

## **Pupil grouping for learning in classrooms: Results from the UK SPRinG Study**

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This paper begins with a central premise concerning grouping for learning in classrooms, follows with two challenges and concludes by identifying how the study of social pedagogy of classrooms is developing. The central premise is that children are always found seated or working in some form of grouping in their classrooms, but that many of these groupings actually inhibit learning and the motivation to learn. Thus, the first challenge is to understand how pupil groups are currently used in schools – and how this may inhibit learning. To understand why pupil groups may not be effective in promoting learning, and how they may be changed to support learning, the chapter will consider the use of pupil groups within their natural classroom context. The paper will focus, in the main, on research related to primary schools and will provide a review of current grouping practices in classrooms, particularly in England.

The second challenge asks how group working can be made more effective. We draw upon recently completed large scale research in the UK. The SPRinG project is distinctive in integrating group work across the curriculum and over the school year. It was developed through extensive collaboration with teachers. It stresses a relational approach that integrates communication skills with trust and respect, and helps pupils plan, organise and evaluate their group work.

### **1. The grouping of pupils in classrooms**

Studies concerning group work in classrooms can be divided into two broad categories, representing naturalistic descriptions and experimental change (some based upon preliminary naturalistic study) of classroom activity (Kutnick, Blatchford & Baines, 2002). This division provides a useful starting point.

Experimental studies tend to arise from, or can be associated with, theoretical orientations that are predominantly psychological. Theories underlying co-operative learning (Slavin, 1995; Johnson & Johnson, 2003) have described their roots in social psychological theories of Deutsch (1949) and Lippett & White (1943) that stress the advantages of interdependence within (heterogeneous) groups and Allport's (1954) operationalisation of 'contact theory'. When the social psychological focus on interdependence is applied to classroom studies (especially in comparisons of co-operative learning to traditional learning) findings show consistent enhanced relational and pro-school attitude development among pupils, and moderate learning gains. Experimentally-based, collaborative approaches in classrooms acknowledge the importance of interpersonal relations for the sharing and co-construction of knowledge – often focusing on the role of classroom talk (see the extensive range of studies by Webb and colleagues and by Mercer and colleagues, for example: Webb & Mastergeorge, 2003 and Mercer, 2000). These studies have explored interpersonal language that supports group work in classrooms and have developed effective programmes to enhance child talk/knowledge within particular curricular areas. While these studies are insightful in identifying where groups are ineffective and recommending particular interpersonal and communicative methods to enhance group working, they tend not to consider the whole classroom context within which group work takes place.

Naturalistic studies, on the other hand, do tend to account for the whole class context – often including a number of sociological concerns, for example, regarding social inclusion and participation of all children within the classroom. For the convenience of this paper, we divide

naturalistic studies into two phases: studies between 1980 and 2000 that identify a range of problems associated with group work in classrooms, and recent studies that see classrooms as a social pedagogic context within which pupil groups may be seen to promote or inhibit classroom learning and motivation.

From the first phase of naturalistic studies, three dominant themes arise: 1) while children experience classroom activity in groups, these groups may vary in size and phase of lesson; 2) children often do not work productively in groups; and 3) teachers are not confident in establishing and supporting group work. Descriptions of primary classrooms (see especially Galton, Simon & Croll, 1980 and Galton, Hargreaves, Comber & Pell, 1999) show that the term 'pupil group' can refer to a range of sizes and purposes. Children may be found in large groups (such as the whole class), in a range of small groups (usually about 4 to 6 children, seated around a classroom table), and in pairs or triads (sometimes sharing a table with other pairs). Additionally, pupils may be found working as individuals (often sharing table space with other individuals). These different group sizes are likely to be associated with phases of a lesson – with large groups/whole class coming together at the beginning and end of a lesson and smaller groups used in the middle of a lesson. Pedagogically, these group sizes should relate to the variety of learning tasks that characterise a lesson; broad categories of learning task include new/cognitive knowledge, extension of existing knowledge and practice/revision of knowledge (from Norman, 1978; and used in Bennett, Desforges, Cockburn & Wilkinson, 1984, and Edwards, 1994). These studies can be integrated to show a relationship between group size and learning task (more fully described in Kutnick, 1994) that includes: for practice tasks, children work better as individuals than in any larger group (that may distract the child, Kutnick & Jackson, 1996); for cognitive tasks, pairs of pupils or pupil-tutor dyads are more effective in promoting understanding than individuals or larger groups (as discussed in Littleton, Meill & Faulkner, 2004; Kutnick & Thomas, 1990; Perret-Clermont, 1980); for extension of understanding, small groups are recommended, especially in co-

