experiment manageable, two CSP skills (Problem Solving and Communication) and two CSP dispositions (Collaboration and Community) based on two curriculum areas in the 5-14 National Curriculum guidelines were selected as the basis for collecting the data.

Two primary schools were selected in the Smithycroft Learning Community to participate in phase 2. One school (School A, designated the 'experimental' school) had considerable experience in the implementation of CSP whilst the other (School B, designated the 'control' school) was still to engage with CSP. Within each school two age groups were selected in consultation with the headteacher of School A as having most exposure to CSP, thus allowing for the maximum opportunity to display CSP characteristics when faced with a new learning challenge. These were P3 and P7. The curriculum areas selected from the National 5-14 Guidelines were Environmental Studies and Personal and Social Development.

For the experiment, three new challenges were devised for both P3 and P7 classes in both schools.

For each of the three sessions each of the P3 and P7 classes in Schools A and B were allocated to one of four small groups for the purpose of tackling the set challenges. As far as possible, these small groups were identical for each of the three sessions though, due to absences, some variation occurred. Allocation to the groups was made by the respective class teachers, the only guidance being given was that the children should not have displayed any anti-social behaviour to each other in their respective classes. Each groups' engagement with the challenge was video- and audio-recorded.

The Learning Challenges

The challenges were based on the idea of a blind person having to be guided round a village by a guide dog. This involved map reading and direction skills of both P3 and P7, as well as their interpersonal skills.

The **knowledge** criteria selected for Challenge 1 were related to the 5-14 Environmental Studies topic, Understanding People and Place, in particular the ability to use left and right and reference to landmarks to give directions. For Challenge 2 the knowledge criteria were related to Health Education, Healthy and Safe Living, in particular, potential risks in the environment. Challenge 3 focused on 5-14 Personal and Social Development, in particular demonstrating empathy, respect and tolerance for others.

For all challenges, the **skills** related to problem solving and communication, in particular, an ability to evaluate and test ideas, observe the results and respond accordingly and to speak with clarity, using an appropriate tone.

For all challenges, the **dispositions** related to collaboration and community, in particular, to value and engage fully in collaboration, working to optimise the outcomes of a common effort, and to enter into productive groupwork – helping others to achieve a common goal and taking responsibility for a share of the work.

Using a 3D model village, the children had to devise a set of directions to guide the blind person round the village as she took charge of her new guide dog (Challenge 1) and identify the dangers she would encounter on her trip (Challenge 2) . Each group then devised a role play (Challenge 3) where the blind person would explore her feelings about her initial journeys with the guide dog. A simulated village obstacle course and a real guide dog were used as a stimulus for this final challenge.

The Sample of Pupils

The pupil sample comprised two 'experimental' groups and two 'control' groups. The experimental groups consisted of 35 children in total in two age-groups, drawn from one primary school . The first age-group consisted of 20 7/8 year old children drawn from P3; the second group, aged 11, consisted of 15 P7 children.

Similarly, the two 'control' groups comprised 36 children in total, drawn from the same two age-groups from another primary school in the same Learning Community as the experimental school. One age-group consisted of 20 P3 children; the second of 16 P7 children.

Findings and Conclusions

In terms of the first perspective, that is, the training and implementation of CSP pedagogy, this evaluation is reasonably optimistic. Professionals from a range of backgrounds from pre-five to secondary school teachers responded positively to the principles and practices of CSP. They enthusiastically endorsed the CSP philosophy and were receptive to its practical implications. They willingly engaged in the appropriate training and reported applying the principles of CSP to their practice.

In terms of the second perspective, that is, the impact of CSP on children's learning, the evaluation provides tentative evidence in support of CSP. Using an experimental methodology, video-recordings of children engaging with a new learning challenge were

made on three successive occasions over a period of four months. The extent to which children engaged with the new learning challenges and their deployment of selected skills and dispositions in the challenge were subsequently rated by the evaluators on a minute by minute basis. Although no overwhelming evidence emerged to endorse CSP in terms of its impact on children, tentative indications emerged showing that some children taught by teachers trained in CSP might have benefited in terms of their willingness to engage in a new learning challenge and deploy skills and learning dispositions to that challenge. Such benefits were in evidence in terms of younger, less academically able and more socially competent children:

- Improvements in the deployment of both skills and dispositions were most notable in the early stages of the primary school. However, this change cannot be entirely attributed to the CSP as the improvement was evident in both groups of children. With pupils in the upper stage of primary school there was no observable improvement over time and some evidence of regression in the control group.

- Younger children taught by teachers trained in CSP showed a tendency to deploy appropriate problem-solving skills in selected areas of the curriculum to a greater extent than children taught using more traditional methods.

- Improvements in skills are most notable amongst children at the early stages of development in terms of the 5-14 levels of achievement. More advanced children do not appear to improve to the same extent. Improvements in dispositions are observable in children at all stages of development.

- Improvements in skills are observable at a significant level for both children rated as possessing a high level of social skills, and for those from less prosperous socio-economic backgrounds as defined in terms of free school meals entitlement. However, there is no significant evidence of improvement in dispositions in either group over time.

- Girls are better equipped than boys to deal with new learning challenges though both boys and girls improve over time.

The evaluation concludes that it would be premature to provide a blanket endorsement of CSP. However, it seems that CSP has the potential to engage younger learners in new learning challenges to a greater extent than more traditional methods. Until there are more sustained and intensive methods of training teachers in the practice of CSP, such that their teaching is fundamentally different, the future of CSP in Scottish schools must remain uncertain.

In terms of taking forward this training, the report underlines the importance of teachers' engagement with and the need for on-going support to ensure sustainability of the CSP philosophy. Initial engagement of practising teachers with CSP needs to be intense in order for CSP pedagogy to become firmly embedded in day-to-day classroom practice. In addition, continuing support is necessary both at the school level in which CSP is being introduced and from the respective local authority. Successful implementation of CSP ideals will require a whole school approach in order to embed this fundamentally different culture into the learning and teaching process.

In the light of these findings, the report raises implications for the consolidation and expansion of CSP and argues that a more intensive model of 'change' to existing pedagogic practices be considered. Such a model involves the 'immersion' of a single institution in the innovation at any one time.

Acknowledgements

The evaluation team wishes to express its appreciation to all those - teachers, headteachers, pre-five staff and children – who were involved with the Critical Skills Programme (CSP) in Smithycroft Learning Community, Glasgow and who willingly provided to the evaluators their perceptions of, and reactions to CSP. Without such information the evaluation would not have been possible. We also wish to express our gratitude to Mr. David Cumming, Principal of Smithycroft Learning Community and Ms. Lesley Dunlop, former headteacher of Carntyne Primary School, for their support and co-operation. Appreciation is specially due to the parents who unreservedly allowed their children to be video-recorded in the experimental phase of the evaluation.

Thanks are also due to the headteachers and staff of the two schools involved in obtaining the video-recordings of children in their schools. Such facilitation and co-operation is greatly appreciated and has been a hallmark of our liaison with all the schools and pre-five centres in the Smithycroft Learning Community.

The team also wishes to thank the staff of the Future Learning and Teaching (FLaT) Unit in the Scottish Executive Education Department who approved the evaluation and provided the finance. Similarly, thanks are due to members of the evaluation Advisory Group and its convenor, Dr. Colin Holroyd. Meetings of the Group were always lively and constructive.

The team has a special word of thanks to the staff of the Media Services Department in the University of Glasgow who undertook the arduous task of making the video material and editing it in a form suitable for analysis. We also wish to acknowledge financial support from the Faculty of Education in the University of Glasgow which greatly facilitated the data collection process. Our thanks also go to Dr. Jennifer Gourlay who undertook the tedious task of setting up the SPSS datafile.

Last but not least, our gratitude goes to the two secretaries – Anne Currie, who painstakingly prepared this report, and Fay Barclay, who provided support in the early stages of the evaluation.

Stephen Baron
Margaret Martin
Fraser McConnell
Alastair McPhee
Irene McQueen
J. Eric Wilkinson

Faculty of Education
University of Glasgow

November 2004

CHAPTER 1 : INTRODUCTION

1.1 Context of CSP

The Critical Skills Programme (CSP) is an acclaimed new learning and teaching initiative that relies on promoting the learner's problem solving skills (Wragg, Wragg & Chamberlain, 2004). Through a process of communication and collaboration, learners are encouraged to engage with new learning challenges that require the deployment of skills and learning dispositions. CSP was introduced into the Smithycroft Learning Community in Glasgow in 2002. The Smithycroft Learning Community is based on a cluster of schools set in an area of considerable disadvantage in the north of the city and was involved in the first phase of Glasgow City Council's initiative to raise attainment in Glasgow schools through the establishment of Learning Communities (LCs) in six pilot areas. The Smithycroft Learning Community consists of one secondary school, seven primary schools, six pre five establishments and two special schools. In 2002, the Learning Community was funded by the Scottish Executive Education Department (SEED) through the Future Learning and Teaching Programme (FLaT) to develop CSP in all the schools in the Learning Community. This report provides an evaluation the impact of the CSP model on children's learning strategies and on the engagement of professionals with the new learning and teaching approach.

1.2 The Rationale for CSP

CSP has its origins in the US and is now located and extensively used in Antioch University in New Hampshire. It is a particular model of co-operative learning - an approach to teaching used widely in USA and Canada. It involves learners in an active, collaborative, student-centred learning process.

Weatherley (2000) outlines in detail the philosophy and practice of CSP. He derives thirteen key principles of learning from a review of contemporary brain research:

The learning environment should:

- Minimise threat and controllable stress
- Promote positive self image and high self esteem
- Engage positive emotions
- Recognise that individual learners have legitimately different behavioural needs

Learning activities should:

- Encourage learners to perform their understandings
- Provide regular opportunities for review and feedback
- Encourage the use of whole brain functioning
- Cater for different thinking and learning styles
- Provide ample opportunities for learners to use and develop the full range of multiple intelligences

Teachers should understand that:

- Differences between pupils' abilities are complex and qualitative rather than simple and quantitative
- There are no practical limits to the development of individual pupils' abilities
- Learning for understanding is achieved through the performance of challenging, open-ended tasks rather than by giving correct answers to closed questions

Pedagogic implications of this conceptualisation are derived and teachers are tasked with:

- Promoting clarity and confidence about learning tasks
- Generating high expectations and ethos of achievement
- Providing purposeful enjoyment in the classroom
- Providing varied and stimulating input
- Designing active, collaborative learning experience
- Promoting regular, formative assessments

CSP seeks to provide a structure for these tasks through ' a comprehensive teaching programme that addresses all the issues (above) in a highly practical and outstandingly effective way' (Weatherley 2000:69).

Central to CSP is a set of Critical Skills and Fundamental Dispositions:

Critical Skills

- Problem solving
- Decision making
- Critical thinking
- Communication
- Organisation
- Management
- Leadership

Fundamental Dispositions

- Owners of lifelong learning
- Self direction
- Internal model of quality
- Integrity and ethical character
- Collaboration
- Curiosity and wonder
- Community membership

Four 'broad ideas' are proposed as the mechanisms for fostering these skills and dispositions:

- Experiential learning
- A collaborative learning community
- Results driven learning
- Problem based learning

Central to the teaching approach harnessing these broad ideas are the 'problem based challenge, the meaningful context of tasks and the collaborative, learning community environment which combine into cycles of experiential learning (CSP, 1997).

1.3 **Co-operative Learning**

Literature searches and personal communications have revealed only one systematic evaluation of CSP either in the US or this country, although it has been warmly endorsed by teachers who have participated in the programme. The recent study by Wragg et al. (2004) in Jersey provides a strong endorsement for CSP, although this particular evaluation does not provide empirical evidence of the impact of CSP on children's learning. However there is a wealth of research into the generic area of co-operative learning (CL), from which CSP draws many of its key principles. CL has a long history as an instructional strategy with a considerable theoretical and research base. It has, in the past thirty years, become a popular

methodology in many settings, from pre five education to teacher education in the US, UK, Canada, Australia and Europe. A wide range of factors account for the popularity of co-operative learning. Its strong theoretical and research base has been widely translated into clear instructional strategies that can be used in practice. Slavin (1995) describes it as having moved into the mainstream of educational practice. This is so for a number of reasons:

- the extensive research linking CL to improved achievement and social skills
- the need in the 21st century for children to learn how to think, solve problems, integrate their knowledge and apply their skills
- CL makes heterogeneity a resource rather than a problem
- CL has a positive influence on social relations with minority groups in mainstream schools
- CL fits with current conceptions of learning as social, cultural and interpersonal constructive process (Veenman 2002: 282)

At least three general theoretical perspectives have informed the development of co-operative learning as an instructional strategy : cognitive development, social interdependence, and behavioural learning.

Constructivist theories of learning have increased our understanding of how children learn from one another. Both from a social and personal constructivist viewpoint, the importance of social interaction in promoting learning and thinking, is generally acknowledged. Vygotsky (1978) argued that interaction with more able adults or peers to mediate the learning was effective. Social construction of new understandings, knowledge and skills is encouraged through opportunities to model skills and receive feedback. The requirement to justify and explain their thinking leads to a deeper understanding. Piaget (1932) argued that cognitive conflict is a catalyst for change where the learner reassesses understandings and constructs new ones. This reframing in the face of contradictions encountered in interactions with others, leads to new learning. Wittrock (1977) argued that cognitive restructuring and rehearsal are crucial to retention of new learning. CSP approaches to learning are clearly in line with this theoretical perspective and lend themselves to systematic social interaction as part of learning, with many opportunities built into the design of activities for explanation to a team member or for presentation to the class as a whole.

Social interdependence theory evolved from Lewin's (1935) work on drive for goal accomplishment and intrinsic reward. Deutsch's (1949) theory about positive and negative interdependence and their effects on promotive or oppositional interaction have been a major conceptual underpinning of CL. His theory of co-operation and competition was influential on Johnson and Johnson who extended the work into social interdependence theory.

> *How social interdependence is structured determines how individuals interact within the situation, which in turn, affects outcomes. More specifically, co-operation exists when positive interdependence is structured, which results in individuals interacting in ways which promote each other's success, which, in turn, generally leads to higher productivity and achievement, more positive relationships among individuals, and greater psychological health and well-being.*
>
> (Johnson and Johnson 1989 : 5)

Johnson et al. (1998) identify five basic elements which need to be built into activities for effective co-operation: positive interdependence, individual and group accountability, explicit teaching of social skills, face to face promotive interaction, and group processing of learning This perspective focuses on what happens amongst individuals and the intrinsic rewards of co-operative learning.

Behavioural learning theory focuses on extrinsic motivation. Slavin's work (1983) points to the importance of group reinforcers and group rewards. He has developed and researched a range of student team learning methods. Success in learning something as a team is emphasised and group rewards, based on individual performance, are seen as crucial to improving achievement.

There is extensive research into the effectiveness of co-operative learning as a particular method of structuring this social interaction which increases pupil attainment.

> *The studies and reviews by Johnson et al (1983), Johnson and Johnson (1985), Slavin (1989) and Sharan (1980) confirm co-operative learning as an effective strategy that can be used to enhance achievement and socialisation among students and contribute to improved attitudes towards learning and working with others, including developing a better understanding of children from diverse cultural backgrounds.*
>
> (Gillies et al 2003 : 8)

Johnson and Johnson's review (2000) of over 900 studies carried out on the relative benefits of co-operative, competitive and individualistic learning demonstrate the effectiveness of the methodology. The breadth of this research provides a solid basis for the conclusions drawn. They identify three major benefits to co-operative learning: higher achievement and greater productivity, more positive relationships and greater psychological health, social competence and self esteem. This breadth of focus, across a range of outcomes, allows teachers to use the methodology for a range of purposes. Johnson and Johnson list the following specific outcomes: achievement, higher level reasoning, retention, time on task, transfer of learning, achievement motivation, intrinsic motivation, continuing motivation, social and cognitive development, moral reasoning, perspective-taking, interpersonal attraction, social support, friendships, reduction of stereotypes and prejudice, valuing difference, psychological health, self esteem, social competence, internalisation of values, the quality of the learning environment and many others.

> *there may be no other instructional strategy that simultaneously achieves such diverse outcomes.* (Johnson et al. 2000)

Gillies' (2000) one year study of 144 Grade 2 children (64 trained in co-operation/ 80 untrained) in nine schools in Australia aimed to assess the impact of previous training in co-operation on children's learning. The results show very clear differences between the two groups which were maintained over time. The trained group were more co-operative, more willing to listen, share ideas and resources and generally more helpful to others' learning. They used higher level language strategies and thinking skills in problem solving. Not only were the untrained group less co-operative, but showed more non task or individual behaviours.

There is a wide range of co-operative learning methodologies which teachers can use. These range from very specific and prescriptive strategies to more general approaches which require a greater conceptual understanding on the part of the teacher. Johnson and Johnson (2000) in their meta analysis of the research into co-operative learning, identify ten of the most important approaches researched and developed in the last thirty years; Complex Instruction, Constructive Controversy, Co-operative Integrated Reading and Composition, Group Investigation, Jigsaw, Learning Together, Student Teams Achievement Divisions , Teams-Games-Tournaments, and Team Assisted Individualisation.

They place co-operative learning methods on a continuum from direct to conceptual. Some of the direct methods above provide teachers with highly prescriptive, very specific techniques

which can be quickly learned and easily applied. These techniques are appealing to teachers and offer good short term results in the classroom. More conceptual methods require the teacher to have a conceptual understanding of the methodology and provide a framework which they can use to adapt their current approaches to teaching to a more co-operative methodology. These methods stand a greater chance of being incorporated into a teacher's repertoire and used in the longer term. CSP would appear to require the teacher to understand the conceptual model. The training programme identifies five levels of development in the teaching of CSP – novice, apprentice, practitioner, expert and leader. The emphasis placed on internship in the CSP model reflects the concern expressed by Johnson and Johnson (1998) that teachers require considerable time to internalise the concepts and practice the methodology before becoming skilled co-operative learning practitioners. The role of the teacher in the effectiveness of co-operative learning is the subject of much debate and considerable interest. The gap between the methodologies outlined in programmes by developers and the actual practice of classroom teachers is worthy of attention in assessing the impact of co-operative learning strategies.

The training manual for CSP outlines the approach as:

> *a practical response from teachers working in real classrooms to the theoretical arguments supporting constructivist, collaborative, experiential, authentic and democratic learning environments. CSP can provide a real life "how-to" model to address the worthy ideals espoused throughout recent literature* (CSP 1997 : 3).

Despite the extensive research to validate it and demonstrate the advantages of co-operative learning - the ability to accommodate diversity, the emphasis on social and academic skills, the link with social constructivism, and the broad sweep of training and support materials, (Antil et al 1998), suggest that several questions remain about the implementation of CL in classrooms. They found that it is not as commonly practised in the classroom as might be expected. In their study of 85 elementary school teachers, they found that although 93% of participants reported the use of co-operative learning, only small numbers of teachers were actually using the structured approaches advocated by the research. The vast majority modified and adapted the procedures, so that many of the specific elements required for effectiveness would be included. Teachers were positive about the benefits of the methodology yet failed to implement it according to the models.

> *The discrepancy between research and practice in co-operative learning requires further probing* (Antil et al. 1998 : 448)

Gillies (2003) argues that the structure is important. His study of 137 Grade 8 students (76 in structured groups/75 in unstructured groups) showed that they benefited from being involved in structured CL experiences. He found that regular opportunities to work in such groups helped students to be more involved, committed to the group and to develop a sense of cohesion. They were more willing to help one another, share resources and actively promote the learning of the group than those who had worked in unstructured groups.

Lopata et al (2003) found similar results when examining the self reported use of co-operative learning with exemplar teachers in suburban elementary and middle schools in western New York state. These teachers were considered to have advanced knowledge and skills and yet reported that their use of co-operative learning was less than they would have preferred. The authors attribute this to a range of possible factors: increased pressure to meet academic standards through testing, class size, and student behaviour problems. They suggest that teachers need to be made aware of the range of co-operative learning models and methods as well as the potential difficulties, before attempting to put the models into practice.

Staff development opportunities are important in this respect, with follow up support in schools.

Veenman et al (2000) found that primary school teachers in their study in the Netherlands were not implementing the elements of CL regarded as essential for co-operation. Most of the teachers didn't use a specific CL approach and spent little time teaching teamwork skills. Basic elements were not addressed by the teachers. From observational data, they found that:

> *Most of the work in the co-operative groups was dominated by one or two pupils who made the decisions and divided up the work while the other pupils listened and accepted their decisions. The pupils did not listen very well to each other; they regularly interrupted each other and they often did not react to each other's ideas or suggestions. The climate was not very co-operative; the pupils squabbled regularly with each other. The pupils did not elaborate their solutions for problems or answers to questions and did not, thus, help the children in the group understand the reasoning behind their responses. Expressions of support and acceptance, paraphrasing another member's contribution, and concern for equal participation were infrequent.*
>
> (Veenman et al. 2000 : 295)

Emmer et al (2002) observed the lessons of 18 elementary school teachers, experienced in co-operative learning, in seven schools in a large urban school district in the US, over the course of a year. All were experienced in the use of CL, ranging from 3 to 15 years. They found that teachers did not usually adhere to any particular model of CL: notably missing were individual accountability to the group, formal systems of testing and group rewards based on individual performance, the allocation of roles, and group assignments in lessons.

> *This suggests that experienced teachers can and do modify CL to fit their beliefs, goals, and classroom conditions. Furthermore, teachers' interviews indicated they are not generally concerned with the fidelity with which they implement a CL mode, but rather focus on the student performance, involvement and behaviour. Thus, unless teachers discern a direct and necessary link between a specific characteristic of a model and student progress toward a desired outcome, there is little reason to expect them to implement all of its features* (Emmer et al. 2002 : 89)

The discrepancy between teachers' high estimates of student participation in CL and the evidence of observational studies is highlighted by Jenkins et al(2003). They describe CL as a 'blunt instrument' which depends crucially on how it is implemented. Krol et al (2001) also highlight this important role of the teacher and the central place of training.

> *Successful implementation of CL largely depends on teachers' understanding of what CL really is and their capacity to apply CL methods insightfully and appropriately.* (Krol et al. 2001: 39)

In their study of a staff development programme on CL they presented CL as a philosophical and practical approach and cite the views of Johnson and Johnson (1998) that staff development in this area should be seen as a long term process involving three stages:

- *Pre-training*, where the conditions for CL are established in the classroom
- *Training* in the conceptual framework and practical procedures
- *Post training*, where ongoing support is given to embed the strategies.

Using such an approach over a two year staff development programme Krol et al (2001) observed encouraging training effects in their sample of elementary teachers. This training programme was based on research and tailored to a long term approach to implementation of CL.

Johnson and Johnson (1993) point to the need for ongoing support for teachers to gain expertise in this instructional strategy. They describe that expertise as being able to take any lesson topic and structure it co-operatively, describe exactly what they are doing and why , use it 60 – 80% of the time and apply the principles in other settings. In order to 'refine progressively' their ability they need help from colleagues and to help colleagues themselves which increases their own understanding and expertise.

> *Teachers have to do co-operative learning for some time before they begin to gain real expertise.* (Johnson and Johnson, 1993 : 18)

They recommend three years training and regular collegial support. Crucially they state:

> *Teachers must understand conceptually what co-operative learning is and how it may be implemented in the classrooms.*
> (Johnson and Johnson, 1993 : 9)

It is clear, therefore that the role of the teacher is a crucial factor when assessing the effectiveness of any particular model of CL. Their level of expertise and experience in CL, including a sound conceptual understanding of the methodology are significant and must be taken into account when evaluating the implementation of this kind of approach to learning and teaching.

Veenman et al (2002) highlights the reluctance of many experienced teachers to use CL methods and the most common explanations for this reluctance are: loss of classroom control, lack of self confidence, worry about content coverage, fear about unequal contributions of children, lack of familiarity with alternative assessment techniques, and insufficient training.

It is important to put this reaction into context and Panitz (2000) cites the emphasis in the education system on individualism and competition, memorisation of content and individual performance as major reasons for teachers to be reticent about adoption of CL as their preferred instructional strategy. He points to the fact that most teachers will have been taught themselves by traditional methods, which will have impacted on their view of learning and teaching. In his analysis of reasons for teachers' reticence he lists, among others: loss of control, lack of confidence, lack of appropriate prepared materials for use in the classroom, lack of familiarity with the assessment techniques involved, concern with teacher evaluation, students' resistance to CL techniques, lack of familiarity with CL techniques and class management, lack of teacher training in CL methods, large classes and inappropriate classroom set up. The list is long and points to the need for high quality long term training and support for teachers.

He suggests a number of policy issues which need to be addressed for the successful implementation of CL:

- Support and encouragement from top levels of administration and teacher involvement in planning and implementation
- Adequate funding for training, support and materials

- Support groups established
- Risk free environment for teachers to adopt CL
- CL should be modelled in establishment decision making
- CL library should be set up with appropriate materials
- Students should be involved through a student council
- TEIs should adopt CL so that it can be modelled for student teachers
- Curriculum and instructional strategies should be developed in tandem

(Panitz 2000)

1.4 **Links to the National Priorities**

The scope of CSP is thus ambitious and might be expected to have an impact on all five of the National Priorities. There are obvious links:

Attainment and Achievement

There is considerable evidence in the US and Canada about the improved levels of attainment which result from co-operative learning as an instructional strategy, when compared to competitive and individualistic learning. This would lead to the conclusion that CSP could have such an effect on pupils' learning in this Glasgow cluster where attainment levels are relatively low.

Framework for Learning

CSP approaches to learning offer teachers a range of practical strategies to create a learning community in their classrooms. The importance of social skills is recognised and they are explicitly taught alongside academic skills. Communication skills, respect for self and others, and responsibility for the group are important ingredients which contribute to an effective learning environment.

Inclusion and Equality

The techniques used in CSP are designed so that all pupils can very readily be accommodated with their peer group, and can be supported so that they can play an 'equal' role in achieving group goals. Indeed the success of the methodology largely depends on the heterogeneity of groups and the collaboration of group members with diverse skills and abilities.

Values and Citizenship

Social skills are actively taught and assessed, along with the academic outcomes of any given activity. Citizenship is promoted through the development of teamwork skills, the emphasis on the group and the responsibility of the individual within the group. CSP is based upon interdependence and mutual respect.

Learning for Life

Motivation for learning is much more likely to be inculcated using approaches which involve students in taking responsibility for their own learning, and where learning is active, experiential and fun. CSP approaches to teaching and learning provide the framework for this to happen. They also encourage problem-solving, teamwork and creativity.

1.5 **Implementation Strategies**

The original proposal to introduce CSP to Glasgow schools was made to the city's Education Development Service (subsequently retitled as Education Improvement Service – EdIS). An initial taster session which focused on a range of learning and teaching strategies was organised in August 2000. The then headteacher of Carntyne Primary School, who held responsibility for learning and teaching in the Smithycroft LC, organised the first CSP workshop at this event. Discussions emerged from the workshop about the possibility of the inclusion of such an approach in the LC Development Plan. Subsequent to this first initiative, it was agreed to adopt the CSP approach, and hold information events for heads of establishment in the LC. Formal training sessions were organised for staff and networking established to support implementation.

CSP seeks to develop the professional knowledge of teachers through three levels of training:

- Level 1 encourages teachers to design individual challenges and to foster a collaborative learning community.
- Level 2 encourages teachers to make connections between challenges in order to attain long term learning goals and the transfer of knowledge to new situations
- Management training for leadership in CSP

(Weatherley 2000 :113-114)

The formal training was provided through Network Educational Press in the UK. The provision of evaluation and development funding by SEED has allowed Smithycroft LC to employ the services of Pete Fox, one of the founders of CSP in the USA. This has enabled a number of staff development opportunities to take place locally. The intention with this particular form of training was that participants should experience the model and so the methodology is interactive and participative. The strategies and tools used with adults on the course are models of their use with children. The training is described as highly intensive and very high quality and it can be challenging for participants to put themselves in the child's position and experience the approach first hand.

Level 1 training involved two separate three day sessions (Parts A and B) with a suitable gap between them to allow practitioners to experiment with the model in their workplace. The emphasis in Part A of Level 1 was on building a collaborative learning community and designing challenges for collaborative problem solving. There was a focus on learning standards and quality criteria. Practitioners were asked to use the strategies and tools learned on the course and to return for Part B, having taken time to reflect upon their usefulness in practice. Part B moved into large group collaboration and explored assessment. The methodology remained participative and interactive.

Level 2 training comprised a three day course which expanded the range of skills and techniques and aims for a more sophisticated understanding of the approach, linking challenges into longer term learning.

A three day Senior Management Training course examined the principles of the model, the support needed by staff and possible uses of the model in whole school management.

The training was offered in a number of formats, most commonly Open Institutes costing around £180 per day per person. However Smithycroft Learning Community had hosted In House Institutes, where the cost was reduced to around £138 per person per day, the organisers providing the venue and catering. This was partly funded by Glasgow City Council and Smithycroft Learning Community. These relatively high costs are associated

with the use of trainers from the USA, working in small groups of 22 participants with two trained facilitators.

The model of training adopted by the Learning Community was to identify a small number of appropriate staff in each establishment who, when trained at Level 1, would act as animateurs for the CSP approach in their own school/ nursery. All establishments within Smithycroft Learning Community have therefore had access to formal training.

34 staff have been formally trained to Level 1, seven of whom are heads of establishment. Other heads had minimal involvement in direct training, but had encouraged their staff to attend. Many of the staff were identified by heads as being interested in this area of work. The numbers of staff from each establishment involved in training varied from one to seven. One primary school has trained all six full time teachers except two on maternity leave and one job share: another primary school has the head teacher plus two teachers trained to Level 1 and a similar position exists in one pre-five establishment. At the other end of the scale, however, only the head teacher has attended a half day taster session and no others have been trained. In all, it was expected that by the end of Session 2002-3, some 34 teachers would have been trained to Level one: this represents an average of 2.5 staff per establishment.

Six members of staff have been able to progress from Level 1 to Level 2 but only one of those to senior management training. There were no plans in session 2003 – 4 for a further round of formal training to be opened up to staff in the Learning Community. However, support has been organised in other formats.

Further 'taster' sessions for staff who have had no training and additional staff development for those already trained has been organised, including working with individual schools. Support for designing challenges was seen as important and sessions have been arranged to work on this area. The aim was to generate a bank of challenges which would fit in with the Glasgow Scheme. Network support for pre-five staff has been put in place and regular meetings now take place where practice is shared, often using photographic evidence. There are plans in place to offer a similar opportunity for primary school staff.

> *The key to the adoption of co-operative learning methods lies in the professional competence of teachers* (Sharan 1990 : 298)
>
> *Teachers must understand conceptually what co-operative learning is and how it may be implemented in the classrooms*.
> (Johnson and Johnson 1993 : 9)

1.6 **Aims of the Evaluation**

The evaluation of CSP in Smithycroft Learning Community was conducted in two phases. In Phase 1 the evaluation focused on training, dissemination adoption of the CSP pedagogy across the Smithycroft cluster of schools. The principal research questions were:

- How are staff new to CSP inducted into the CSP model and supported in its application?
- Can staff identify changes to their pedagogic practice?
- What are staff's perceptions of the model's value, including its limitations?
- How do staff implementing CSP collaborate both within and between schools and across sectors?
- What support is required for changes in pedagogic practice to be sustained?
- How does the LC leadership promote and support CSP?
- Are parents aware of any changes in their child's approach to learning?

In Phase 2 the aim was to evaluate the impact of the CSP model on the learning processes in selected groups of children. The principal research questions were:

- Does involvement in the CSP learning experience impact on children's strategies when faced with a new learning situation?
- Can differences be identified in learning skills and dispositions between those children who have experienced the CSP model for a period of time when compared to similar groups of children who have had no or very little CSP experience?
- Does the deployment of CSP skills and dispositions change over time? If so, are the changes sustained?

The evaluation began in the Spring of 2003 and finished in October 2004. Funding was made available through the Futures Learning and Teaching Programme in the Scottish Executive Education Department.

CHAPTER 2 : METHODOLOGY OF THE EVALUATION

2.1 Introduction

As indicated in Chapter 1, the evaluation was conducted in two phases. Phase 1 focused on the training and engagement of teachers and a pre-five staff with the CSP whilst Phase 2 focused on the impact of CSP on selected groups of primary school children.

In Phase 1 it was decided to use an interview methodology to explore the responses of teachers and pre-five staff. Of the ten schools and six pre-five establishments in the Smithycroft Learning Community, nine schools and all pre-five establishments had sent representatives to the training sessions at Level 1. 34 staff from a total staff complement of 192 in Smithycroft Learning Community had participated by the summer of 2003. It was decided to interview all pre-five and primary school staff and a cross-section of secondary school staff and teachers in the two special schools. In addition, seven heads of establishment who had not been trained were interviewed.

The distribution of interviews was as follows:

Pre-Five establishments:	Bellrock	3
	Elmcroft	2
	Kincardine	3
	Littlehill	1
	Garthamlock	2
	Molendinar	1
Primary Schools:	Carntyne	6
	Lamlash	3
	Littlehill	1
	Milncroft	2
	Royston	2
	Ruchazie	1
	Sunnyside	3
Special Schools:	Kennyhill	3
	Ashcraig	2
Secondary School	Smithycroft	4
		39

An interview schedule was constructed to explore the research questions outlined in Section 1.6. The interview schedule had eight themes as follows:

- Section A: Engagement with CSP
- Section B: Understanding of CSP
- Section C: Training in CSP
- Section D: Integration of CSP into the Curriculum
- Section E: Planning and Support for CSP
- Section F: Collaboration in CSP
- Section G: Parental perceptions of CSP
- Section H: Self-Evaluation of CSP

A copy of the interview schedule is provided in Appendix A1.

In Phase 2 a quasi-experimental design was used to explore the impact of CSP on children's learning strategies. In order to make the experiment manageable, two CSP skills (Problem Solving and Communication) and two CSP dispositions (Collaboration and Community) based on two curriculum areas in the 5-14 National Curriculum guidelines were selected as the basis for collecting the data. The substantive research question addressed was:

> *Can differences be identified in learning skills and dispositions between those children who have experienced the CSP model for a period of time when compared to similar groups of children who have had no or very little CSP experience?*

In other words, did a transfer of skills and dispositions take place for those children with experience of CSP when faced with a new learning challenge?

Two primary schools were selected in the Smithycroft Learning Community to participate in the experiment. One school (School A, designated the 'experimental' school) had considerable experience in the implementation of CSP whilst the other (School B, designated the 'control' school) was still to engage with CSP. Within each school two age groups were selected in consultation with the headteacher of School A as having most exposure to CSP, thus allowing for the maximum opportunity to display CSP characteristics when faced with a new learning challenge. These were P3 and P7. The curriculum areas selected from the National Curriculum Guidelines were Environmental Studies and Personal and Social Development.

Depending on the size of the year and class group, either all children took part in the experiment or, where the class was large, a sub-group consisting of some 50% of the class. Children were allocated by their class teachers to small groups consisting of between four and six children. The groups comprised two single gender groups (1 for boys and 1 for girls), and at least two mixed-gender groups. The respective class teachers were asked to allocate the children to the groups such that it was anticipated that cooperation in the group would not be impeded.

For the experiment, three new challenges were devised for both P3 and P7 classes in both schools (see Section 2.2). Three time periods were used as follows:

Time 1 (T1)	Early February 2004
Time 2 (T2)	Late March 2004
Time 3 (T3)	Late May/early June 2004

For each of the three sessions each of the P3 and P7 classes in Schools A and B were allocated to one of four small groups for the purpose of tackling the set challenges. As far as possible, these small groups were identical for each of the three sessions though, due to absences, some variation occurred. Allocation to the groups was made by the respective class teachers, the only guidance being given was that the children should not have displayed any anti-social behaviour to each other in their respective classes. Each groups' engagement with the challenge was video- and audio-recorded (see Section 2.4).

2.2 **The Learning Challenges**

For the experiment in Phase 2, three new learning challenges (see Appendices A2.1 to A2.6) were devised for both P3 and P7 classes in both schools. These challenges were related and based on the idea of a blind person having to be guided round a village by a guide dog. This involved map reading and direction skills of both P3 and P7, as well as their interpersonal skills.

The **knowledge** criteria selected for Challenge 1 were related to the 5-14 Environmental Studies topic, Understanding People and Place, in particular the ability to use left and right and reference to landmarks to give directions. For Challenge 2 the knowledge criteria were related to Health Education, Healthy and Safe Living, in particular, potential risks in the environment. Challenge 3 focused on 5-14 Personal and Social Development, in particular demonstrating empathy, respect and tolerance for others.

For all challenges, the **skills** related to problem solving and communication, in particular, an ability to evaluate and test ideas, observe the results and respond accordingly and to speak with clarity, using an appropriate tone.

For all challenges, the **dispositions** related to collaboration and community, in particular, to value and engage fully in collaboration, working to optimise the outcomes of a common effort, and to enter into productive groupwork – helping others to achieve a common goal and taking responsibility for a share of the work.

Using a 3D model village, the children had to devise a set of directions to guide the blind person round the village as she took charge of her new guide dog (Challenge 1) and identify the dangers she would encounter on her trip (Challenge 2) . Each group then devised a role play (Challenge 3) where the blind person would explore her feelings about her initial journeys with the guide dog. A simulated village obstacle course and a real guide dog were used as a stimulus for this final challenge.