operative learning studies (Slavin, 1995; Johnson & Johnson, 1994); and the whole class is often used for presentation of cognitive tasks that allow for teacher-child (dyadic) follow-ups. While all types of tasks are found in primary schools (Bennett et al., 1984; Baines, Blatchford & Kutnick, 2003) children's seating (the context within which they are asked to undertake their learning tasks) is most likely to be in small groups situated around small tables. Hence, studies such as Galton et al. (1980) and Galton et al. (1999) identify a number of disparities such as: children are most often found seated in small groups (for up to 80% of their classroom time) while being assigned individual tasks, and the quality of talk within the small groups is likely to be at a low cognitive level. Other disparities can also be detected in this first phase of naturalistic studies: the assignment to and use of small groups based on distribution of furniture in the classroom (Dreeben, 1984); differentiation of pupils by ability-based seating (Ireson & Hallam, 2001); teacher difficulties in the selection and design of tasks that legitimise group interaction (Bennett & Dunne, 1992; Harwood, 1995); and the fact that teachers tend not to move tables to accommodate individual, paired, small or large group seating for specific learning tasks (Hastings & Chantry, 2002).

Many children, as well as their teachers, do not like working in groups (Cowie & Rudduck, 1988). Galton (1990) found that children often feel insecure and threatened when told to work in groups – and pupils respond to this threat by withdrawal from participation or looking to the teacher to give legitimacy to their responses within groups. Teachers have expressed particular concern about: loss of classroom control, increased disruption and off-task behaviour (Cohen & Intilli, 1981); children not being able to learn from one another (Lewis & Cowie, 1993); group-work being overly time consuming and assessing children when working in interactive groups is problematic (Plummer & Dudley, 1993); and only the more academically able profit from group work. Teachers have also expressed the view that pupils, particularly boys, will misbehave during group work and that discussion within group work may cause conflict between pupils (Cowie et al., 1994).

Findings from this first phase of naturalistic studies therefore make depressing reading for those who are aware of the success of experimentally oriented studies of group work with school-aged

pupils. To its credit, this phase has identified where problems exist in the implementation of effective group working in classrooms. We consider that the main problem identified in these studies is the limited coordination between the size of pupil groupings, their composition, pedagogic purpose of learning task and interactions among group members. In short, there is little awareness of social pedagogical relationships inherent in the classroom. It is little surprise, therefore, if pupils and their teachers do not express confidence or liking of group work, and both feel threatened by group work.

In the second phase of naturalistic studies, a clearer understanding of the bases for success and failure of group work in the classroom is established. The social pedagogic approach drawn upon by the authors focuses on relationships between pupil groups (their size and composition), learning tasks, supportive interactions with peers and teachers, and whether pupils have received training for effective group working (see Blatchford, Kutnick, Baines and Galton, 2003, for more background to this approach). Evidence referred to in this phase arises, in the main, from ‘mapping’ classrooms while pupils engage in learning tasks and interviews with teachers (for a fuller discussion of mapping as a systematic, multi-dimensional description of grouping practices and more on data reported below see Baines, Blatchford & Kutnick, 2003; Blatchford, Kutnick and Baines, 1999; and Kutnick et al., 2002).

Mapping in primary schools showed that the majority of pupils were seated in small groups (50% of mappings), with whole class groupings accounted for a further 20%. In only 2% of observations were individuals seated alone. Larger groups, as might be expected by their size, were mixes of boys and girls and ability. Smaller groups tended to be single-sex, single-ability and friendship based. The predominant learning task type used in classrooms was practice, and the least likely task was new knowledge/cognition. While virtually all children were found seated in pairs or larger groupings, over 60% of the assigned tasks asked children to work individually. Teachers and other

adults in the classroom were only able to work with approximately one-third of the pupil groups in their classrooms at one time.