Prior to implementing the challenges, they were piloted in a primary school not involved in CSP (see Appendix A3).

2.2.1 **The Sample of Pupils**

The pupil sample comprised two 'experimental' groups and two 'control' groups. The experimental groups consisted of 35 children in total in two age-groups, drawn from one primary school (School A). The first age-group consisted of 20 7/8 year old children drawn from P3; the second group, aged 11, consisted of 15 P7 children.

Similarly, the two 'control' groups comprised 36 children in total, drawn from the same two age-groups from a primary school (School B) in the same Learning Community as the experimental school. One age-group consisted of 20 P3 children; the second of 16 P7 children.

Confidential data for each child in both the experimental and control groups was provided by the school as follows:

- gender
- age
- entitlement to free school meals
- ability levels on National Assessments in maths, reading and writing
- a teacher's social skills rating (on a scale 1-4)
- attendance level

These data are summarised in Table 2.2 with further detail in Appendix A4.

Table 2.2 : Demographic Data of Pupil Sample

	Experimental Group (N = 35)		Control Group (N = 36)	
	P3	**P7**	**P3**	**P7**
Gender: Boys/Girls (N)	14/6	8/7	13/7	8/8
Average age in months	90.1	140.2	91.0	140.3
Entitlement to free school meals	6	4	8	6
Average ability: Maths *	0.8	2.73	2.0	4.19
Average ability: Reading *	0.7	3.27	1.8	4.63
Average ability: Writing *	0.7	2.93	1.4	4.00
Average social skills rating	3.15	3.20	2.3	3.38
Average attendance (%)	90.8	92.5	95.3	96.0

Note: Pre-A was coded 0; Level A, 1; Level B, 2; Level C, 3; Level D, 4; Level E, 5.

2.4 **The use of video for data collection**

In order to provide data on children's engagement with the learning challenges, each group of children was video-recorded on three separate occasions. Video recording was preferred to on-site coding by observers so that reliability of the data could be established. Each year group (P3 and P7) was allotted to groups of either four or five children (see Section 2.1) by their respective class teachers using pre-set group names (for example, names of dogs).

At the start of each session, the children were seated in their groups at a table on which was placed the model village. Three video cameras were focussed on each small group as shown in Figure 1.1 Two microphones were used for each group – one suspended over the group and one adjacent to one of the video-cameras. A trained cameraman was located near each table to maintain a check on the siting of the cameras.

Following an introduction to the learning challenge by one of the evaluation team, who was a trained teacher with long experience of teaching and trained in CSP, the children were asked to address the task of solving the set problem (see Appendix A2).

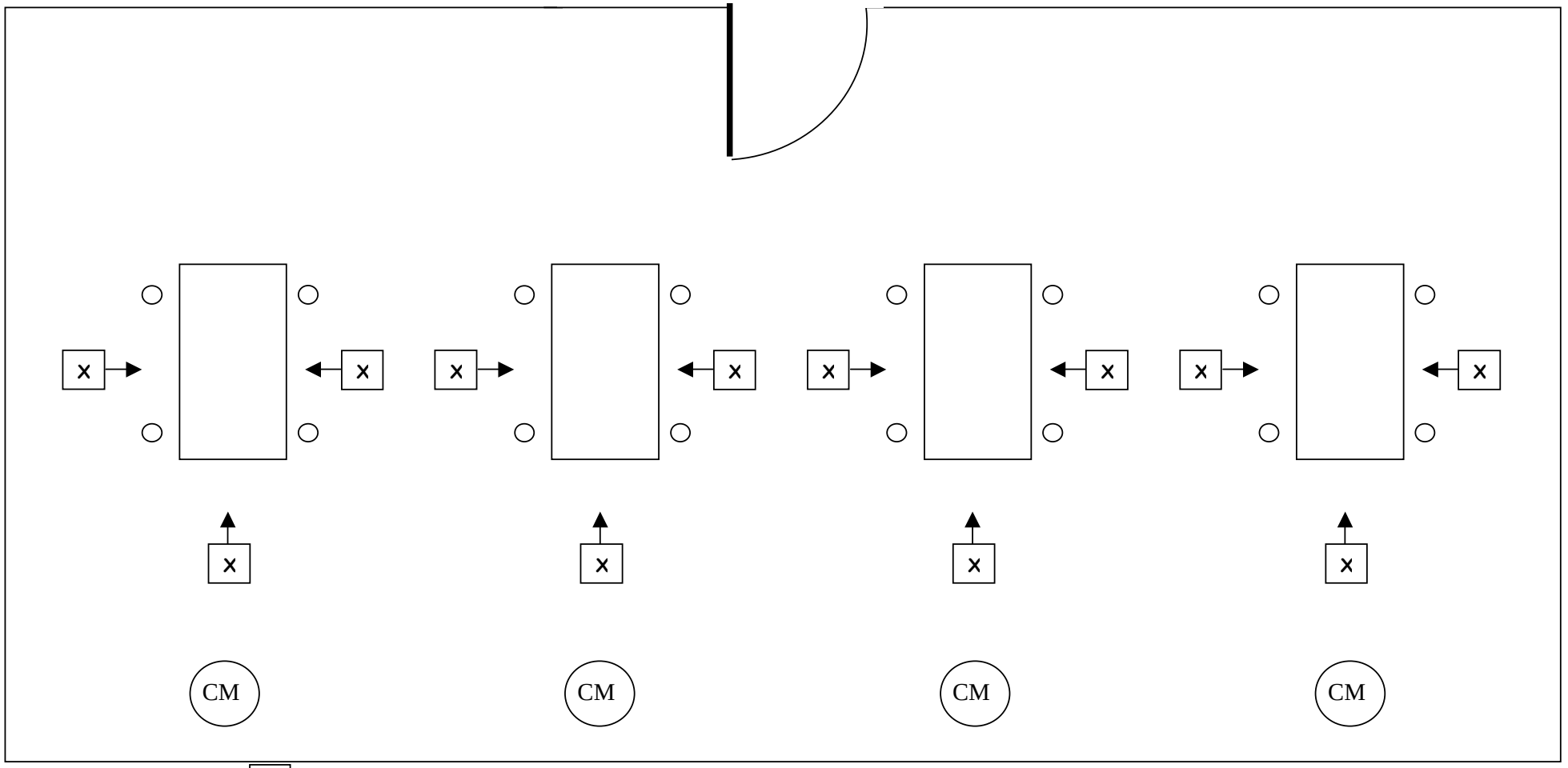
The task of the learning challenge was explained and the children were then asked to work as a group to undertake the task. Each task at the first two time periods (see Section 2.1) took between 15 and 20 minutes. The task at the third time period took between 6 and 10 minutes.

When the task was completed a de-briefing session took place with the whole year group but was not recorded. Subsequent to this session, the children returned to their normal classes.

After each time period the video and audio material from each group was integrated and videos provided to the evaluation team consisting of a wide view and two windows with side views of each group, such that each child could be observed in some detail for the duration of the learning challenge.

In total 47 video tapes were made available to the team for coding which were distributed amongst five members of the team. Each rater then rated each child on two scales for each skill and disposition at one minute intervals for the duration of each tape (See Section 2.5).

Figure 1.1 Room layout for the Learning Challenge



Key: O – children; [X] cameras; CM – location of the cameraman

2.5 **The rating scales**

In order to assemble detailed information about each child's engagement with the learning challenge and deployment of the selected skills and dispositions, each minute on each video tape was coded separately for each child. Initially a single scale was used for each skill and disposition. However, after viewing the video tapes from T1 it was decided that a single scale for each skill and disposition was inadequate (see Appendix A5). It was eventually decided to use two scales for each skill and disposition. On the first scale (Scale A) each child's level of engagement with the task was coded on a three-point scale as shown in Figures 1.2 and 1.3. On the second scale (Scale B) each child's level of deployment of the selected skills and dispositions was coded on a five-point scale as also shown in Figures 1.2 and 1.3.

Figure 1.2 Coding scales for the selected skills

	1	**2**	**3**
SCALE A	Pupil disruptive of other pupils' engagement with task	Pupil not displaying the skill	Pupil displaying the skill

	1	**2**	**3**	**4**	**5**
SCALE B	Pupil displaying a very low level of the skill	Pupil displaying a low level of the skill	Pupil displaying a moderate level of the skill	Pupil displaying a high level of the skill	Pupil displaying a very high level of the skill

Figure 1.3 Coding scale for the selected dispositions

	1	**2**	**3**
SCALE A	Pupil does not display the disposition and is disruptive of the disposition in others	Pupil does not display the disposition or respond to the disposition in others	Pupil displays the disposition and/or responds to the disposition in others

	1	**2**	**3**	**4**	**5**
SCALE B	Pupil responds at a low level to the disposition in others	Pupil responds to the dis-position at a high level in others	Pupil displays the disposition but doesn't encourage it in others	Pupil displays the disposition and encourages it in others	Pupils displays a high level of the disposition and actively promotes the disposition in others

Each rating on each scale for each skill and disposition for each child for each of three time periods were then used to construct a database using the *Statistical Package for the Social Sciences* (SPSS).

2.6 **Inter-Rater Reliability**

When the video-recordings for Time 1 at both schools were produced, the five members of the evaluation team agreed to score their allocated groups and reported back in a week to collate the information. The next stage involved selecting two pupils from the sample who were then rated independently by all five team members. One boy (pupil A) and one girl (pupil B) were chosen from the P7 group at the control school.

When this task was completed, inter-rater reliability coefficients were computed for Scales A and B for each skill and disposition in order to establish the degree of common understanding and interpretation of the scales within the team.

Initial reliability tests showed some variance between the five raters for three specific minutes on the problem solving Scale A. All five raters then viewed the three minutes in question and agreement was reached that if a pupil displayed intention to disrupt the task in three or more instances then the minimum score would be given. Previously it had been agreed that any skill or disposition had to be displayed for the majority of the minute.

Agreement thus reached, inter-rater reliability tests were repeated on the revised scores. In all, 160 correlation co-efficients were calculated. In total each pupil had 80 correlation co-efficients based on 8 scales: problem solving scale A, problem solving scale B, communication scale A, communication scale B, collaboration scale A, collaboration scale B, community scale A and community scale B. Five different raters meant that there would be 10 comparisons to make (rater 1 versus raters 2, 3, 4 and 5; rater 2 versus raters 3, 4 and 5; rater 3 versus raters 4 and 5 and rater 4 versus rater 5). This process was discussed at the meeting of the Evaluation Advisory Group in May 2004 with all present stating that they were content with the rigour of the approach. All the 160 correlation co-efficients ranged from 0.6 to 1.0 were highly statistically significant. (See A6.1 and A6.2), thus confirming a high degree of common understanding amongst the raters.

CHAPTER 3 : FINDINGS: the professional response to CSP

3.1 Initial engagement with CSP and extent of training

The introduction of CSP in the Smithycroft Learning Community started with the staff development co-ordinator in one Primary School receiving a routine mailing from Network Educational Press, whose material was already used and valued. It was passed to the head teacher where it *'hovered over the bin'*. However, having responsibility for teaching and learning in the Learning Community she decided to attend a training course. There is unanimity that the headteacher of Carntyne Primary School played a pivotal role in getting CSP established in Smithycroft Learning Community.

34 out of 39 staff interviewed had been formally trained to Level 1. Some heads had taken part in the training themselves; others had minimal involvement in direct training, but had encouraged their staff to attend. Seven headteachers in the group have been formally trained. Many of the staff were identified by heads as being interested in this area. The numbers of staff from each establishment involved in training varied from one to seven. Only a very few teachers have been able to progress from Level 1 to Level 2 and only one to the Management Level. It was hoped that this would improve and that class teachers would be able to train as trainers in the foreseeable future. The difficulties of funding, of finding supply teacher cover and of meeting external demands of Primary Schools were cited as inhibiting fuller take up of training opportunities.

Staff were asked to describe the extent to which their establishment was involved with CSP. There was to be a variation depending on the sector in which the member of staff worked. The most positive response came from the pre-five sector where the vast majority of staff felt that the approach to learning they already used fitted well with CSP. Typical responses from pre-five staff were:

> *…. have always worked along CS lines…Have always worked from verbal, interactive model.*
>
> *In this centre our children are the learners, and we take the lead from them.*
>
> *I've tried my best since coming here to give children as many opportunities to make self selections and self choice and so in that way it's been part of what we do as it is.*
>
> *It's something we do already in nursery schools. We allow children to experiment, we get them to negotiate and we get them to put things into practice themselves.*

The majority of staff in this sector felt that CSP was not something new for them. It was seen as a development from existing practice which would expand and develop their approach.

> *I was directing before and now I'm taking a back seat…. Now it's their ideas and they build it up.*
>
> *Some of the things in CSP emphasised even greater what I felt we were trying to do.*
>
> *I think we're more aware of it now and so we're expanding what we do with them and realising more that the children are needing us to step back more*

However, one note of caution was sounded by a number of pre-five staff. Some felt that the initial training was too focused on schools and that the materials had to be adapted to suit the pre-five context. This issue appears to have been addressed in the subsequent training and the

headteacher of Carntyne Primary School was mentioned again as a source of support, having established a pre-five group.

In the primary sector the response was more varied. *'Very little', 'not to any great extent', 'very limited', at the early stages'* were typical responses used to describe the involvement of primary school teachers with CSP. In one case the headteacher described staffing difficulties as the reason for the delay in implementation, but had nevertheless made progress in implementing some key ideas at a whole school level. In another school, where the headteacher and another member of staff were trained, efforts had been made to incorporate CSP into the school development plan with targets which had been achieved. In most cases, however, the ideas were being implemented in a limited way.

In other schools there was more enthusiasm with CSP being seen as both refreshingly new and realistic. Typical responses were:

> *A refreshing way of working. I felt it was realistic – it was not 'Oh not another completely new ball game and it is something else we have to take on board' .. it was doing the same things taking a different approach.* (Primary School Headteacher)

> *What I love about this is that it provides a very comprehensive context for everything – it ties in with their Personal and Social Development … with their topics … our classroom, our school, our street. It is very relevant.* (Primary School Teacher).

Particularly valued in some schools was the emphasis in CSP on Community Building which was felt to address the behavioural challenges faced in the East End of Glasgow and which provided the focus for initial use of CSP: *We have a banner in class "We are a Community. We work and play together".* (Primary School Teacher)

Staff at one Primary School with a high density of CSP trained teachers felt that it was '*on the cusp*' of having a whole school policy on CSP.

The response in the secondary and special school sector was least positive. *'Patchy' , 'not sure' , ''don't know' , 'not used it much'* sum up the majority of the responses. Evidence of innovation fatigue was present with comments such as: *I thought … yet another initiative that someone's going to get promotion on.*

(Special School Teacher)

Special schools were recent entrants to the Learning Community and had an 'associate' status due to their budgetary differences. The secondary special school saw CSP as one useful addition to its range of teaching strategies but did not place it in a privileged position. Having to work with a range of attainment from Access1 to University entrance implied that curriculum and pedagogy were necessarily already individualised.

3.12 **Respondents' understanding of the CSP approach**

Staff were asked if they had done any background reading on the subject. The vast majority of respondents had only read the materials relating to the course; some had read one or more of the Network Educational Press books on CSP. Understanding of the CSP approach was not informed by any wider reading.

The overall purpose was variously described, covering a wide range of the stated purposes of the approach - independent learning, building community, giving learners greater responsibility for, and ownership of, their own learning, collaborative group work and the development of life skills. The most commonly mentioned ideas were the those of giving children increasing levels of responsibility, co-operation and teamwork, and the increased motivation of learners:

> *It could inspire our children to be more enthusiastic about their work.*
> (Primary School Headteacher)

> *If it was to permeate right through the school that by the time you get to Primary 7 the children should have a really sophisticated range of skills that they are able to use and apply to any given situation if they are given the opportunity.* (Primary School Teacher)

> *The children take command of their own work.*
> (Primary School Teacher)

> *Children take ownership of the rules that you make.*
> (Primary School Teacher)

> *It's about children having contracts with you and your having contracts with children. In other words they have some kind of say in the decision making … and in the rules and regulations so it has been negotiated if you like.* (Primary School Headteacher)

The potential of CSP for fostering inclusion was an important feature for some respondents: *This is what Critical Skills is all about – to give everyone a voice* (Primary School Teacher)

In particular there was a sense that CSP could provide a context where pupils who might struggle on their own could both contribute to, and be supported by, a group of peers in the course of collaborative work

One key aspect of CSP rarely mentioned in response to a question about the overall purpose of CSP was problem solving. However in describing how CSP operates, problem solving featured strongly, especially in the form of challenges issued to learners. The majority of respondents were aware of the basic operation of the methodology and many were able to describe it in a fair amount of detail.

> *It operates on the basis of developing pupils' learning skills through a series of challenges.* (Primary School Teacher)

> *It's more process oriented* (Primary School Teacher)

> *It starts from community building – ground rules, groups, full value contract, quality audience, quality conversation.*
> (Primary School Teacher)

> *….encouraging children to be more independent and organised.*
> *(Pre-five staff)*

> We give the foundations to build on the knowledge through their own experience. *(Pre-five staff)*

The continuity between existing methodologies (especially Circle Time) and CSP was valued by some respondents: *It gives a structure to collaborative tasks.* (Primary School Teacher)

Much of CSP could be seen as simply good professional practice but it did introduce helpful new features such as the 'tools' and the sharing of a vocabulary about teaching and learning between teachers and pupils. In particular it was felt that CSP gave a structure to the '*airy fairy*' child centredness of the 1960s and it generated robust assessment systems. *A lot of it is parts of good teaching coming together.* (Primary School Teacher)

The wider implications of the changed pedagogical relations were highlighted in one school where the use of CSP techniques outside the classroom, with parents and in staff meetings and decision making was being taken on board.

In making the distinction between the CSP approach and more conventional methodologies, respondents in the secondary sector were of the view that it was very different.

> *It's very different to my previous teaching.* (Secondary School Subject Teacher)
>
> *I found CSP quite alien. More appropriate to younger children – not older children.* (Secondary School Subject Teacher)
>
> *It differs hugely – the methodology is based on group work …..the pupils have a greater say in what happens.* (Secondary School Subject Teacher)

In the primary and special sector a small number of staff stated that there was very little difference. Most, however, alluded to the role of the teacher - '*not so teacher led'* was a common phrase used: *Not the Sage on the stage but the Guide on the side.* (Primary School Headteacher)

A small number of primary teachers mentioned the increased time for observation which this approach allowed.

The pre-five sector responses also strongly favoured the idea of the changing role for the adult. This they saw as an increased awareness rather than a new strategy.

While there was clear evidence of an understanding of the need for the teacher to be more of a facilitator than the '*sage on the stage*', it was less clear whether staff understood the complexity of the coaching role of the adult.

3.13 **Training in CSP**

There were differences of perception in terms of the effectiveness of the training. A common theme was that it was found to be very challenging. One teacher commented:

> *It was the hardest training I've ever done.* (Primary School Headteacher)
>
> *Very gruelling … very demanding and exhausting .. exhausted and totally flabbergasted at the end of Day 1.* (Primary School Teacher)

The majority view was that the training was effective, although the degrees of effectiveness vary from *'very effective'* to *'50% effective'*.

Oh very effective, very, very well organised and very well planned.
(Primary School Teacher)

Very effective, I found it inspirational. (Primary School Teacher)

A recurring comment among the pre-5 members of staff who attended training was that it was more geared towards the needs of other sectors. However, there was also a significant comment amongst nursery personnel that they felt they were already working in this way. Nursery nurses expressed the least confidence at the commencement of the training: *I felt I was just a wee nursery nurse.* (Pre-five staff)

By the end, the nursery nurses felt that they had more than held their own and indeed had asked significant questions of their colleagues. A notable minority felt that the training was not effective, and the secondary members of staff interviewed were least enthusiastic expressing the view that the training was *'condescending'*, with unclear objectives. A number of respondents expressed the view that the training was aggressive: in spite of this, these respondents also expressed the view that it was effective. One source of this ambivalence appears to be the use of CSP techniques (adult challenges for adult learners), thus placing staff experientially in the position of the child learner with child challenges and expecting them to take risks in, for example, making peer presentations which, for non head teacher, was a threatening experience. The exposure which this entailed may be judged by the sense that some adults resorted to child-like strategies such as '*huffing'* when under pressure but: *That's what helped me to understand what it was all about and what I'd be expecting of the children.* (Primary School Teacher)

Opinion was divided over whether the nature of the training should be made known to participants beforehand. One view was that trained staff should keep quiet about their experiences in order for other staff to enter the field without pre-conceptions while others felt that some pre-briefing would help participants understand and cope with the challenges of the first day.

Another issue which was raised was the question of whether the American origins of CSP lessened its effectiveness in the Scottish context on which it was '*a bit vague*'. For some CSP travelled well while for others:

Too much time was spent on bonding etc – it began to alienate us. I was resentful of the time spent. This will alienate Scottish teachers.
(Secondary School Subject Teacher)

Headteachers expressed mixed views about how they thought their staff had found the effectiveness of their training: views ranged from *'very stimulating and effective'* through to *'uncertainty about cross sectoral working'*. Individual headteachers expressed concern about staff finding the training exhausting and the amount of material which they were expected to absorb.

A number of deficiencies were identified in the training. These were the demands made upon staff by the training, the lack of time and the perception of focus on the primary sector. Pre-5 staff were very clear that they did not feel the training took account of their particular needs and concerns as it was considered to be Primary orientated. One pre-five Head described it as: *not pre-5 friendly.*

However, a substantial number of staff did feel that the deficiencies in the training were not apparent or not significant.

Headteachers, particularly in the primary schools, felt that release of staff was the biggest single factor in facilitating staff training. In the pre-5 sector, it was notable that colleagues did not see this as a substantial issue, as: *everyone mucks in – we had no cover or budget.* (Pre-five Head)

The pooling of budgetary resources through the Learning Community enabled staff in smaller schools to participate in the training through funding supply cover. In addition the clustering of teachers interested in the development in a geographic and administrative unit was thought to be helpful. A proposal for a similar *'clustering'* of special school staff across the City was suggested from that sector. On the other hand some of those who had completed the training outwith the context of the Learning Community felt that the opportunity to interact with staff from a diverse range of backgrounds was a very productive experience.

In terms of response to the **content** of the training, there was an interesting mix of responses. A number of staff commented upon feelings of 'sheer panic' at the start of the course, but equally, others commented on the value of the underpinning philosophy of critical skills:
I liked the thinking: the way that the children would work together
(Primary School Teacher)

A number of comments expressed the view that the terminology was confusing (particularly its American jargon) and by far the most supportive comments were on the value of working together.

One danger of the current training highlighted was that it tended to present one template of how to write challenges and it was only as teachers became more confident in the use of CSP did they realize that there were many valid ways to present a challenge to pupils: *it took a wee while to get to that.*

The vast majority of comments on the **organisation** of the training were very supportive, although a number of staff commented that they had experienced difficulties with the early start, due to family and other commitments. A secondary member of staff felt that the sessions were well organised but that the emphasis was wrong, and that too much time was spent on '*spurious activities'*.

In terms of the **process** of the training, there was a clear perception on the part of a significant number of respondents that the experiential nature of the course was valuable. In particular, staff commented positively on the worth of being put in the position of the child as a learner, with the exception of secondary staff, who both felt that this was a negative aspect. Team working was another aspect of the training which attracted positive views. There was a perception that the course had followed a logical progression, and although at times some respondents could not see which direction their training was taking, there was a substantial view that it had all come together at the end. Most respondents were positive about the trainers themselves and their conduct of the training. It was felt that the: *tutors set a good example in creating the climate.* (Primary School Headteacher)

or that there was a 'lovely atmosphere'. However, a minority view is represented by the following comment from a teacher in a special school: *There may be a cultural difference between the trainers and participants. I found their attitude a tad patronising.* (Special School Teacher)

Generally, however, there was support for the process of the CSP training, although most found it demanding and challenging.

Many respondents felt that there was a need for more time. There was, it was felt, too much content for a 3-day course (others had only taster courses of half a day). The use, in Level 1, of two blocks of time with a period of reflection and experimentation in between was appreciated. Some respondents felt that the timing of the course, at the start of the session, was wrong, as there were many conflicting pressures at school. There was a strong opinion that the course was very intensive, and that there was a great deal of ground covered in a short time. Many respondents felt that there was a need for more opportunities for reflection and digestion of the material. However, there was a substantial number of positive, as well as negative comments, about the challenging nature of the material:

> *Being pushed out of your comfort zone was good.*
> (Primary School Headteacher)

> *It was so different from conventional training – you have to be immersed.*
> (Pre-five staff)

The style of presentation was also problematic for a minority of respondents. Some felt that it was '*too much in your face*'

> *While the content was good, the delivery could be better – it was intimidating at times. They forgot they were dealing with professionals.*
> (Special School Teacher).

The picture with regard to **implementation** of CSP is an uneven one. In nurseries, there is a perception that the techniques advocated by CSP have been in place for some time, and thus staff in these establishments are happy to state that they are using them:

> *It is the normal way of operating for pre-5.* (Pre-five staff)

> *I understood the philosophy and the theory and am using it on a day to day basis.* (Pre-five staff)

Some staff however stated that implementation of CSP was only partial in that only certain of the techniques were in place.

Amongst the primary schools, some staff are implementing CSP in relatively circumscribed ways in their own classes, often converting existing material (especially the Glasgow bank of 'topics' for the 5-14 Programme) into the CSP format. A major difficulty seems to be lack of training for all staff. While taster sessions have been widely attended (through cascading on INSET days) there was a sense that the Level 1 training was a pre-requisite of implementing CSP:

> *It would be quite difficult* [to cascade] *because I really do think that teachers would have to go through the process of training.*
> (Primary School Headteacher)

No school in this sector states that there has been a cross-school take up of CSP in its entirety although one sees itself on the cusp of having a whole school approach. Staff were conscious of the possible consequences of classes being exposed to CSP one year but then it not being consolidated the following years: *It would be great to know that these skills would be built upon not just next year …* (Primary School Teacher)

The major obstacle to such integration of CSP was clearly attributed to the lack of time for teachers to come together for the time necessary for planning and preparation. One development that is seeking to ameliorate this situation is the development across the

Learning Community of a 'bank' of challenges which could be used by teachers in different contexts.

The picture is largely one of where teachers have been trained and are enthusiastic, with then only limited implementation is occurring. However, some schools are not implementing CSP although they state that they would like to when resources and training permit.

CSP, where implemented, is being realised in different ways. Nurseries are encouraging staff to watch what is happening and to become involved in an experiential way. They point out that staff are often using CSP techniques without realising it. One Family Centre stated that planning was now based around CSP . One special school felt that there was a lack of understanding in the training of the scale of behavioural difficulties which they faced, although there was appreciation that CSP would help to address this in the long term. The other special school felt that it did not have to contend with behavioural problems and that CSP was one further element of their armamentum In primary schools, responses varied. Some schools were trialling the techniques: others were implementing certain aspects on a whole school basis, and others had not moved beyond an expression of interest in using CSP.

3.14 **Integration of the CSP approach into the Curriculum**

Although some primary schools felt that CSP could be used in all subjects across the curriculum, others had a clear view that language and communication, environmental subjects, personal and social development and education were the most appropriate areas, with topic work in environmental studies being seen as a natural starting point. Some primary teachers felt that there might be difficulties in maths and language, but were of the opinion that these could be overcome Only two such schools felt that CSP would help mathematics and numeracy. Others saw the expressive arts and particularly PE, as problematic areas. Nursery schools felt CSP could be used largely across the pre-5 curriculum and staff were unanimous that there was no subject are where CSP was inapplicable. Secondary teachers initially saw CSP as most applicable in English, Mathematics, Business Studies and Technology, with a cross curricular application in Support for Learning. However, substantial number of respondents felt that the highly structured approach to the Mathematics curriculum, especially in the primary sector, militated against implementation of CSP in that area. Interestingly, the secondary staff also formed the view that mathematics – which they had earlier identified as a potential area for the implementation of CSP – posed difficulties: *because it* [Maths] *is difficult.* (Secondary School Subject Teacher)

One issue on which divergent views were expressed was that of the permeation of CSP through the curriculum and the classroom. For some, CSP was an holistic approach which should inform all aspects of all classroom work: *You don't just add it on to what you are doing.* (Primary School Teacher)

For others, particularly in the special school sector, CSP was conceived in more discrete terms as one approach amongst several possible.

For some teachers community building provided the entrée to CSP as this was seen as pre-requisite of the use of challenges and other CSP techniques in the social context of Glasgow.

The factors which were seen as facilitating the implementation of CSP were numerous. Head teachers, in both primary and nursery schools and in family centres were clear that there was an absolute need that all staff should be properly trained in CSP before whole school implementation could be considered. They were also clear that there was a need for leadership at headteacher level to provide the motivation and encouragement which staff would need if

CSP were to be successful. This enthusiasm was widely seen as necessary for the engendering of an appropriate climate. There was a view amongst some primary teachers that training in CSP should form part of the initial education of teachers if there is to be a widespread implementation across the country. Head teachers were also clear that there was a need for the staff to be willing and enthusiastic, and for them to see the value of CSP in their own teaching and their own classrooms. This need for training of staff was widely seen, by both head teachers and teaching staff, as being a substantial cost, both in terms of the cost of the training activities themselves and also in terms of the requirements for cover in school.

A second factor which was seen as important was the provision of time for the activities and the design of the challenges themselves. It was felt that there were a great number of pressures within the curriculum and in terms of the structures and organisation of the schools and that CSP would need to be seen as a necessary priority in the allocation of time.

However, it was notable that staff felt that if these two principal objections could be overcome, then: *CSP is a useful enhancement.* (Primary School Headteacher)

and that there would be considerable benefits in implementing the programme, not only for the children as learners in terms of encouraging their independence and motivation, but also in terms of the staff themselves. As a Nursery Headteacher put it: *We are all learning together – nobody has all the right answers.*

3.15 **Planning and support for CSP**

One factor in determining whether CSP was embedded in the school's curriculum was to find out if it was identified in the relevant Development Plan. CSP featured in the forward planning of some of the teachers who had undergone training, varying from the attempt to infuse all work with CSP to the identification of specific projects which would benefit from CSP.

This inclusion in planning may be permeative in nature. For example, it features within sections on 'Teaching for Effective Learning', or when discussing 'developing independence, confidence and responsibility for learning' or adaptation of circle time. There was some uncertainty at class teacher level about the inclusion of CSP in development plans: one teacher said, *"I think it is, but haven't read it yet."* In a special needs school one teacher felt that CSP was embedded in Core Skills and Special Needs and that most of what was presented in CSP training is already being done by her and her colleagues. In a nursery and a family centre it was intended to include CSP in future development plans.

A spread of respondents across all the sectors – nursery, primary, secondary and special - said that CSP did not feature in their school's development plan and were not aware whether it was in LC development plan. Interestingly one nursery respondent said that it was part of the previous year's development plan but not the current year's: *Many of the plans fell by the wayside because of staffing difficulties* (Primary School Headteacher)

In terms of expansion of CSP and the support needed, training of more teachers was repeatedly mentioned. The dominant view of respondents was that the training of more staff was central to the development of CSP. It was thought to be especially difficult to take forward CSP developments when only one or two teachers within an establishment are trained. Those who have Level 1 training would welcome training to Level 2. The view was put forward that in-house training would be preferable, efficient and less expensive. Further, shorter bursts of training would be less "*confusing"* and should contain demonstration lessons.

It's all about seeing the positive effect it has on the children and how much they get out of it even at Primary 1. (Primary School Headteacher)

It was felt that CSP should be introduced more gradually so that teachers felt that they could "*cope"* rather than being too "*ambitious"* – "*important to do things well*".

Local training was a recurring feature of suggestions for type of support needed. The predominant model of INSET whereby one teacher who has undergone training outwith the school is responsible for transmitting the messages to other staff was not thought to be appropriate for CSP as: *It is not the type of thing which you can cascade easily- it is too much to take on board. Feedback is fine … (you) really need to have the full training* (Primary School Teacher)

Building up a bank of challenges or ideas in a range of curricular areas for teachers to consult or use was considered to be important too. In secondary a 'taster course' had not been well received "*it did a lot of harm*". The secondary teachers believed examples were needed in national documentation for Higher Still and a resource pack.

The pre-5 view is of mutual support by involvement through their pre-5 group and sharing ideas.

In one primary school the view was expressed that co-operative teaching - where trained teachers would model and support others - was a possible solution. However she also commented that support needs to be top down which meant more support from the education authority.

In one primary school, the comment was made that *it all comes down to money and cover.* (Primary School Teacher)

This was reinforced elsewhere, where staffing was seen as an issue in preventing further development of CSP, as there was no spare capacity to allow release of staff for training in a school where even the HT is class committed. One pre-5 establishment respondent felt that *taking on CSP adds to an already massive workload.*

The headteacher of Carntyne Primary School was most often mentioned when identifying awareness of anyone concerned with the Learning Community being involved in or supporting the CSP developments which have been taking place – see also Section A – although others were also seen as important. She is central to keeping most respondents in touch with developments and meeting with groups. In the secondary sector one teacher commented that the English adviser is aware of CSP and another mentioned that the Local Authority knows about CSP because of funding: *but not aware of how much they actually know.*

One Primary School Headteacher commented that: *It would be useful if Glasgow had its own trainers so not dependent on American trainers who are expensive.*

HMIE had not been involved in CSP development in schools. In one recently inspected school there was felt to be a lack of interest by HMIE in a development which the school itself saw as central to its future:

Very low key I would say [laughs] – *it kind of got one line you know … not particularly interested would be the word to use … not sure how to interpret this* [laughs]. (Primary School Headteacher).

A view was expressed by a heavily CSP committed teacher that HMIE had not asked her anything about it during the process of inspection. This suggests a significant tension between the aspiration of the FlaT programme to foster 'bottoms up' initiatives and an inspection system with a centrally determined set of criteria.

The Educational Improvement Service of Glasgow City Council had played largely a background role in the development of CSP through hosting the first seminar but the '*keen interest*' of an Adviser was noted. Advisers attended meetings of the Learning Community Senior Management Team and kept up to date with developments.

The commitment of staff (Advisers, Headteachers and Class Teachers) was seen as the key to the success of CSP. In special schools this was more challenging as the support of the special education Adviser and that of individual subject Advisers would need to be sought.

The priority given by the City Council to CSP was held in doubt by some – if it were treated as '*another new idea*' among many there was felt to be a danger of dilution as different parts of the City pursued different 'packages' such as CSP, Accelerated Learning or a Tony Buzan package.

3.16 **Collaboration in CSP**

A significant view was that there was a lack of collaboration within schools. Where reasons were given, this was see as being due to: staffing difficulties; pressure of time; and maternity leave.

Where collaboration was deemed to be occurring, there were different ways in which staff were collaborating. In one school the collaboration was between those teachers who had been on the Level 1 training course. Another instance was collaboration at a particular stage of schooling where teachers have been trained, for example, in the English department of the Secondary school and at P5/6 in one of the primary schools.

Five respondents mentioned the sharing of ideas between staff, discussion opportunities, and the role of those who have been trained in keeping other staff informed. One respondent felt that this type of collaborative activity already happens in their particular school and gave the example of a "Super Bowl" challenge which is an annual event involving all staff and pupils.

The joint development of a bank of challenges was seen as a significant way of furthering collaborative work across the Learning Community. The presentation of short INSET sessions on CSP by teachers trained in it occurred but the potential of this methods of cascading was felt to be very limited and a much more structured and structural process of induction was felt to be necessary: *It is a matter of getting people to think in that way all the time … become a matter of course.* (Primary School Headteacher)

The development of a Pre-Fives liaison group in the Learning Community where material and ideas were shared was seen as a very significant step and it was intended that a cognate Primary School liaison group would be established. As with other aspects of CSP the major barrier to further collaboration was teacher time to meet, share ideas and develop materials.

The support group within the Learning Community is an important factor in maintaining collaboration between the schools, although interestingly a significant number of interviewees were not aware of any collaboration at LC level. Within this LC support group, the

enthusiasm the Co-ordinator is an important feature in the dissemination of information through regular meetings.

> [Her] *enthusiasm and positive attitude provides leadership and support for all of us.* (Primary School Teacher)

This is particularly so for the Pre-5 sector where regular collaboration would appear to take place in any case and where: *pre-5 people are very supportive of each other.* (Pre-five Staff)

Another opportunity for collaboration at LC level was in-service inputs provided in the schools by those already trained or twilight courses offered by the Co-ordinator and the bank of Challenges which were being written in in-service time.

The Learning Community was thought to be close knit and always having CSP on its agenda. It was seen as being given strong leadership by the Headteacher charged with developments in teaching and learning across the Community: [She] *is very much in charge and in control* (Primary School Headteacher)

The pooling of budgets within the Learning Community was felt to be '*very supportive'* for smaller schools trying to release staff for training. The development of a 'Community Challenge' was thought to be a possible way to develop both the CSP approach and the solidarity of the Learning Community.

A range of other ideas for more effective collaboration was suggested by respondents. The Learning Community was seen as a good focus for effective collaboration. Comprehensive dissemination of ideas to all schools could be achieved through the Learning Community as it could offer a "big event" for all staff to attend. The Learning Community could also offer regular opportunities for staff to meet, for example, once a term support network across sectors, more meetings, refresher course, opportunities to observe practice in other schools, were some of the ideas put forward.