While most of the observations found children seated in pairs or larger groups, only a quarter of the (nearly) 200 teachers participating in the study stated that they prepared their classes for group working; and the majority of these teachers cited 'circletime' as their only form of group work preparation. Other social pedagogic concerns regarding group work found in this study included:

a) The small groups that dominated classroom experience were likely to be composed of same-sex and same-ability pupils, providing contexts of social exclusion rather than inclusion in the classroom; this was especially true of low attaining boys (who were mainly assigned individual tasks where they were not asked to interact or discuss the task with others) and high attaining girls.

b) There was no clear relationship between the size of groups and the learning tasks/interaction assigned – most pupil groups were assigned practice tasks that required children to work alone.

c) Adults in the classrooms tended to work with the whole class or large groups, or they work with individuals, leaving most of the small groups to work autonomously from teacher or adult support.

d) Adults were present in virtually all of the observations within which new knowledge/cognition was presented; not allowing opportunities for pupils to co-construct and further develop their own new knowledge.

As a result of this systematic description of the range and use of pupil groupings in authentic primary school classrooms, three main concerns are identified that underpin the SPRinG (Social Pedagogic Research into Groupwork) project. These concerns form the basis for the remainder of the chapter:

1. Relationships are fundamental for effective group working: As suggested in the description of the first phase of naturalistic studies, pupils often feel threatened and do not understand how to work in a group of their peers. Teachers have often not overcome the lack of group working ‘skills’ in their classrooms. On the other hand, teachers and pupils can appreciate that supportive relationships are essential for the promotion of learning – relationships that build upon trust between peers and children with teachers, and the ability to communicate effectively and jointly resolve problems with partners (Hall, 1994; Kutnick et al., 2005).

2. Effective groupwork involves an effective classroom context: If group work is to be effective, pupils must be able to work in a socially inclusive manner with all other members of their class (and not be dominated by same-gender and friendship preference groups as noted in Kutnick & Kington, 2005; Kutnick, Blatchford & Baines, 2005). In order for pupils to be able to draw upon supportive relationships and be less dependent on their teachers in their learning, the physical (e.g., seating and furniture layout), curriculum and interactional (e.g., group composition and size) contexts of the classroom must be co-ordinated to support group work.

3. Role of the teacher: Teachers are essential for the organisation of the learning experience of their pupils, but as described above they rarely draw upon social pedagogic principles that would relate pupil group size and composition to learning task and interaction and which would promote group working among the children.

## **2. How group work can be made more effective: The SPRinG Project**

The main impetus for the SPRinG (Social Pedagogic Research into Group work) project was therefore to address these three main concerns. To do this successfully suggested that we needed a new approach to conceptualising group work in classrooms – an approach that would ground itself in the reality of everyday school life and the concerns of teachers and pupils, and integrate group work into the fabric of the school day. We were interested in an inclusive view of classroom groups that sought to integrate findings from previous research into a more general application. The project

took place from 2001-2005. In collaboration with teachers over the course of the second year of the project we developed approaches and materials at three sites - KS1 (5-7 years) at the University of Brighton, KS2 (7-11 years) at the Institute of Education, University of London, and KS3 (11 – 14 years) at the University of Cambridge. This paper is concerned with KS1 and KS2, i.e., 5-11 years – which covers the primary school stage in England.

The SPRinG approach was based on 3 key principles (in line with the three concerns above).

### *2.1.1 A relational approach*

A key feature of the SPRinG programme is that *group work skills have to be developed* (Cohen, 1994; Webb & Farivar, 1994). It is well known (see Gillies, 2003) that pupils need to have the skills to communicate effectively through listening, explaining and sharing ideas. But effective group work also depends on pupils learning to trust and respect each other (Galton, 1990) and having skills to plan and organise their group work, make considered group decisions, reach a compromise and avoid petty disputes. The approach is based on a naturalistic study of close social relationships (Kutnick & Manson, 1998), and has been devised to overcome problems associated with social skills training programmes (Ogilvy, 1994). A relational approach to group working skills will benefit from integration into more general rules and ways of behaving in the class; indeed, such integration can create classroom norms for social inclusion. One message that has emerged strongly from our work is that it is important not to allow personality types or group conflict to dictate the success, or failure, of groups. If not addressed directly then difficulties between pupils may lie below the surface and inhibit classroom learning.

### *2.1.2 Preparation of the classroom context for group work*

The SPRinG approach also rests on the view that group work has to be considered strategically in the wider context of the whole classroom. This includes three main dimensions: (a) classroom level



factors such as classroom layout, furniture, and seating arrangements and class size; (b) characteristics of groups such as their size and number and their composition; and (c) group work tasks and the way these are integrated into, and used to support learning within, a lesson and the curriculum. The aim is to integrate group-work into all class and curricular activities. The approach rests on the view that effective group work can be facilitated by structuring the group work context in a number of key ways, for instance, organising classroom seating arrangements and increasing the proximity of pupils to reduce noise and encourage group interaction; ensuring group size (usually 2-4 pupils) is appropriate to the experience of pupils and the task at hand; and where possible maintaining stable groups as they can reduce insecurities and conflict.