Collaboration through outside agencies (unspecified) was also seen as essential as was the sharing ideas for Challenges and the development of common cross-curricular tasks. The need for time to meet and plan together was regarded as a necessary condition for CSP to flourish. The need was also seen for a trainer to be based in LC.

> *Without more people being trained it may well be that the thing dies a death.* (Primary School Headteacher)

More cover to allow staff to train was also regarded as essential.

3.17 **Parental and other perceptions of CSP**

Many respondents stated that parents had not been involved with CSP. Others said that limited information had been provided to parents through the school's newsletter. Such information included alerting parents to staff training which had taken place, or that children required to bring in items for Challenges.

In one Nursery parents are interviewed when their child starts nursery and they are given a leaflet which identifies the CSP skills being promoted. This nursery also has home link sheets which focus on key CSP skills. These sheets have been working with some parents but not others.

Awareness of CSP can be made in a general rather than a specific way. One respondent said there was a poster about the skills at the front door of the school and key points are discussed at meetings with parents but without using jargon. One Headteacher said that more information would be given out next session, *"especially if Homework Challenges take off."*

Another respondent stated that parents on the School Board had been informed. In general, parents had not been directly informed of CSP developments in other schools and this lack was acknowledged by staff. In one school, however, the planning of an Assembly through CSP methods by a P7 class had been witnessed by some 40 parents and the children's achievements praised. In another, the CSP process had been used in a Parents' Meeting to discuss the school's response to National Priorities consultation but only five parents had attended out of a possible 200+.

Respondents indicated that parents had not asked for information on CSP. However, one pre-5 establishment reported that parents had commented favourably on their children's behaviour, stating that they were surprised at their children's confidence and independence in the nursery environment and at home and that the children loved being challenged.

3.18 **Self-evaluation of CSP**

The strengths of CSP were seen by respondents as lying principally in its: community building techniques; varied methodology; cross-curricular capability; passing of ownership of learning to the pupils; emphasis on collaboration and co-operation; use of self assessment; fostering of care and respect for self and others; inclusive ability to address different learning styles and levels of prior attainment; reciprocity between adults and children; development of life skills.

In order to build on the strengths of CSP staff saw the need for: incorporating CSP into daily, weekly and termly forward plans; developing a consistent whole school approach; involving children in weekly planning.

The principal weakness of CSP for staff lay in deficiencies in support structures for its introduction: a low density of trained staff; lack of time for preparation; highly prescriptive management systems; difficulties of co-ordination.

Levels of enthusiasm for CSP varied from total commitment via the cautiously interested to the hostile:

> *I would really love to see it working right across the school and if I could think that, my enthusiasm would know no bounds.* (Primary School Headteacher)
>
> *I'm really enthusiastic but I've got a feeling that it won't work … I've got a feeling that it'll stop at the nurseries.* (Pre-five Staff)
>
> *It's not the answer to everything.* (Primary School Teacher)
>
> *I'm not at all enthusiastic – some of the tasks are confusing.* (Secondary School Subject Teacher)

In particular, staff felt that the curriculum as realised in Glasgow was very prescriptive and left little room for innovation.

> *Most staff feel under pressure to do what they've been told to do, stick to the script … because of results, because of testing, because of all the other pressures that are put on from on high.* (Primary School Teacher)

The weaknesses of introducing CSP were largely attributed to the educational context rather than to the approach itself, the need for: more training; more time for shared planning; more time to develop and implement CSP. Some staff felt that CSP was likely to be more appropriate for some pupils than others: some classes would not cope with it; boys might benefit more than girls. There was some evidence that staff in different age/stages saw CSP as being better geared to age/stages other than their own and there was concern that the gains made in one age/stage would be diminished by the organisation of the next age/stage of the education system. At the secondary level there was some doubt about the applicability of CSP to the subject-based curriculum

There was a degree of confidence that CSP would not be a short term fashion if the requisite support structures were put in place: more time for development; more training; Learning Community support. The need for supply cover was repeatedly stressed. The development of a bank of Challenges was also seen as an important initiative by the Learning Community Estimates of the 'return' time from the systematic introduction of CSP ranged from six months to ten years but informants stressed the need for proper training, resourcing and policy support if CSP was to deliver its promise. CSP was widely felt to require little new by way of resource material but that its impact was being limited by time pressures, time for staff to prepare a new way of working and time in the curriculum to develop new ideas.

Currently, staff were not confident that the introduction of CSP was being supported outwith the Learning Community with Glasgow City Council's position being unclear and HMIE being seen to have largely ignored it on inspection. The external inhibitors of the development of CSP followed established patterns of response: the curriculum was too crowded; attainments in public examination dominated secondary schools; buildings were sometimes not conducive to the CSP style of work; time was scarce; staff had little control of how to run their classrooms:

> *Education is not healthy at the moment – struggling with paper … tension between management and teaching.* (Secondary School Subject Teacher)

Pre-five provision seemed less constrained by such factors but the nature of Nursery Nurse contracts was felt to inhibit developments. One teacher summed up the fundamental nature of an introduction of CSP: *If it's going to work it needs to go right through the education system.* (Pre-five staff)

Staff thought that the long term outcomes from the systematic implementation of CSP would be children who were: more able to play; more confident; more secure; more valuing of self and others; more independent; better team players; more able to take risks and to solve problems; more communicative; able to organise tasks; more attentive. Some staff doubted whether such outcomes could be attained.

CHAPTER 4 : FINDINGS – the impact of CSP on children's learning

Phase 2 of the evaluation focussed on the impact of CSP on children's learning based on extensive video-recordings of children's response to a new learning challenge. The data from Phase 2 have been analysed in three ways as follows:

- a comparison **between** schools of pupils' engagement (Scale A) with the learning challenge and their deployment (Scale B) of both the selected skills and dispositions
- a comparison over time **within** schools of engagement and deployment
- an analysis of possible **relationships** between the other independent variables (ability, entitlement to free school meals, social skills rating and gender) and the dependent variables (engagement and deployment)

4.1 Engagement with the learning challenges and deployment of Skills and Dispositions

Tables 4.1 to 4.4 are concerned with the average distribution of pupils' **engagement** with a new learning challenge at each time period in terms of the two skills (problem solving and communication) and the two dispositions (collaboration and community). Tables 4.5 and 4.6 address the **deployment** of the skills and dispositions in the context of the learning challenge. These tables demonstrate particular trends within school groups and between the two schools in which the observations were made.

The first point to note from tables 4.1 and 4.2 is that for P3 pupils no major consistent difference at T1 (i.e. time 1) emerged between the two schools in terms of the pupils' engagement with the task. However, P3 pupils in School A had a slightly greater tendency to be disruptive when undertaking the learning challenge. This trend was evident across both the skills and dispositions. In terms of the second challenge (i.e. T2) P3 pupils in both schools were significantly more engaged with the task and significantly less disruptive.

For the older pupils (i.e. P7) it was evident from tables 4.3 and 4.4 that pupils in School A at the outset, i.e. T1, tended to be less engaged and more disruptive than their peers in School B. At T2, a different picture emerges with the older pupils than that with the younger pupils. On the whole, the P7 pupils were less engaged with the task and the small proportion of disruptive pupils in School B increased.

In terms of the specific skills and dispositions, P3 children in School A displayed at the outset a lower level of problem solving skill than pupils in School B, which was somewhat unexpected. With the older children (i.e. P7), there was a tendency for children in School B at T1 to display a slightly higher level of engagement in both skills and both dispositions.

Tables 4.1 and 4.2 also address the changes over time in the two P3 groups. In both schools the engagement of P3 pupils in the learning challenge and the deployment of both skills and dispositions increased over time. As the display of skills increased, the extent to which pupils were either disengaged or disruptive decreased. However, in School A (the school in which CSP has been embedded) pupils started (that is, at T1) from a lower level of engagement in the skill of problem solving (44.8%) than pupils in School B (53.4%). The most encouraging of the findings over time is that P3 pupils in School A displayed greater improvement in their engagement with the challenge between T1 and T2 than P3 pupils in School B.

Table 4.1 : Average distribution of P3 pupils' engagement over time in School A with a new learning challenge

Problem Solving

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1 (N = 19)	12.5	42.7	44.8
Time 2 (N = 17)	6.5	18.6	74.9
Time 3 (N = 19)	14.4	57.4	28.2

Communication

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1	9.1	41.8	49.1
Time 2	6.2	16.1	77.7
Time 3	13.4	54.1	32.5

Collaboration

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	11.1	46.8	42.1
Time 2	6.2	23.5	70.3
Time 3	12.4	67.0	20.6

Community

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	10.8	56.5	32.7
Time 2	6.2	29.7	64.1
Time 3	11.5	69.9	18.6

Table 4.2 : Average distribution of P3 pupils' engagement over time in School B with a new learning challenge

Problem Solving

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1 (N = 18)	5.8	40.8	53.4
Time 2 (N = 15)	2.6	29.3	68.1
Time 3 (N = 16)	4.2	26.4	69.4

Communication

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1	6.1	45	48.9
Time 2	2.2	23.3	74.5
Time 3	2.8	29.2	68.0

Collaboration

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	6.1	53.1	40.8
Time 2	3.1	37	60.0
Time 3	2.8	41.7	55.7

Community

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	6.1	57.5	36.4
Time 2	3.1	42.6	54.4
Time 3	2.8	53.5	43.7

Table 4.3 : Average distribution of P7 pupils' engagement over time in School A with a new learning challenge

Problem Solving

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1 (N = 17)	1.2	16.9	81.9
Time 2 (N = 17)	1.6	13.3	85.1
Time 3 (N = 11)	9.1	37.8	53.1

Communication

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1	1.2	9.4	89.4
Time 2	0.4	11	88.6
Time 3	2.1	19.6	78.3

Collaboration

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	1.2	7.5	91.3
Time 2	0.4	13.7	85.9
Time 3	4.9	37.1	58.0

Community

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	1.2	11	87.8
Time 2	0.4	14.9	84.7
Time 3	4.9	45.5	49.6

Table 4.4 : Average distribution of P7 pupils' engagement over time in School B with a new learning challenge

Problem Solving

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1 (N = 18)	0.3	14.9	84.8
Time 2 (N = 14)	1.3	12.9	85.8
Time 3 (N = 15)	0.7	38.5	60.8

Communication

	Disruptive (%)	No Skill Displayed (%)	Skill Displayed (%)
Time 1	0.7	5.2	94.1
Time 2	1.3	10.7	88
Time 3	0.7	29.6	69.7

Collaboration

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	0.3	4.5	95.2
Time 2	1.8	17	81.2
Time 3	0.7	28.1	71.2

Community

	Disruptive (%)	No Disposition Displayed (%)	Disposition Displayed (%)
Time 1	0.3	4.9	94.8
Time 2	1.8	18.3	79.9
Time 3	0.7	28.9	70.4

Tables 4.3 and 4.4 address the response of the two P7 groups. In this case, the picture which emerged from analysis of the data is somewhat different. In the case of School A, scrutiny of Table 4.3 shows that the level of engagement marginally decreased over time. In School B, however, there is evidence of a more significant decrease in engagement over time at the P7 stage and this effect appears to be consistent. Over time there is an observable decrease in engagement of the dispositions which is quite marked and dramatic. The increase in disruptive behaviour, however, although observable, is not significant. Nevertheless, it is somewhat unexpected that P7 pupils in School A (Table 4.6) show no improvement over time.

With regard to the third learning challenge (i.e. T3) it was evident that the overwhelming factors in determining children's engagement with the task were age (as an indication of the level of maturity) and school attended. The task involved a process of reflection on emotional responses, following each pupil's experience of being both 'lead', whilst blindfolded, by another pupil (and vice-versa) round an obstacle course with the 'obstacles' similar in nature to those found in the every-day environment – kerbs, steps, trees, bushes, people, vehicles, etc. etc.

From Table 4.1 it is very clear that the P3 pupils in School A found great difficulty in engaging with the task both in terms of skills and dispositions. In School B (Table 4.2) pupils of the same age displayed greater propensity to engage with the task, displaying appropriate skills and dispositions.

With the older children, i.e. P7, a similar trend emerged. Whilst the older children in both schools engaged with the task at a higher level from their younger peers, it was P7 pupils in School B who displayed greater all-round competence. It seems therefore that the CSP pedagogy can be somewhat overwhelmed by macro social factors such as the social background of the children in situations that require meta-cognitive processes to be deployed.

In terms of a within-school comparison at T3, no meaningful conclusions can be drawn given the very different nature of the task compared to the tasks at T1 and T2. When engaging in problem solving in the context of children's Personal and Social Development the learners' cultural capital is critical.

Tables 4.5 and 4.6 show the mean ratings at T1 and T2 in the **deployment** of skills and dispositions for both the experimental school (School A) and the control school (School B) for P3 and P7 pupils respectively. In the case of P3 pupils (Table 4.5) a marginal trend emerged between the schools at both T1 and T2. The pupils in School A deployed a higher level of problem solving skill with a greater spread of ratings (see Figures 4.1 to 4.4).

Table 4.5 Mean ratings at T1 and T2 for P3 pupils in School A and School B

		Mean Ratings for P3 Pupils			
		T1		T2	
		School A	School B	School A	School B
Skills	Problem solving Scale A	2.24	2.25	2.56	2.57
	Problem solving Scale B	0.82	0.44	1.21	0.87
	Communication Scale A	2.29	2.41	2.61	2.65
	Communication Scale B	0.79	0.61	1.24	1.01
Dispositions	Collaboration Scale A	2.19	2.27	2.50	2.47
	Collaboration Scale B	0.72	0.61	0.99	0.82
	Community Scale A	2.08	2.20	2.42	2.40
	Community Scale B	0.44	0.55	0.85	0.76

A slightly different pattern emerged at P7 (Table 4.6). The P7 pupils in School B displayed a consistently higher level of skill and disposition at T1 than P7 pupils in School A; whereas at T2 the differences between the two P7 groups in Schools A were marginal with a small advantage for children in School B.

Figure 4.1 : Mean Problem Solving Scale B Time 1 Average Score by School for P3 pupils

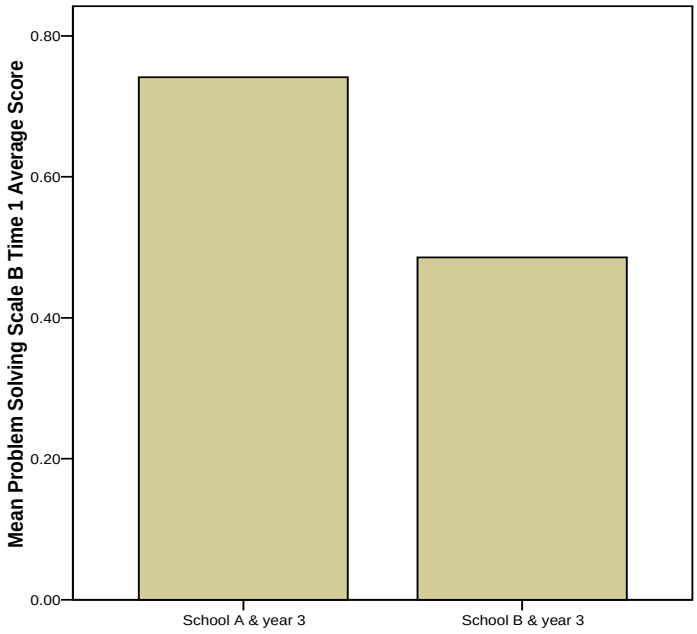


Figure 4.2 : Problem Solving Scale B Time 1 Average Score by school for P3 pupils

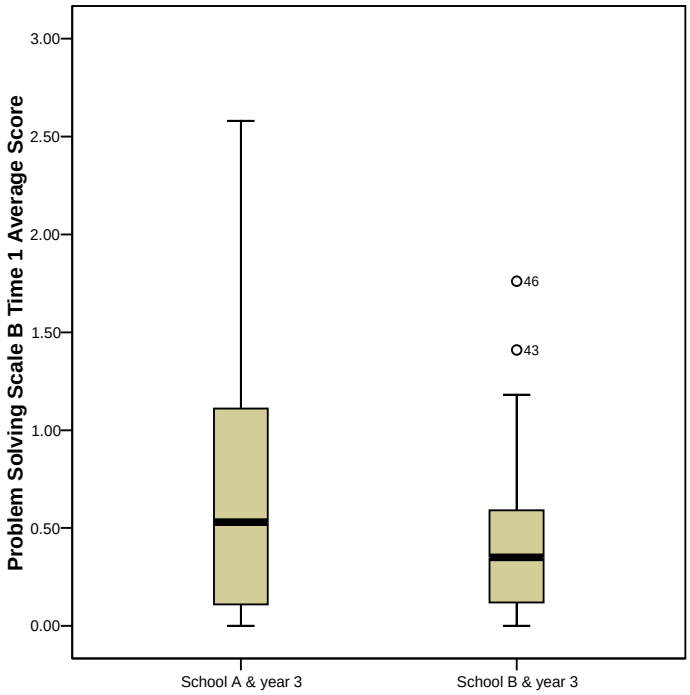


Figure 4.3 : Mean Problem Solving Scale B Time 2 Average Score by school for P3 pupils

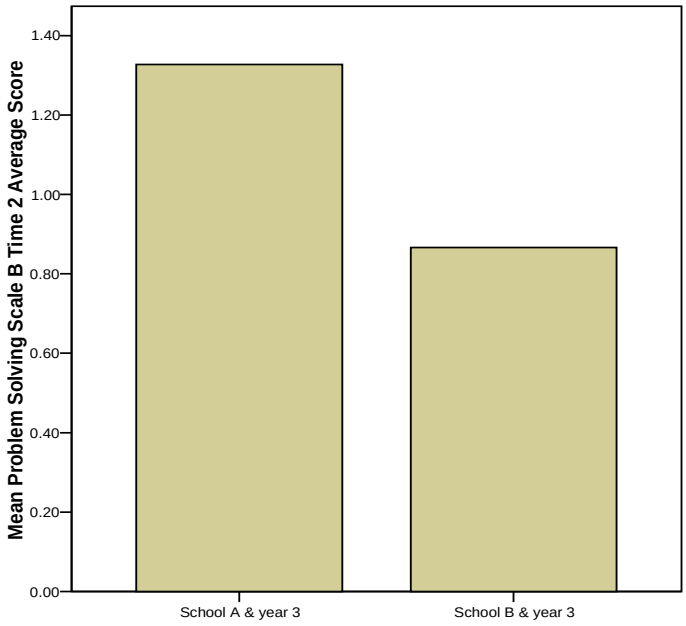


Figure 4.4 : Problem Solving Scale B Time 2 Average Score by School for P3 pupils

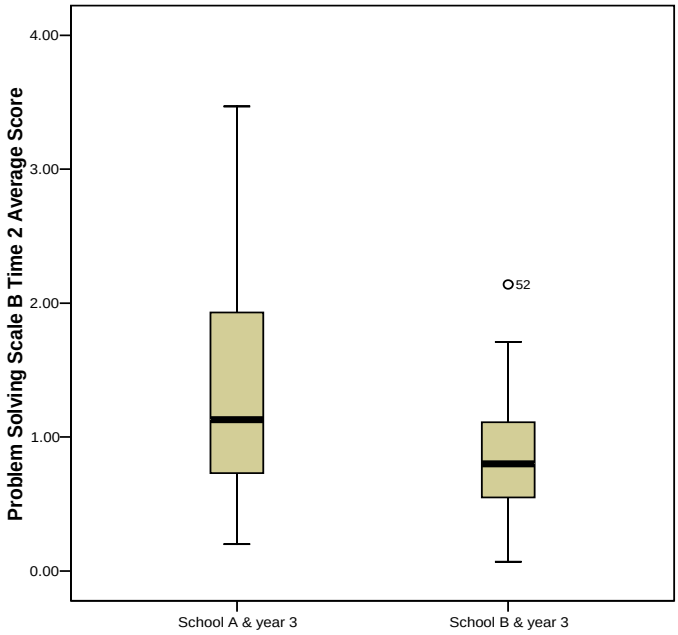


Table 4.6 Mean Ratings at T1 and T2 for P7 Pupils in School A and School B

		Mean Ratings for P7 Pupils			
		T1		T2	
		School A	School B	School A	School B
Skills	Problem solving Scale A	2.77	2.82	2.78	2.84
	Problem solving Scale B	2.18	2.52	2.13	2.26
	Communication Scale A	2.86	2.94	2.86	2.88
	Communication Scale B	2.21	2.84	2.14	2.40
Dispositions	Collaboration Scale A	2.89	2.95	2.82	2.81
	Collaboration Scale B	2.34	2.81	2.10	2.21
	Community Scale A	2.85	2.94	2.82	2.79
	Community Scale B	2.15	2.70	2.06	2.18

Tables 4.7 to 4.10 show the statistical significance between the mean ratings at T1 and T2. It is clear from Tables 4.7 and 4.8 that the improvements made by both P3 groups is statistically significant. The values of the paired t-tests (with the exception of problem-solving and collaboration in P3 pupils in School A) all indicated meaningful improvement. Improvements for P3 pupils in School B (with the exception of collaboration and community) also showed meaningful improvement. Little difference over time, in terms of deployment, between the two schools could be detected. P3 pupils in both schools improved in their approach to the learning challenge, though P3 pupils in School A showed marginally greater improvement.

In the P7 groups, Tables 4.9 and 4.10 show a different picture: one which again strengthens the observations from Tables 4.1-4.4. In the case of the P7 children in both the control and experimental schools, there is little observable difference in terms of skills, and no observable difference which is statistically significant. However, the children in the experimental group were better at T2 than those in the control group: their scores improved, whereas those of the control group actually decreased, and that decrease is most notably seen in changes in dispositions. This change may be explained in terms of boredom with the tasks which the children had been set.

Table 4.7 : Statistical significance in mean differences in rating by time in selected Skills and Dispositions for P3 pupils in School A

		Mean Ratings		t-value	Significance [+]
		T1	T2		
Skills	Problem solving Scale A	2.24	2.56	2.603	0.021 *
	Problem solving Scale B	0.82	1.21	1.413	0.180 NS
	Communication Scale A	2.29	2.61	2.756	0.015 *
	Communication Scale B	0.79	1.24	1.865	0.083 (*)
Dispositions	Collaboration Scale A	2.19	2.50	2.896	0.012 *
	Collaboration Scale B	0.72	0.99	1.159	0.266 NS
	Community Scale A	2.08	2.42	3.019	0.009 **
	Community Scale B	0.44	0.88	2.009	0.064 (*)

Note: + : * indicates statistical significance at the 5% level
** indicates statistical significance at the 1% level
(*) indicates a statistical trend
NS indicates no statistical significance or trend

Table 4.8 : Statistical significance in mean differences in rating by time in selected Skills and Dispositions for P3 pupils in School B

		Mean		t-value	Significance [+]
		T1	T2		
Skills	Problem solving Scale A	2.25	2.57	3.236	0.006 **
	Problem solving Scale B	0.44	0.87	3.116	0.008 **
	Communication Scale A	2.41	2.65	2.442	0.028 *
	Communication Scale B	0.61	1.01	2.859	0.013 *
Disposition	Collaboration Scale A	2.27	2.47	1.914	0.076 (*)
	Collaboration Scale B	0.61	0.82	1.216	0.244 NS
	Community Scale A	2.20	2.40	1.890	0.080 (*)
	Community Scale B	0.55	0.76	1.222	0.242 NS

Table 4.9: **Statistical significance in mean differences in rating by time in selected Skills and Dispositions for P7 pupils in School A**

		Mean Ratings		t-value	Significance [+]
		T1	T2		
Skills	Problem solving Scale A	2.77	2.78	0.117	0.909 NS
	Problem solving Scale B	2.18	2.13	0.115	0.910 NS
	Communication Scale A	2.86	2.86	0.042	0.967 NS
	Communication Scale B	2.21	2.14	0.222	0.828 NS
Dispositions	Collaboration Scale A	2.89	2.82	0.966	0.353 NS
	Collaboration Scale B	2.34	2.10	0.847	0.414 NS
	Community Scale A	2.85	2.82	0.374	0.715 NS
	Community Scale B	2.15	2.06	0.312	0.760 NS

Table 4.10 : Statistical significance in mean differences in rating by time in selected Skills and Dispositions for P7 pupils in School B.

		Mean		t-value	Significance
		T1	T2		
Skills	Problem solving Scale A	2.82	2.84	0.258	0.800 NS
	Problem solving Scale B	2.52	2.26	0.861	0.403 NS
	Communication Scale A	2.94	2.88	1.736	0.104 NS
	Communication Scale B	2.84	2.40	1.814	0.090 NS
Disposition	Collaboration Scale A	2.95	2.81	2.853	0.013 *
	Collaboration Scale B	2.81	2.21	3.009	0.009 **
	Community Scale A	2.94	2.79	2.200	0.045 *
	Community Scale B	2.70	2.18	2.412	0.029 *

Another approach to examining the changes over time was to compute the change scores, i.e. T2-T1 for each pupil. Table 3.11 deals with the statistical significance in change scores (T2-T1) for the experimental and control groups in the elected skills and dispositions for the P3 pupils. It is clear that there is no statistically significant differences in the change scores, though, as indicated above, on the whole, P3 pupils in School A showed more improvement than pupils in School B.

The comparable data for P7 pupils in both schools showed no statistical significance and no statistical trends.

Table 4.11 : Statistical significance in change scores (T2 – T1) for the experimental and control groups in selected Skills and Dispositions for P3 Pupils

		Mean Change Scores		t-value	Significance
		Experimental	Control		
Skills	Problem solving	0.317	0.324	0.042	0.97 NS
	Communication	0.317	0.243	0.486	0.63 NS
Disposition	Collaboration	0.313	0.197	0.782	0.44 NS
	Communication	0.339	0.197	0.926	0.36 NS

4.2 Skills, Dispositions and pupils' abilities

Tables 4.12 and 4.13 show the statistical significance of differences in mean skills and dispositions ratings over time (T1-T2) by ability levels for all pupils. National ability assessments were used in Mathematics, Reading and Writing across the levels of achievement defined in the 5-14 National Curriculum Guidelines and in terms of areas for national testing. No distinction was made in terms of stage (i.e. P3 or P7) because the levels of achievement are recorded in both stages in the same way using the national A-F criterion referenced scale.

Table 4.12 relates both to the engagement in the challenge and the deployment skills. The table analyses two levels of ability for each area – level 1 (pre-Level A, Level A and Level B): and level 2 (Levels C and D and E). This categorization therefore includes those levels defined by the 5-14 programme as most appropriate and achievable for children in primary education in Scotland. The results demonstrated that children with an abilitylevel of B or lower in these areas showed the greatest improvement over time, and that this improvement was statistically significant. This level of significance was found for both engagement (Scale A) and deployment (Scale B). For pupils with ability at Level C or better, the improvements were not statistically significant.

Table 4.12 : Statistical significance of differences in mean skills ratings by ability levels for all pupils on Scales A and B

		N	SKILLS							
			Problem Solving				Communication			
			Scale A		Scale B		Scale A		Scale B	
			t-value	Sig	t-value	Sig	t-value	Sig	t-value	Sig
Mathematics	1 *	31	4.02	**	2.87	**	3.63	**	3.26	**
	2	28	0.33	NS	0.76	NS	0.90	NS	1.29	NS
Reading	1	31	4.02	**	2.87	**	3.63	**	3.26	**
	2	28	0.33	NS	0.76	NS	0.90	NS	1.29	NS
Writing	1	32	3.99	**	3.02	**	3.61	**	3.47	**
	2	27	0.33	NS	0.86	NS	0.90	NS	1.52	NS

* Note: '1' includes Levels Pre-A, A and B; '2' includes Levels C, D and E.

Table 4.13 is concerned with the dispositions and how these relate to ability. Ability is defined in the same way as in Table 4.12. In this case, there is not such a striking difference between pupils at Level B (or lower) and pupils at Level C (or better). All levels of ability show statistically significant improvement in both collaboration and community for both A and B rating scales, although the improvement is more marked on scale A (i.e. engagement). Levels of significance are consistent across the two defined levels on both dispositions. The conclusion is that improvement in learning disposition does not appear to be dependent upon pupils' level of ability: rather, it seems that all levels improved.

The data in Tables 4.12 and 4.13 were further analysed in terms of any differences between year groups. These findings are provided in Appendix A7.1 to A7.8.

Table 4.13: Statistical significance of differences in mean disposition ratings by ability levels for all pupils on Scales A and B

	N	DISPOSITIONS							
		Collaboration				Community			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig	t-value	Sig	t-value	Sig	t-value	Sig
Mathematics 1 *	31	3.30	**	1.91	(*)	3.41	**	2.58	*
Mathematics 2	28	2.61	*	2.40	*	1.83	(*)	1.76	(*)
Reading 1	31	3.31	**	1.91	(*)	3.41	**	2.58	*
Reading 2	28	2.61	*	2.40	*	1.83	(*)	1.76	(*)
Writing 1	32	3.29	**	1.85	(*)	3.40	**	2.51	*
Writing 2	27	2.62	*	2.36	*	1.83	(*)	1.72	(*)

* Note: '1' includes Level Pre-A, A and B; '2' includes Levels C, D and E.

4.3 **Skills, Dispostions and pupils' social skills**

Table 4.14 relates to the statistical significance of the difference in mean ratings over time for the selected skills and dispositions in relation to pupils' social skills rating. Teachers were asked to rate children's social skills on a 1-4 scale, with 1 indicating a tendency to awkwardness or disruption, and 4 indicating a high degree of social skill. Analysis of the achievement of pupils in terms of this variable was undertaken in a similar manner as that for ability in the 5-14 programme indicated above. Children were grouped into two bands for social skills rating: those with scores at 3 or 4 were classified as having high social skills and those with scores at 1 or 2 were classified as having low social skills. The analysis indicated that those rated with high social skills responded better over time in terms of engagement in problem solving and communication than those rated with low social skills and this difference was statistically significant at the 5% level. This is an interesting finding, as the improvement in dispositions – where one might expect to find the greatest improvement – is not significant. However, the findings seem to indicate that children who are more socially competent are better equipped to respond to the critical skills pedagogy.

Table 4.14 : Statistical significance of the difference in mean ratings (T1-T2) for the selected skills and dispositions in relation to pupils' social skills rating (all pupils)

	High social skills rating			Low social skills rating		
	Means			Means		
Skills:	**T1**	**T2**	**Sig.**	**T1**	**T2**	**Sig.**
Problem solving A	2.56	2.76	**	2.41	2.50	NS
Problem solving B	1.55	1.84	NS	1.31	1.00	NS
Communication A	2.67	2.82	**	2.47	2.54	NS
Communication B	1.75	1.91	NS	1.14	1.12	NS
Dispositions						
Collaboration A	2.63	2.70	NS	2.42	2.49	NS
Collaboration B	1.73	1.64	NS	1.16	1.19	NS
Community A	2.55	2.65	NS	2.40	2.48	NS
Community B	1.55	1.58	NS	1.10	1.15	NS

4.4 Skills, Dispositions and socio-economic status

Table 4.15 is concerned with the statistical significance of the difference in mean ratings over time for the selected skills and dispositions in relation to pupils' entitlement to free school meals (FSM), which is crude but commonly used binary measure of socio-economic status. This analysis is conducted with respect to all pupils. The results show that children from poorer backgrounds do marginally better, but that the difference is very small and is related once more to skills rather than dispositions. The improvement was greatest in terms of communication for those pupils entitled to free meals. Although there were small improvements in dispositions, the improvements were not statistically significant.

Table 4.15 : Statistical significance of the difference in mean ratings (T1-T2) for the selected skills and dispositions in relation to pupils' entitlement to free school meals (all pupils)

	Entitlement			No entitlement		
	Means			Means		
Skills:	**T1**	**T2**	**Sig.**	**T1**	**T2**	**Sig.**
Problem solving A	2.53	2.76	*	2.51	2.64	(*)
Problem solving B	1.38	1.76	*	1.55	1.52	NS
Communication A	2.68	1.90	**	2.59	2.71	(*)
Communication B	1.62	1.90	NS	1.57	1.57	NS
Dispositions						
Collaboration A	2.65	2.75	NS	2.52	2.58	NS
Collaboration B	1.74	1.70	NS	1.48	1.42	NS
Community A	2.63	2.73	NS	2.44	2.53	NS
Community B	1.68	1.69	NS	1.27	1.33	NS

4.15 **Skills, Dispositions and gender**

Table 4.16 relates to the gender of the pupils and improvement (or otherwise) in learning skills and dispositions.

Table 4.16 : Statistical significance of the differences in mean ratings (T1-T2) for the selected skills and dispositions in relation to pupils' gender (all pupils)

	Male			Female		
	Means			Means		
Skills:	**T1**	**T2**	**Sig.**	**T1**	**T2**	**Sig.**
Problem solving A	2.44	2.59	(*)	2.62	2.82	**
Problem solving B	1.34	1.31	NS	1.69	2.01	NS
Communication A	2.50	2.64	(*)	2.77	2.88	(*)
Communication B	1.33	1.34	NS	1.93	1.18	NS
Dispositions						
Collaboration A	2.46	2.58	NS	2.72	2.74	NS
Collaboration B	1.31	1.25	NS	1.94	1.89	NS
Community A	2.40	2.54	(*)	2.67	2.69	NS
Community B	1.12	1.19	NS	1.83	1.83	NS

Inspection of Table 4.16 shows a tendency for both boys and girls to improve their approach to a new learning challenge over time. Such improvement was most marked in terms of problem solving where the improvement is statistically significant. However, girls showed a consistently greater tendency than boys to be engaged with the learning challenges and to deploy skills and dispositions in all three learning challenges.

CHAPTER 5 : CONCLUSIONS

This evaluation was undertaken to explore two basic issues in relation to CSP. First, to what extent would teachers and pre-five staff endorse and adopt a relatively new approach to teaching and learning and, secondly, if the new pedagogy was endorsed and adopted in both principle and practice, would it impact on children's approach to learning in a way that could be observed as being beneficial?

5.1 The Professional Response

In terms of the professional response to CSP, the findings from the evaluation are reasonably optimistic in the sense that the educational professionals involved with CSP responded positively to the CSP model and to their participation in the training. This finding is consistent with that found by Wragg et al. (2004) in their Jersey study.

In more specific terms, the evaluation focused on several strategic questions as follows:

How are staff new to CSP inducted into the CSP model and supported in its application?

Commendable efforts have been made to organise and fund formal training within Smithycroft. The model used has involved the employment of expert trainers from the USA, which is relatively expensive and therefore difficult to sustain. The training has been spread as widely as possible across all establishments within the LC and, while there are benefits in this in terms of breadth of coverage, there are challenges relating to the depth of coverage required to make a significant impact on practice. In addition, there were diverse responses to the training process. In the absence of plans for further formal training or training of local trainers, it is difficult to envisage the long term sustainability of the initiative. Only a relatively small number of teaching staff (18%) have received formal training in CSP at Level 1 and only 3 have progressed to Level 2 with only one of those to senior management training. This has affected the more general uptake and the influence on teaching and learning of CSP across establishments within the Learning Community. Factors affecting number of staff being trained include:

- Available funding for training
- Availability of supply cover to release staff to go on training
- Interest of staff in undertaking

It is questionable whether 18% of staff within the learning community is a strong enough basis for change. Efforts have been made, however, to organise local support on a more informal basis, using the expertise of the headteacher at Carntyne Primary School. Pre-five and Primary staff have spoken highly of that support.

The nature of the training was challenging and affected participants in a range of ways which affected their attitude to CSP. This ranged from being very positive about the training to being 'switched off' by it. There is some merit to the view that training should be more 'in-house' rather than imported.

Can staff identify changes to their pedagogic practice ?

Staff in different sectors have responded differently to the training. Pre-five staff identified more subtle changes to their practice, based on the fact that they considered themselves already conversant with the principles of a more interactive and child-centred approach to

learning. They were, nevertheless, very positive about the improvements which they felt the training had made to their facilitation skills, particularly in relation to adult intervention.

Primary school staff were less able to identify changes in practice, although many saw the benefits of the approach. There was limited evidence of substantial change in the day-to-day teaching of the primary curriculum in most schools. There was a willingness to embrace the ideas behind CSP but, at this stage, not a significant shift in daily practice or systematic effort to move beyond experimentation.

In the secondary sector, most of the staff who have been trained, albeit a small proportion, seem to be largely unaffected by their exposure to CSP. Most of the negative comments about CSP came from this sector and there is little evidence of any significant change in pedagogic practice.

What are staff's perceptions of the model's value, including its limitations?

There are differences in the enthusiasm of staff for CSP, which are related to established pedagogies across the different sectors. Within the pre-5 sector the response to CSP is very positive. In the primary sector it is also positive although more varied. However, the secondary and special school response was cool (4.1). Reasons given for a positive view include the closeness in philosophy between pre-5 and primary approaches and CSP. Within secondary the pressures of external examinations were highlighted as mitigating against the introduction of CSP approaches. Some staff, particularly in the pre-5 and primary, held the view that CSP is commensurate with existing pedagogy while the secondary staff see CSP as very different to their current teaching methods, particularly in the scientific field.