One common assumption, which can hinder the development of group work, is the view that the demands of the curriculum mean there is no time for group work. It is important that we do not examine small group learning independently of the curriculum and the culture of the classroom (Slavin et al., 2000; Webb & Palincsar, 1996). While much research on group work has tended to be rather curriculum specific, or extra curricular, our aim was to encourage the development of group work skills that are both generic and also applicable to specific curriculum areas. Previous research would suggest that if effective learning is to take place the relationship between the task and the quality of group interaction is important (Bossert, Barnett & Filby, 1985). It is important that learning tasks are set up in a way that is conducive to working together and not independent work.

### *2.1.3. Involvement of teachers in the support of group work*

A major part of the programme was the development of classroom and interactive strategies concerning how teachers can promote and support high quality group processes. We suggest several ways of conceiving how teachers can make group work productive. One way is by lowering the risk for pupils (Doyle, 1986), while ensuring the challenge remains high, through a process of ‘scaffolding’ the task, group context and interaction. Scaffolding, when it comes to supporting group work, has not

been fully researched but will involve adapting and structuring the group work context and the task (see Palincsar & Herrenkohl, 1999; Tolmie, Thomson, Foot, Whelan, Morrison & McLaren, 2005) such that pupils can provide scaffolds for their peers rather than maintain dependence on teacher-based scaffolding. The teacher will need to structure lessons carefully to facilitate learning in groups and encourage reflection on group processes. It is important for the teacher to replace some direct teaching with time for monitoring their behaviour.

## ***2.2 Implementation and evaluation of the SPRinG programme***

The SPRinG programme was based on these three key principles, and involved a set of activities and lesson plans to help teachers develop pupils' social, communication and advanced (relational) group work skills and integrate group work into the curriculum. The development phase was followed by an evaluation phase that extended over a further full school year - a far longer time frame than many studies. Involvement required attendance at regular half-day meetings over the course of the year and a willingness and commitment to implement the SPRinG programme. Meetings considered SPRinG ideas and practices, discussions of these ideas and sharing of further practices and other aspects related to the evaluation of the program. Teachers were given a handbook which was designed in the previous year on the basis of a collaboration between the research team and a different group of teachers. The Handbook was based on research evidence as far as possible but also teachers' experiences during the development phase. Teachers were also visited through the year; during these visits observations could be made and teachers could discuss their group working practices.

## ***2.3 Results from the evaluation of SPRinG***

In this section we give a brief overview of results from the extensive evaluation of SPRinG. More complete results can be found in Baines, Blatchford and Chowne (in press); Blatchford, Baines, Rubie-Davies, Bassett and Chowne (2006); Blatchford, Galton, Kutnick and Baines (2005); and

Kutnick, Ota and Berdondini (in press). The main research questions were whether the group-work programme led to increases in learning/attainment, behavioural and dialogue patterns supportive of learning, and favourable motivational patterns and attitudes to learning. The exact designs, as well as samples and measures, varied between the two sites, but at each there was an experimental group involved in the SPRinG programme, extending over one year, and a control group of teachers and classes equally committed but who pursued their normal classroom activities and did not work on the principles and activities in the SPRinG programme. No attempt was made to alter the style of teaching in the control group; some of these teachers may have used group work as part of their normal approach to teaching, but they predominantly used whole class teaching and individual work. To address research questions, pupils in experimental and control classes were assessed in terms of three outcomes: attainment/learning, classroom behaviour and motivation/ attitudes. At KS1 (4-7 years) there were 19 classes and 474 pupils in the experimental group and 18 classes and 506 pupils in the control group. At KS2 (7-11 years) there were 32 classes and 849 pupils in the experimental group and 40 classes and 1027 pupils in the control group. In SPRinG classes, teachers were asked to do a minimum of three groupwork/relational activities per week. These were initially separate from the curriculum but gradually integrated into normal curricular teaching.

### *Attainment differences*

#### *'Macro' attainment at the beginning and end of the school year*

KS1: Attainment test scores were collected, using measures developed by the PIPS (Performance Indicators in Primary Schools) project of the CEM Centre at the University of Durham. They were conducted at the beginning and the end of the school year and covered curriculum-related areas of reading/literacy and mathematics.

KS2: 'Macro' attainment measures in science were collected at the beginning and end of the school year at KS2. Science tests did not exist for Years 3-5 and so three specially designed tests were constructed. These were based on items drawn from Government devised national tests. All items

related to the themes of ‘physical processes’ and ‘materials and their properties’. The tests were designed to cover all types of knowledge and required interpretation of diagrams, tables and graphs.

Statistical analysis for both KS1 and KS2 was undertaken using multilevel modelling that standardised (by year in school) attainment outcome scores and modelled effects of experimental vs control main effects, controlling for pre- test scores. A number of other variables were also factored into the model (e.g., pupil gender and initial attainment level, and year group) to examine main independent effects on outcomes and possible interactions with condition (experimental vs control), e.g., to see if the effect of SPRinG varied by gender or initial attainment level.

Results showed significant differences in favour of the SPRinG classes (see Table 1). As regression coefficients are standardised they can be interpreted as effect sizes in standard deviation units. It can be seen that at KS1 in reading/literacy children in the experimental condition improved more than those in the control group (effect size = 0.23). In mathematics, children in the experimental classes improved more than control children, with a large effect size (0.71), though this related only to the Year 2 children. No significant interactions were found between SPRinG vs control and other factors (e.g sex and initial attainment of children) indicating that SPRinG benefited all pupils in these classes. Table 1 also shows that at KS2 SPRinG pupils made more progress over the school year than the control group on the overall ‘macro’ science test, and the two ‘macro’ sub-tests covering the areas of evaporation/condensation and forces (effect sizes of 0.21, 0.43 and 0.29 respectively). No interaction effects were found, again indicating that all groups of children in the SPRinG classes benefitted.

#### *‘Micro’ science attainment: Evaporation and forces*

For the purposes of the evaluation at KS2, activities and teachers’ notes and ‘micro’ tests were also specially constructed for the science topics of evaporation/condensation and forces. The two sets of

group work activities extended over at least two and a half hour long lessons and were completed in the Spring and Summer terms respectively. These ‘micro’ assessments more closely connected learning and attainment to particular instances of the use of group work for learning a particular topic. Micro tests were based on Government curriculum guidance and consistent with expected coverage of these topics, but gave a central place to group work activities. The activities covered higher order problem solving skills (e.g. that involved thinking about and discussing particular scientific concepts, planning controlled science experiments etc.). For both SPRinG and control samples, pre-tests were built into the start of the lessons and post-tests were conducted two weeks after the activities were completed. Teachers in control classes covered similar science topics to those in the SPRinG group, including evaporation and forces (because they follow Government schemes of work), but the main difference was that the same topics were taught in a different way to that used in SPRinG classrooms, and the control pupils had not experienced relational skills training. Group work may have been used but probably not as extensively as in the SPRinG sample.

Results for evaporation micro tests are again shown in Table 1. Pupils in the SPRinG group had post test scores that were over 0.58 standard deviations greater than pupils in the control group, after controlling for pre-test scores.

### *Observation measures*

#### *On the spot observations*

Systematic on-the-spot (OTS) observations of pupil behaviour and interactions were undertaken in each experimental and control class at the beginning and end of the school year. The OTS method recorded behaviour during normal classroom activities, so tested whether involvement in group-work transferred to ‘normal’ classroom activities. Researchers focussed on six target children (balanced for sex and ability) selected randomly from each class. The schedule was similar to that used in Blatchford, Bassett and Brown (2005) and involved a 10 second time sampling technique

with categories describing time spent in different work settings, school subject, and a description of how children behaved when in three social ‘modes’ – with their teachers, with other children and when not interacting. Each of these three ‘modes’ contained mutually exclusive categories that covered engagement in work, procedural, social and off-task activity.

Multi-level logistic regression analyses at KS1 and KS2 showed clear differences between the SPRinG and control pupils on the key observation measures and their behaviour changed in predicted ways over the school year:

1. SPRinG classes dramatically increased the amount of group work and this was at the expense of individual work. Control classes maintained individual and whole class settings.
  2. In SPRinG classes pupils engaged in more task related interactions with each other. Conversely, control pupils spent more time in off-task interactions.
  3. SPRinG pupils’ interactions were far more likely to be high (cognitive) level and this increased over the year.
  4. SPRinG pupils engaged in more sustained interactions (and increasingly over the year) and made more substantial contributions, while control children’s interactions were more commonly coded as intermittent.
  5. SPRinG teachers were more likely to monitor interactions and less likely to directly teach pupils.
- The SPRinG programme affected the behaviour of all ability levels and year groups equally.