The extent to which staff have changed their practice is closely related to their perceptions of the value of CSP and tends to reflect sectoral differences. All pre-five staff saw the model as congruent with their philosophy and as a mechanism to enhance their existing approaches to children's learning. Perceptions of primary school staff were more diverse. Although many could see the intrinsic worth of the CSP approach, they recognised limitations in their context, which some felt restricted their ability to experiment with the approach. Many of their criticisms related to difficulties in adapting CSP to their existing practice and the constraints of time, rather than the approach itself. Secondary staff were generally much less enthusiastic about the value of CSP, with many feeling it was better suited to younger children. However, a difference was detected in staff perceptions between different subjects. Those staff teaching such subjects as English were much more enthusiastic than staff teaching numeric or scientific subjects.

How do staff implementing CSP collaborate both within and between schools and across sectors?

Collaboration was welcomed when it could be organised but there were difficulties in making it happen. Staffing difficulties often accounted for the lack of opportunity to collaborate. Those staff who had been trained had limited opportunities to discuss their practice and were keen for this kind of support to be organised. A pre- five network group, which addressed this need, was very well thought of by its members and plans to organise a similar network with primary staff would be a welcome development. Efforts had been made to bring staff together on a number of occasions, but more collaboration is required, both for support and development. The difficulties of releasing staff were often mentioned in this context.

What support is required for changes in pedagogic practice to be sustained?

Many of those interviewed were clear that the experiential nature of the training was key and that the cascade model of dissemination was therefore of little use. There were repeated calls for further training and for such training to be delivered locally by local trainers. It would be crucial that a greater number of staff should have access to training for the initiative to be sustained. As yet, there does not appear to be a sufficiently critical mass of staff trained to make any significant long term impact on pedagogic practice.

Efforts have been made to organise informal support networks. These have been well received and there was a desire for them to be continued and developed further across all sectors. The involvement of EdIS in a more systematic way may be beneficial in organising effective support for sustained changes in practice.

The time required to invest in the level of preparation for CSP, for example, in planning challenges, is seen as a limiting factor in the uptake of CSP. Although local support networks and named individuals are seen as being extremely supportive of the development of CSP, the issue of development time to progress CSP is seen as an obstacle.

How does the LC leadership promote and support CSP?

The leadership of both the LC Principal and the co-ordinator of learning and teaching in the LC have been instrumental in the progress made to date. Funding and organisational issues have been addressed, expertise has been utilised and the structures of the LC have been used to promote and support CSP. There is an obvious commitment to the initiative which has been the driving force behind the introduction of CSP. However, there are now critical issues facing the leadership of the LC with regard to the sustainability of CSP.

The key to the continuation of CSP in Smithycroft is the planning of sustainability. Unless support at all levels is forthcoming there is a danger that it may wither.

Are parents and others outwith the establishments aware of any changes in their child's approach to learning?

There seems to be little awareness amongst parents and others outwith the LC of changes related to approaches to learning. Some efforts have been made to inform parents, particularly in the pre-five sector, although the level of awareness is limited. EdIS have played a background role and limited evidence about the interest of HMIE suggests a lack of interest and knowledge of the initiative. It would seem that at this early stage, the focus has been confined largely within the LC.

5.2 **The Pupil Response**

Can differences be identified in learning skills and dispositions between those children who have experienced the CSP model for a period of time when compared to similar groups of children who have had not or very little CSP experience?

In terms of the second focus of the evaluation, i.e. the impact of CSP on children's approach to learning, the evaluation is equivocal. On the one hand, no overwhelming evidence was found to indicate that those children taught by a teacher with some form of training in CSP faired better in a new learning situation than children taught by more conventional methods commonly practised in Scottish primary schools. On the other hand, there appeared to be

some tentative indication that the more disadvantaged pupils in the early stages of the primary school in which their teacher had experienced CSP showed greater propensity to become engaged with a new learning challenge and display a higher level of skill in problem solving than pupils taught by more conventional methods. The deployment of skills and learning dispositions in such engagement, however, remained at a comparatively low level. To summarise:

The critical issue to arise from these findings is whether the lack of substantial evidence to show that children exposed to CSP improved their learning skills and dispositions was due to shortcomings in the training of their teachers as conducted in Smithycroft Learning Community or whether it was due to any fundamental weaknesses in the CSP methods compared to conventional pedagogical methods in Scottish primary schools. Whatever the explanation, this evaluation serves neither as a clear endorsement nor as an outright rejection of CSP. However, given the situation, it would be folly, at this point in time, to endorse CSP as a panacea for the future learning and teaching of pupils in Scottish schools. Similarly, it would be foolish to dismiss the pedagogy of CSP as being redundant.

CSP is a version of a model of learning, with a strong theoretical base, which has been extensively researched (Wragg, Wragg and Chamberlain, 2004). The evidence cited earlier in this report points to the undoubted strengths of the approach and its many benefits for learners.

> *Our overall conclusion is that the critical skills programme in Jersey empowers, rather than inhibits teachers, enhances pupils' learning, and is appropriate for its purpose of preparing children for adult life in the 21st century.* (Wragg, Wragg and Chamberlain, 2004 : 6)

That evidence of success is, however, tempered with many warnings about the gap between the theoretical model outlined by research/developers and the practice as implemented by classroom teachers. Gillies (2003) has reminded us that the structure is of itself important. Antil et al (1998), Vennman (2000), Lopata et al (2003) and Emmer et al (2002) all point to discrepancies between very specific theoretical models and the practice of even experienced classroom teachers. Teachers were routinely found to adapt and modify their approach in the classroom, often omitting key elements of the model which are crucial to its overall success.

Johnson and Johnson (2000) identify the difference between what they describe as the direct and conceptual models of co-operative learning and highlight the need in the latter for the teacher to have a conceptual understanding of the approach. They point to the long term benefits of such an understanding of methodology and its resulting transferability to other contexts, as it becomes part of a teacher's repertoire. CSP appears to be such a model, with an emphasis on incremental levels of training and expectations of teacher expertise. Krohl et al (2001) point to the necessary understandings required by teachers to implement such a methodology and the related long term approach to staff development which is required. Johnson and Johnson's (200) recommendations involve in-depth training, with preparation and post training support and suggest that the process should span at least three years.

Such a long term, in depth approach to training is not in place in Smithycroft Learning Community. Despite attempts to fund sufficient training and development within the cluster, the level of staff development has been patchy. Views of staff, gathered in Phase 1 of this evaluation, back up that view. They identified a number of conditions which they felt would contribute to the effective implementation of CSP. These included:

- all staff in a school should be trained
- local training should be made available
- more time to digest and reflect upon the ideas in the model

- a structured process of gradual induction into the methodology
- more opportunity to come together with other teachers to plan, prepare and support one another
- co-operative teaching to provide in-class support
- collaboration within schools
- suitable materials – a bank of challenges
- management support to ensure continuity and progression

In addition to training issues, staff also identified a number of external factors which impact on implementation. These include

- availability of supply teachers
- financial cost of training
- support from Glasgow City Council
- prescriptive curricular requirements
- overcrowded curriculum
- unsuitable physical space for teaching

These concerns echo many of the issues raised in the literature and confirm the importance of the contextual factors surrounding the implementation of a new instructional strategy.

CHAPTER 6 : IMPLICATIONS

In the four years since CSP started to be explored in Glasgow much has been achieved through the mechanisms of the Smithycroft Learning Community: collaborative working across sectors has been advanced; a number of staff have been enthused to review their fundamental educational stance; the possibility of meeting national and local curriculum requirements in innovative ways has been explored with a variety of classes; new forms for the management of educational establishments are being considered; the need for a new relationship with parents and community is being recognised. CSP also seems to have the potential to engage young learners in a new learning challenge, particularly those who are deemed to be less able. These are substantial preliminary achievements. However it also seems to be case that the success of CSP depends on the existing cultural capital in the school and its community. On its own CSP might not be able to address the relative differences in achievement between different social groups.

As currently introduced CSP is somewhat randomly distributed in the Smithycroft Learning Community with variations in enthusiasm, in take up of training and in classroom implementation between sectors, between establishments in sectors, between staff in establishments and between different moments of the practice of individual members of staff. With no further plans for comprehensive formal staff training, it seems doubtful that CSP will be systematically adopted across the Learning Community and will be limited to being an occasional approach to learning and teaching.

While CSP would have some strengths as an occasional method, continuing implementation in this manner would fail to realise the very considerable potential of CSP and, at worst, could lead to a damaging lack of continuity in expectations of pupils and their learning experiences. We are aware of only a very small number of classes in Learning Community schools which will have been taught by a CSP trained teacher in both 2002/03 and 2003/04. Behaviours and learning strategies positively valued in a CSP oriented classroom (self-directed, participative learning in groups) might be positively devalued in a teacher centred, individualised classroom. The Learning Community and the City of Glasgow need carefully to consider whether CSP is viable in the medium to long term on the relatively piecemeal basis in which it has been possible to introduce it to date.

The alternative strategy would be for the stakeholders to recognise that the implications of the systematic introduction of CSP to one secondary school and its associated pre-five and primary establishments are fundamental and would need to be managed strategically. Such a strategy, in the context of the National Priorities, would need, *inter alia*, to:

- phase the deployment of CSP in whole year cohorts across the Learning Community such that the innovation would ‘roll’ through the full age range over a seven-year period (i.e. move Rising Fives and P7 cohorts to CSP in Year 1, P1 and S1 in Year 2, P2 and S2 in Year 3 etc.)
- provide a rolling programme of intense training for staff involved with each year group
- adopt policies on staff appointments and transfers to support the introduction of CSP
- gain the support of HEIs for changes in ITE and CPD provision
- negotiate with HMIE and SEED to ensure that inspection, monitoring and regulatory regimes were sensitive to the aspirations of FLaT for innovation from the grass roots
- gain the clear political, financial and organisational commitment of the City of Glasgow to a seven-year development plan
- gain the support of parents and the local community for such an innovation

The evaluators do not see it as the role of this report to make a recommendation about whether this latter strategy should be adopted or not. Whether CSP is an educationally coherent package, whether it is the 'best' of several such pedagogies and whether it is having the anticipated impact on children's learning are all questions which are left in doubt by this evaluation. What we do recommend (strongly) is that the stakeholders begin to address the strategic questions raised so that an informed decision about the of CSP might be made.

One key strategic issue is the underlying model of sustaining innovation in schools. Traditionally, two models of change have been used: first, the so-called 'top-down' or cascade model whereby the innovation is generated by policy makers externally to the school and then staff encouraged to endorse and develop it; secondly, a 'bottom-up' approach whereby teachers and others themselves initiate change, perhaps in response to the vision of a particular individual and then proceed to develop the initiative in their own institution.

In the case of CSP in Smithycroft, the initiative began from the inspiration of a Primary School Headteacher but was externally introduced into other schools and pre-five establishments in the cluster by spreading the CSP training fairly thinly across these schools/centres. For greater effectiveness in introducing and sustaining new pedagogic practices, consideration should be given to the model of 'immersion' whereby one whole institution participates in the innovation at any one time for a sustained period.

There are also considerable implications for future research into the effectiveness of CSP. The current evaluation was only a modest, though robust study of CSP in a relatively confined context. Further studies are needed if we are to understand more about the potential benefits of the Critical Skills Programme.

Bibliography

Antil, L.R., Jenkins, J.R., Wayne, S.K. and Vadasy, P.F. (1998) Cooperative Learning: Prevalence, Conceptions, and the Relation between Theory and Practice, *American Educational Research Journal*, 35 (3), 419-454

CSP (1997) *Level I Coaching Kit*, Antioch University

Deutsch,M. (1949) A theory of cooperation and competition on group process, *Human Relations*,2, 129-152

Emmer.E.T. and Gerwels, M.C. (2002) Cooperative Learning in Elementary Classrooms: Teaching Practices and Lesson Characteristics, *The Elementary School Journal*, 103 (1), 75-91

Gillies, R.(2003) The Behaviours, Interactions, and Perceptions of Junior High School Students During Small Group Learning, *Journal of Educational Psychology*, 95 (1), 137-147

Gillies, R. (2000) The Maintenance of Cooperative and Helping Behaviours in Cooperative Groups, *British Journal of Educational Psychology*, 70, 97-111

Gillies,R. and Ashman, A.F. (2003) *Cooperative Learning*, London: Routledge Falmer

Jenkins, J.R., Antil, L.R., Wayne, S.K., Vadasy, P.F. (2003) How Cooperative Learning Works for Special Education and Remedial Students, Exceptional Children, 69 (3), 279-292

Johnson, D.W. and Johnson, R.T. (1989) *Cooperation and Competition : Theory and Practice*,Minnesota: Interaction Book Company

Johnson, D.W. and Johnson, R.T. (1993) *Circles of Learning- Cooperation in the Classroom.* Minnesota: Interaction Book Company

Johnson, D.W., Johnson, R.T. and Holubec, E. (1998) *Cooperation in the Classroom,* Monnesota.: Interaction Book Company

Johnson, D.W., Johnson, R.T. and Stanne, M.B. (2000) Cooperative Learning Methods: A Meta Analysis. Retrieved 28 September 2004, from http://www.clrc.com/pages/clmethods.html

Krol, K., Veenman, S. and Voeten, M. (2001) Toward a More Cooperative Classroom: Observation of Teachers' Instructional Behaviours, *Journal of Classroom Interaction*, 37 (2), 37-46

Lewin, K. (1935) *A Dynamic Theory of Personality*, New York: McGraw-Hill

Lopata, C., Miller, K. and Miller, R. (2003) Survey of Actual and Preferred Use of Cooperative Learning Among Exemplar Teachers, *The Journal of Educational Research*, 96 (4), 232-239

Piaget, J. (1932) *The Moral Judgement of the Child*, London: Routledge and Kegan Paul

Panitz, T. (2000) Why more teachers do not use collaborative learning techniques. Retrieved 28 September 2004, from *http://www.capecodnet/~tpantiz/tedspage/tedsarticels/whyfewclusers.htm*

Sharan, S. (ed) (1990) *Cooperative Learning :Theory and Research*, New York: Praeger

Slavin, R.E. (1983) When does cooperative learning increase student achievement? *Psychological Bulletin*, 94, 429-445

Slavin, R.E. (1995) *Cooperative Learning: Theory, Research and Practice*, Boston: Allyn and Bacon

Slavin, R.E. (1996) *Education for All*, Lisse: Swets and Zeitleinger

Weatherley, C. (2000) *Leading the Learning School*, Stafford: Network Educational Press

Wittrock, M.C. (1977) (ed) *Learning and Instruction*, Berkeley, California, McCutchan Pub. Corp.

Wragg, E.C., Wragg, C. and Chamberlain, R. (2004) *Jersey Critical Skills Programme – An Evaluation*, States of Jersey: Department for Education, Sport and Culture.

Veenman, S., Kenter, B, and Post, K. (2000) Cooperative Learning in Dutch Primary Classrooms, *Educational Studies*, 26 (3), 281-302

Veenman, S., van Benthum, N., Bootsma, D., van Dieren, J. and van der Kemp, N. (2002) *Teaching and Teacher Education*, 18, 87-103

Vygotsky,L.S. (1978) *Mind in Society: the development of higher psychological processes*, Cambridge, Mass. :Harvard University Press

APPENDIX

Appendix A1

University of Glasgow **Dept. of Educational Studies**

Evaluation of Aspects of the Critical Skills Project

in Smithycroft Learning Community

INTERVIEW SCHEDULE

PRINCIPAL OF LEARNING COMMUNITY
HEAD OF SCHOOL
HEAD TEACHERS
PRE-FIVE HEADS

As you are aware, Glasgow University is undertaking an evaluation of the Critical Skills Project in Smithycroft Learning Community. One strand of the evaluation is to ascertain staff's experiences and perceptions of CSP. The purpose of this interview is to explore a number of matters with you in the context of CSP. Your response will be treated as **confidential** – only members of the research team will have access to these data and no individual will be identified in our report.

Interviewee: _____

Interviewer: _____

Date: _____ Time: _____ Completed: _____

Location: _____

Disc. Ref. No. _____

SECTION A : Engagement with Critical Skills Project (CSP)

1. When did you first hear about CSP?

2. How did you first get involved and when?

3. Have you received any formal training in CSP?

4. Have teachers/staff in your school received / are currently receiving training in CSP?

5. In general terms, to what extent is your school/establishment now involved with CSP?

SECTION B : Understanding of CSP

6. In your own words, what do you regard as the overall purpose of CSP?

7. Have you read anything about CSP (for example, Colin Weatherley's book)? If so, what did you take out of your reading?

8. Are you aware how CSP operates? If so, can you briefly describe it?

9. How does CSP differ from conventional teaching and learning?

SECTION C : Training in CSP

10. [For HTs] Thinking about your staff, can you tell me how many staff have received training – for how long and at what level?

11. How effective did you find your own training? In what respects did you find it effective? If not, why not?

12. [For HTs] As far as you are aware, how effective did your staff find their training?

13. [For all] Have any deficiencies been identified in the training?

14. [For HTs] How did you facilitate the training of your staff? Did other colleagues co-operate?

15. How did you respond to the **content** of the training experience?

16. How did you respond to the **organisation** of the training experience?

17. Have you any comment to make on the **process** of the training?

18. Could the training have been done differently? If so, how?

19. Are the staff that have been trained now implementing CSP techniques? (Seek specific details re year group/subject/teacher)

SECTION D : Integration into the Curriculum

20. To what extent is CSP integrated into your school/nursery curriculum?

21. Have any subject areas featured prominently in the implementation of CSP? If so, which?

22. Are there some subjects to which CSP is more applicable? If so, which?

23. In which subject areas is CSP less applicable?

24. In your view, what are the factors that facilitate the integration of CSP?

SECTION E : Planning and Support

25. Is the implementation of CSP identified in your school/nursery/LC Development Plan? If so, how?

26 Do you envisage CSP being expanded in your school/LC? If so, how?

27. What support will teachers/staff need to engage more intensively with CSP?

28. Is anyone outside the school/LC not directly involved with CSP aware of CSP in your school? (prompt: advisers, HMIE, parents)

    If so, are you aware of any reaction?

29. Is anyone from outside your school/nursery giving you support?

SECTION F : Collaboration in CSP

30. Is collaboration between teachers in the practice of CSP evident in your school? If so, how?

31. How is collaboration in CSP evident at the level of the LC?

32. How would more effective collaboration in CSP be achieved?

SECTION G : Parental perceptions

33. Have parents been informed about the implementation of CSP in your school? If so, how?

34. Have parents raised with you matters concerned with CSP? (e.g. commenting on their child's behaviour)

SECTION H : Evaluation

35. What do you regard as the **strengths** of CSP?

36. How do you intend to build on the strengths?

37. Are you enthusiastic about CSP? If so, to what extent?

38. Are there any **weaknesses**? If so, what are they?

39. How do you intend to limit the weaknesses as CSP is implemented in your school?

40. How sure are you it is not just another short-term idea?

41. Is there adequate professional support in your school/LC for CSP? If not, what more support do you see as essential/desirable?