#### *Video observation analysis*

At KS1, analysis of video tapes of micro testing focused on pairs of children designing concept maps (23 pairs – 11 experimental, 12 control) and were analysed with Fogel’s relational coding system (Fogel, 1993; a system of analysis for interpersonal activity that noted time on/off-task, whether speech was reciprocated (co-regulated) or controlled by one individual, and whether partners did/did not work with each other (disengaged)). Paired work was undertaken as a

classroom activity and one randomly selected pair of children in each class was recorded on this activity during the spring and on a similar activity in the summer term. Over these two terms SPRinG pupils engaged in significantly more on-task conversation and more ‘co-regulated speech’, while control pupils showed more disengaged behaviour than SPRinG pupils.

At KS2, detailed analysis of pupil talk and involvement in group-work was conducted on video tapes of researcher-designed group-work activities. These were filmed in the summer term and involved groups of approximately 4 pupils working on the group-work activity within their normal classroom context. The video analysis tested whether SPRinG and control pupils differed in predicted ways when involved in the same selected group-work task. It allowed a more fine-grained description of classroom talk and group-working. The tasks were specially designed non-curricular tasks. One concerned ‘Who should get the pay rise?’ and the other ‘Who should be the class representative’. The activity involved a short piece of background, a description of several people who were possible contenders, and the task was to discuss and agree on who should be chosen and why. The activity took about 20 minutes. A total of 31 SPRinG and 29 control groups were filmed. Observation categories related to groups and covered (a) the degree to which all participated within the group and are engaged on-task, (b) socio-emotional (group maintenance vs. blocking), (c) sustained topic focus vs. changeable topic focus, and (d) pupil-pupil interaction/dialogue (in terms of collaborative discussion (inferential talk vs. text based talk), meta-group talk, sharing information, disputational talk, procedural, reading out task, off-task. The videoed interaction was coded every 20 seconds. Results showed significant effects in favour of SPRinG groups: In SPRinG groups there was more involvement of all group members, more instances of a sustained topic focus, more higher order inferential talk, while in control classes there was more off-task talk, more group ‘blocking’, more changeability in topic focus, and more procedural talk.

### *Attitudes and Motivation*

Measures were derived from pupil self completed questionnaires. The questionnaires formed scales including: Attitudes to Group working (liking group work, effective group working, cooperative learning); Personality (confident/assertive v. timid/passive); and Peer relations (truculent, activator). Results were less clear cut than those on attainment and behaviour, though at KS1 pupils showed developing preferences for paired and small group work over individual work, and at KS2 involvement in SPRinG arrested deteriorating attitudes to science and to working well as a group, found in the control group. There was also a significant gain in 'mastery motivation' for the SPRinG sample only.

### **3. Conclusion: the social pedagogy of classroom groups**

In this paper we started by showing that although research shows that group work can be a productive part of classroom activity, naturalistic observational studies of classrooms show little group work taking place and few opportunities for the development of relational/group working skills. Group work is therefore not legitimised in classrooms and pupils are left dependent on the teacher for cognitive information, and procedural and behavioural support. In parallel work (Blatchford et al., 2004) we have found that teachers in English schools have a strong belief in the value of addressing the individual needs of pupils. This lack of group working and the individual focus combine with perceived pressures arising from the curriculum and the classroom context (especially when they have large numbers of children in their class) and result in traditional, didactic views of pedagogy. Teachers feel forced to lead activities and engage in more whole class teaching sessions than they might like. In consequence pupils can become passive in their learning, spending much time listening to the teacher. Though some teachers are aware that 'all is not well', it is difficult for them to develop alternative pedagogic approaches, like group work, especially when this could mean introducing practices in opposition to the rest of the school. Moreover, in the UK at least, group work does not figure significantly in current educational policy and advice or, at



most, has a very minor role. When group work is mentioned, it is in effect a teacher or adult led context, little different pedagogically from whole class teaching, or individual work when seated in groups.

But results from the large scale evaluation of the SPRinG programme show that group work does not, as some teachers feared, get in the way of progress in mainstream curriculum areas or exacerbate conflict between pupils. Indeed, group work has a significant effect in terms of pupils' measured progress. The effect sizes associated with the difference between the SPRinG and control groups are equivalent to an average pupil moving up into the top third of the class. The SPRinG programme also has positive effects on interactive and behavioural processes. It was instrumental in affecting three key aspects of group-work: more active, sustained engagement in group activities; more connectedness within the group; and more higher order, inferential forms of reasoning.

We therefore suggest that teachers and schools could help themselves by making more use of group work as a way of facilitating pupil involvement – it offers learning possibilities for pupils not provided by either teacher led situations or individual work, and is more in keeping with current learning and development theories based on social construction (Blatchford, Kutnick, Baines & Galton, 2003). However, the development of an effective social pedagogy of group working cannot be undertaken as a 'quick fix' to current classrooms contexts and problems. With regard to our three principles: effective group working is based on effective and supportive relationships (between children with peers, and teachers with pupils) and will take time to develop; the classroom context must be changed to support group working (co-ordinating furniture, group sizes and composition, learning tasks, etc.); and teachers need to legitimise and integrate group working practices into their classrooms and curriculum.

It seems to us, therefore, that we need to rethink both informal and formal pedagogical theories in order to allow group work a much more central role in educational policy and school practice. This is not just the responsibility of teachers and will need to involve school leaders and policy makers. The SPRinG study provides a number of useful insights into ways teachers can integrate effective group working into classrooms. Teachers must move away from sole reliance on an individualised pedagogy, and they should consider the role of social pedagogy within their classes – leading to an understanding that it is the social context within their classroom that can promote or inhibit learning. To successfully implement this social pedagogic approach, teachers will need to plan for and integrate a relational approach to support pupils’ group working; create teaching and learning strategies that make use of various group sizes and structures, and ensure that they legitimise the use of groups in their classrooms.

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### **References**

Allport, G. (1954). *The Nature of Prejudice*. Cambridge, Mass: Addison Welsley.

Baines, E., Blatchford, P. & Chowne, A. (in press). Improving the effectiveness of collaborative group work in primary schools: effects on Science attainment. *British Educational Research Journal*

Baines, E., Blatchford, P. & Kutnick, P. (2003). Changes in grouping practice over primary and secondary school. *International Journal of Educational Research*, 39, 9-34.

Bennett, N. & Dunne, E. (1992). *Managing Classroom Groups*. Hemel Hempstead: Simon & Schuster Education.

Bennett, N., Desforge, C., Cockburn, A. & Wilkinson, B. (1984). *The Quality of Pupil Learning Experiences*. London: LEA.

Blatchford, P., Baines, E., Rubie-Davies, C., Bassett, P., and Chowne, A. (2006) The effect of a new approach to group-work on pupil-pupil and teacher-pupil interaction. *Journal of Educational Psychology*, 98, 750-765.

Blatchford, P., Bassett, P., and Brown, P. (2005). Teachers' and pupils' behaviour in large and small classes: a systematic observation study of pupils aged 10/11 years. *Journal of Educational Psychology*, 97, 454-467.

Blatchford, P., Galton, M., Kutnick, P. & Baines, E. (2005). *Improving the Effectiveness of Pupils Groups in Classrooms*. ESRC/TLRP Final Report.

Blatchford, P., Kutnick, P. & Baines, E. (1999). *The Nature and Use of Classroom Groups in Primary Schools*. Final report to ESRC, held at British Library.

Blatchford, P., Kutnick, P., Baines, E., & Galton, M (2003). Toward a social pedagogy of classroom group work. *International Journal of Educational Research*, 39, 153-72.

- Blatchford, P., Russell, A., Bassett, P., Brown, P., & Martin, C. (2004). *The effects and role of Teaching Assistants in English primary schools (Years 4 to 6) 2000-2003*. Results from the Class Size and Pupil-Adult Ratios (CSPAR) Project. Final Report. (Research Report 605 ISBN 1 84478 373 1) DfES (<http://www.dfes.gov.uk/research/data/uploadfiles/RR605.pdf>)
- Bossert, S., Barnett, B. & Filby, N. (1985). Grouping and Instructional Organisation. In P. Peterson, L. Wilkinson & M. Hallinan (eds), *The Social Context of Instruction*. Orlando, Fla: Academic Press.
- Cohen, E. (1994). Restructuring the Classroom: conditions for productive small groups. *Review of Educational Research*, 64 (1), 1-35.
- Cohen, E.G. & Intilli, J.K. (1981). *Interdependence and Management in Bilingual Classrooms*. Final Report No. NIE-G-80-0217). Stanford University, School of Education.
- Cowie, H. (1994). Co-operative group work: a perspective from the U.K. *International Journal of Educational Research* (special issue on co-operated learning in social contexts).
- Cowie, H. & Rudduck, J. (1988). Learning Together – Working Together. In Vol. 1: *Cooperative Group Work – An Overview* and Vol. 2: *School and Classroom Studies*. London: BP Educational Service.
- Deutsch, M. (1949). A theory of cooperation and competition. *Human Relations*, 2, 129-52.
- Doyle, W. (1986). Classroom Organization and Management. In M.C. Wittrock (ed.) *Handbook of Research on Teaching*, 3<sup>rd</sup> Edition. New York: Macmillan.