42. Are there adequate resources in your school/LC for CSP? If not, what other resources do you require?

43. Are there any external pressures in Scottish Education that could/will inhibit the uptake of CSP? If so, what are they?

44. Thinking about the longer term, when do you envisage being able to see the outcomes of CSP and in what terms?

THANK YOU FOR YOUR CO-OPERATION

Appendix A2.1 : Instructions to pupils for the learning challenges

Challenge 1 (Primary 3)

Directions

The Challenge

Write a set of directions for Betty's journey. She goes from her own cottage to the hospital, then to Tom's cottage and back home.

What to do

- Work together in your group to make a good set of directions.
- Use left and right, and landmarks on the map.
- Write the directions down and read them out to the other groups in the class, to see if they can follow them.

How to do it

- work together as a team
- listen to each other
- help the others to make a good set of directions
- do your share of the work

Your directions should

- tell exactly the route to follow
- be very clear and easy to follow
- use left/ right and landmarks on the map
- be written down so that you can read them out

Time
You have 20 minutes to make up the directions.
You have 3-4 minutes to give the directions to the rest of the class.

Appendix A2.2

Challenge 1 (Primary 7)
Direction

The Challenge

Your group should use the map to write a set of directions to describe this journey. Betty goes from her own cottage to the hospital, then to Tom's cottage and back home. She is blind and uses her guide dog, Opal, to help her get around. Find any hazards on the map she meet as she goes on her journey.

What to do

- Work together in your group to make a good set of directions.
- Use left and right, and landmarks on the map.
- Add in the hazards the group has found.
- Write the directions down and read them out to the other groups in the class, to see if they can follow them. Make sure they know about the hazards.

How to do it

- work together as a team
- listen to one another
- help the others to make a good set of directions
- do your share of the work

Your directions should

- tell exactly the route to follow
- be very clear and easy to follow
- use left/ right and landmarks on the map
- point out the hazards on the journey
- be written down so that you can read them out to the class

Time

You have 20 minutes to make up the directions, showing the hazards.
You will then have 3-4 minutes to give your directions to the rest of the class.

Appendix A2.3

Challenge 2 (Primary 3)

Danger

The Challenge

Betty is blind and her guide dog, Opal, helps her to get about. On her way to the hospital and then Tom's cottage, what dangers will she meet. The group should use the map to find where the dangers might be and explain why they are dangerous.

What to do
The group should

- find the dangers on the map
- make a list of dangers
- be able to explain each one

How to do it

- work together as a team
- help the others to make a good set of directions
- take responsibility for a share of the work

Your list should

- show all the dangers

Time

You have 20 minutes to work out dangers make up the list.
You will then have 3-4 minutes to explain the dangers to the rest of the class.

Appendix A2.4

Challenge 2 (Primary 7)
Danger Ahead – Use Some Sense

Challenge

You have already pointed out the dangers on Betty's journey. Now the group should think about the senses Betty can use to help herself, as she goes walks on her journey. How else can she work out where she is, and where the dangers are as she goes round the route. Use the map to help you make a list of all the clues Betty use.

What to do
The group has to

- decide which senses Betty could use to help her
- find the clues on the map where she could use them
- make a list of the clues you come up with
- be able to explain each clue

How to do it

- work together as a team
- listen to each other
- help the others in the group to find the dangers
- make sure you take a share of the work

Your list should

- name each clue
- show which sense she would use

Time
You have **20 minutes** to work out the dangers and make the list.
Your group will then be asked to share the list with the rest of the class.

Appendix A2.5

Challenge 3 (Primary 3)
Obstacle Course

Challenge

Betty is guided by her guide dog when she goes out. Your group has to guide one person round the obstacle course. The person will be blindfolded and you can only give them instructions to help them get round the obstacles. The group should spend some time deciding what the best way would be to help. Work out the instructions you will give.

What to do

The group has to

- look carefully at the obstacle course
- work out a clear set of instructions for the blindfolded person
- try the instructions to see if they work

How to do it

- work together as a team
- listen to each other
- help the others in the group to make a good set of instructions
- make sure you take a share of the work

Your instructions should

- be clear and simple
- be easy to follow

Time

You have **20 minutes** to work out instructions.
Your group will then be asked try the instructions to see if they work.

Appendix A2.6

Challenge 3 (Primary 7)
How does it feel ?

Challenge
Betty is guided by her guide dog when she goes out. The first time she does this on her own might feel quite strange. She talks to George, the guide dog trainer, about it afterwards. To give you an idea of how she might have felt, you will be led round an obstacle course, blindfolded. You will also get the chance to lead someone else around the course safely. You will need to trust the other person, just the way Betty has to trust the guide dog. When you are leading the 'blind person', you need to make them feel safe. Then you have to make up a role play of the conversation Betty might have with George, after her first trip.

What to do

- Talk in your group about how it felt to be led around the obstacle course, when you couldn't see
- Decide on what the most important feelings are that you want to put into your role play
- Work out what Betty might say to George after her first trip out
- Talk in your group about how it felt to lead someone around the obstacle course
- Work out what he might say to her to reassure her
- Decide who will be Betty and who will be George
- Practice your role play so you cam share it with the class

How to do it

- work together as a team
- listen to each other
- help the others in the group to make up a good role play
- make sure you take a share of the work

Your role play should

- last no more than 3 minutes
- use interesting words to show the kinds of feelings Betty might have after her first trip out
- use interesting words to show how George might reassure her

Time
You have **15 minutes** to work out instructions.
Your group will then be asked to perform the role play for the class.

The Role Play

How did you feel? → How would Betty feel?

Try to think of good words to describe the feelings.

What did the guide say to help you feel safe? → What could George say to help Betty feel safe?

Who will be Betty and who will be George?

What will they say?

Try it out

Appendix A3: Piloting the Learning Challenge

Phase 2 of the Critical Skills Programme began in January 2004 with a pilot run of the learning challenge involving the model village at a Glasgow primary school. The task was undertaken by two sample groups: one from Primary 3, the other from Primary 6. In addition, a member of the evaluation team gave a short session involving a guide dog (named Opal) in order to get the pupils to think about some of the issues confronting a fictional blind woman, named Betty. The task was filmed by a member of the education team using a hand held video camera.

A meeting of the team then took place to discuss the main issues raised by the pilot run. Five main points emerged:

- The village was a distraction for some pupils during the briefing section
- The presence of Opal was also a distraction
- There was a need to clarify the procedures for interventions by the evaluation team while the pupils were engaged in the task
- The model village required some alterations and improvements
- Some instances of conflict had arisen between pupils in the same group, which seriously disrupted the pupils' engagement with the task.

In the light of these issues, the following refinements were put in place:

- The pupils would be allowed to have a good look at the model villages at the beginning of the briefing
- Opal would not be involved until the third phase of the evaluation
- Interventions by members of the evaluation team would only occur on three grounds:

    (i) If no one in a group was 'on task'
    (ii) If serious conflict arose between pupils threatening their safety
    (iii) If they were asked a question by a pupil

- The village was glued onto a wooden board, with a pavement represented by a black area. The buildings were also glued and then blu-tacked onto the village. All extraneous pieces were removed for the Primary 3 groups; a minimum were added back on for the Primary 7 groups.

- The teacher selected the four groups, one all male, one all female, and two mixed. The individuals should be able to work together reasonably well with the minimum of conflict.

Appendix A4 - Pupil Demographic Data

P3 Pupils in School A

TOTAL	BOYS	GIRLS	F.S.M. ENTITLE-MENT	NATIONAL TEST GRADES															AVERAGE % ATTEND.
				READING					WRITING					MATHS					
				P	A	B	C	D	P	A	B	C	D	P	A	B	C	D	
20	14	6	6	6	14	0	0	0	6	14	0	0	0	4	16	0	0	0	91%

P7 Pupils in School A

TOTAL	BOYS	GIRLS	F.S.M. ENTITLE-MENT	NATIONAL TEST GRADES															AVERAGE % ATTEND.
				READING					WRITING					MATHS					
				A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	
15	8	7	4	0	2	7	6	0	1	2	9	3	0	1	1	13	0	0	93%

P3 Pupils in School B

TOTAL	BOYS	GIRLS	F.S.M ENTITLE-MENT	NATIONAL TEST GRADES									AVERAGE % ATTEND.
				READING			WRITING			MATHS			
				P	A	B	P	A	B	P	A	B	
20	13	7	8	2	0	18	6	0	14	0	0	20	95%

P7 Pupils in School B

TOTAL	BOYS	GIRLS	F.S.M. ENTITLE-MENT	NATIONAL TEST GRADES															AVERAGE % ATTEND.
				READING					WRITING					MATHS					
				A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	
16	8	8	6	0	0	1	4	11	0	0	5	6	5	0	0	1	11	4	96%

Appendix A5.1 : Coding Criteria for the Skills

CRITERIA : SKILLS

Problem Solving	Communication
Individuals who develop high quality etc. seeking, defining etc. **A.** seeing, defining and probing the major questions of a problem **B.** seeking out resources – using knowledge, experience and the senses **C.** constructing and employing problem solving strategies **D.** valuing and amassing a spectrum of potential solutions **E.** evaluating and testing ideas **F.** observing results and responding accordingly	Individuals who communicate well by: speaking with preparation and 'off the cuff' **A.** speaking with preparation and "off the cuff" **B.** writing with purpose and clarity **C.** employing graphic interpretation and presentation **D.** listening and observing with respect and understanding **E.** expressing feelings clearly and honestly **F.** reading for understanding **G.** communicating with honesty and authenticity

Appendix A5.2 : Coding Criteria for the Dispositions

CRITERIA : DISPOSITIONS

Collaboration	**Community**
Individuals who seek to optimise work through collaboration who: A. value collaboration B. see conflict of issues and ideas as an essential aspect of collaboration C. contribute and invest in a group vision D. further themselves and others in pursuit of common goals E. value, build on and maximise ideas, abilities and perspectives of others F. engage fully in collaboration G. relinquish personal agendas H. defend and idea of position about which they feel strongly even if it is in conflict with the thinking of the group I. work to optimise the outcomes of a common effort J. resolve conflict by seeking new rather than common ground K. distinguish between "buying in" and "going along"	Responsible and active members of communities who: A. themselves as valued members of the community B. draw from an ethical foundation for community relationships C. trust others and are trustworthy within the community D. value, celebrate and tap into diversity among community members E. engage others with respect, honesty, integrity, and courtesy F. work to understand and empathise with others G. work to maintain an environment of safety, confidence, mutual esteem, and mutual support H. enter into productive group work – helping others to achieve a common goal I. take responsibility for a share of the work – keeping interest of the community in mind J. share themselves as teachers or mentors of others K. contribute and solicit ideas, opinions, and resources L. take an active part in forming and supporting group decisions M. express ideas, feelings and hunches and diplomacy

APPENDIX A6.1

Inter-Rater Reliability Correlations

PUPIL A

Problem Solving: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.973			
Rater 3	0.823	0.856		
Rater 4	0.950	0.957	0.889	
Rater 5	0.938	0.951	0.942	0.978

Problem Solving: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.850			
Rater 3	0.766	0.923		
Rater 4	0.751	0.815	0.853	
Rater 5	0.815	0.889	0.915	0.918

Communication: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.972			
Rater 3	0.817	0.805		
Rater 4	0.958	0.925	0.834	
Rater 5	0.961	0.959	0.799	0.913

Communication: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.873			
Rater 3	0.858	0.730		
Rater 4	0.941	0.855	0.783	
Rater 5	0.935	0.873	0.757	0.873

Collaboration: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.972			
Rater 3	0.815	0.834		
Rater 4	1.00	0.972	0.815	
Rater 5	0.908	0.952	0.907	0.908

Collaboration: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.869			
Rater 3	0.776	0.739		
Rater 4	0.675	0.734	0.700	
Rater 5	0.751	0.765	0.803	0.634

Community: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.964			
Rater 3	0.917	0.949		
Rater 4	0.920	0.939	0.948	
Rater 5	0.937	0.807	0.944	0.847

Community: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.701			
Rater 3	0.700	0.728		
Rater 4	0.887	0.841	0.764	
Rater 5	0.756	0.817	0.858	0.747

APPENDIX A6.2

Inter-Rater Reliability Correlations

PUPIL B

Problem Solving: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	1.0			
Rater 3	1.0	1.0		
Rater 4	1.0	1.0	1.0	
Rater 5	1.0	1.0	1.0	1.0

Problem Solving: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.826			
Rater 3	0.763	0.732		
Rater 4	0.701	0.811	0.755	
Rater 5	0.806	0.869	0.777	0.799

Communication: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	1.00			
Rater 3	1.00	1.00		
Rater 4	1.00	1.00	1.00	
Rater 5	1.00	1.00	1.00	1.00

Communication: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.758			
Rater 3	0.733	0.793		
Rater 4	0.792	0.911	0.853	
Rater 5	0.694	0.897	0.827	0.920

Collaboration: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	1.00			
Rater 3	1.00	1.00		
Rater 4	0.924	0.924	0.924	
Rater 5	1.00	1.00	1.00	0.924

Collaboration: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	0.924			
Rater 3	0.874	0.870		
Rater 4	0.936	0.876	0.864	
Rater 5	0.856	0.968	0.839	0.911

Community: Scale A

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	1.00			
Rater 3	1.00	1.00		
Rater 4	1.00	1.00	1.00	
Rater 5	0.852	0.852	0.852	0.852

Community: Scale B

	Rater 1	Rater 2	Rater 3	Rater 4
Rater 2	1.00			
Rater 3	0.916	0.916		
Rater 4	0.954	0.954	0.873	
Rater 5	0.785	0.785	0.883	0.984

Appendix A7

Table A7.1 Statistical significance of differences in mean skills ratings (T1-T2) by ability levels for P3 pupils in School A

	N	SKILLS							
		Problem solving				Communication			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics – 1 *	15	2.60	*	1.41	NS	2.76	*	1.87	(*)
Mathematics - 2	0								
Reading - 1	15	2.60	*	1.41	NS	2.76	*	1.87	(*)
Reading - 2	0								
Writing - 1	15	2.60	*	1.41	NS	2.76	*	1.87	(*)
Writing - 2	0								

Table A7.2 : Statistical significance of differences in mean dispositions ratings (T1-T2) by ability level for P3 pupils in School A

	N	DISPOSITIONS							
		Collaboration				Community			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics – 1 *	15	2.90	*	1.16	NS	3.02	*	2.01	(*)
Mathematics - 2	0								
Reading - 1	15	2.90	*	1.16	NS	3.02	*	2.01	(*)
Reading - 2	0								
Writing - 1	15	2.60	*	1.16	NS	3.02	*	2.01	(*)
Writing - 2	0								

* Note: '1' includes Levels Pre-A and A; '2' includes B

Table A7.3 : Statistical significance of differences in mean skills ratings (T1-T2) by ability levels for P7 pupils in School A

	N	SKILLS							
		Problem solving				Communication			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics - 1	1								
Mathematics - 2	12	0.20	NS	0.24	NS	0.16	NS	0.40	NS
Reading - 1	1								
Reading - 2	12	0.20	NS	0.24	NS	0.16	NS	0.40	NS
Writing - 1	2	1.00	NS						
Writing - 2	11	0.20	NS	0.37	NS	0.16	NS	0.69	NS

Table A7.4 : Statistical significance of the differences in mean dispositions ratings (T1-T2) by ability levels for P7 pupils in School A

	N	DISPOSITIONS							
		Collaboration				Community			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics - 1	1								
Mathematics - 2	12	0.77	NS	1.25	NS	0.27	NS	0.68	NS
Reading - 1	1								
Reading - 2	12	0.77	NS	1.25	NS	0.27	NS	0.68	NS
Writing - 1	2								
Writing - 2	11	0.77	NS	1.19	NS	0.27	NS	0.62	NS

Table A7.5 : Statistical significance of differences in mean skills ratings (T1-T2) by ability levels for P3 pupils in School B

	N	SKILLS							
		Problem solving				Communication			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics - 1	15	3.24	**	3.12	**	2.44	*	2.86	*
Mathematics - 2	0								
Reading - 1	15	3.24	**	3.12	**	2.44	*	2.86	*
Reading - 2	0								
Writing - 1	15	3.24	**	3.12	**	2.44	*	2.86	*
Writing - 2	0								

Table A7.6 : Statistical significance of differences in mean dispositions ratings (T1-T2) by ability levels for P3 pupils in School B

	N	DISPOSITIONS							
		Collaboration				Community			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics - 1	15	1.91	(*)	1.22	NS	1.89	(*)	1.22	NS
Mathematics - 2	0								
Reading - 1	15	1.91	(*)	1.22	NS	1.89	(*)	1.22	NS
Reading - 2	0								
Writing - 1	15	1.91	(*)	1.22	NS	1.89	(*)	1.22	NS
Writing - 2	0								

Table A7.7 : Statistical significance of differences in mean skills ratings (T1-T2) by ability levels for P7 pupils in School B

	N	SKILLS							
		Problem solving				Communication			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics - 1	0								
Mathematics - 2	16	0.26	NS	0.86	NS	2.02	(*)	1.42	NS
Reading - 1	0								
Reading - 2	16	0.26	NS	0.86	NS	2.02	(*)	1.42	NS
Writing - 1	0								
Writing - 2	16	0.26	NS	0.86	NS	2.02	(*)	1.42	NS

Table A7.8 : Statistical significance of differences in mean dispositions ratings (T1-T2) by ability levels for P7 pupils in School B

	N	DISPOSITIONS							
		Collaboration				Community			
		Scale A		Scale B		Scale A		Scale B	
		t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Mathematics - 1	0								
Mathematics - 2	16	3.10	**	2.08	(*)	2.39	*	1.74	NS
Reading - 1	0								
Reading - 2	16	3.10	**	2.08	(*)	2.39	*	1.74	NS
Writing - 1	0								
Writing - 2	16	3.10	**	2.08	(*)	2.39	*	1.74	NS

Appendix A8

Members of the Advisory Group:

Dr. Colin Holroyd (Convener)

Ms. Alison Cameron, Education Department, North Lanarkshire Council

Ms. Jean Carwood-Edwards, Head of School of Education, James Watt College

Mr. David Cumming, Principal, Smithycroft Learning Community

Ms. Laura Mason, Adviser, Perth and Kinross Council

Ms. Denyse Kozub, New Educational Developments Division,
Scottish Executive Education Department (2004)

Ms. Shirley Laing, New Educational Developments Division,
Scottish Executive Education Department (2003)

Research Team:

Professor Stephen Baron

Ms. Margaret Martin

Mr. Fraser McConnell

Dr. Alastair McPhee

Ms. Irene McQueen

Professor J. Eric Wilkinson