- Dreeben, R. (1984). First-grade reading groups: Their formation and change. In P. Peterson, L. Wilkinson & M. Hallinan (Eds.) *The social context of instruction*. Orlando, Fla: Academic Press.
- Galton, M. (1990). Grouping and Groupwork. In C. Rogers & P. Kutnick (eds) *The Social Psychology of the Primary School*. London: Routledge.
- Galton, M.J., Hargreaves, L., Comber, C., Wall, D. & Pell, A. (1999). *Inside the Primary Classroom: 20 Years On*. London: Routledge.
- Galton, M.J., Simon, B. & Croll, P. (1980). *Inside the Primary Classroom*. London: Routledge & Kegan Paul.
- Gillies, R. (2003). Structuring cooperative group work in classrooms. *International Journal of Educational Research*, 39, 35-49.
- Hall, E. (1994). The Social Relational Approach. In P. Kutnick & C. Rogers (eds) *Groups in Schools*, London: Cassell.
- Harwood, D. (1995). The pedagogy of the world studies 8-13 project: the influence of the presence/absence of the teacher upon primary children's collaborative group work. *British Educational Research Journal*, 21, 587-611.
- Hastings, N. & Chantry, K. (2002). *Reorganising primary classroom learning*. Buckingham: Open University Press.
- Ireson, J. & Hallam, S. (2001). *Ability Grouping in Education*. London: Sage.

Johnson, D.W. & Johnson, R.T. (1994). Collaborative learning and argumentation. In P. Kutnick & C. Rogers (Eds.) *Groups in Schools*. London: Cassell.

Johnson, D.W. & Johnson, F. (2003). *Joining together: group theory and research*. Boston, MA: Allyn & Bacon.

Kutnick, P. (1994). Use and Effectiveness of Groups in Classrooms. In P. Kutnick & C. Rogers (Eds.), *Groups in Schools*. London: Cassell.

Kutnick, P., Blatchford, P. & Baines, E. (2002). Pupil groupings in primary school classrooms: sites for learning and social pedagogy?. *British Educational Research Journal*, 28, 2, 189-208.

Kutnick, P., Blatchford, P. & Baines, E. (2005). Grouping of Pupils in Secondary School Classrooms: possible links between pedagogy and learning. *Social Psychology of Education*, 1-26.

Kutnick, P. & Kington, A. (2005). Children's friendships and learning in school; cognitive enhancement through social interaction?. *British Journal of Educational Psychology*, 75, 1-19.

Kutnick, P. & Manson, I. (1998). Social Life in the Classroom: Towards a Relational Concept of Social Skills for Use in the Classroom. In A. Campbell & S. Muncer (eds.) *The Social Child*, Hove: The Psychology Press.

Kutnick, P., Ota, C. & Berdondini (in press). Improving the effects of groupworking in classrooms with young school-aged children; facilitating attainment, interaction and classroom activity. *Learning and Instruction*.

Kutnick, P. & Thomas, M. (1990). Dyadic pairings for the enhancement of cognitive development in the school curriculum; some preliminary results on science tasks, *British Educational Research Journal*, 16, 399-406.

Lewis, J. & Cowie, H. (1993). Cooperative Group Work: Promises and Limitations a Study of Teachers' Values. *Education Section Review*, 17 (2), 77-84.

Lippitt, R. & White, R.R. (1943). The social climate of children's groups. In R.G. Barker, J.S. Kounin & H.F. Wright (Eds.) *Child Behaviour and Development*. New York: McGraw-Hill.

Littleton, K., Meill, D. & Faulkner, D. (2004). *Learning to Collaborate/Collaborating to Learn*. New York: Nova Scene.

Mercer, N. (2000). *Words and Minds: how we use language to think together*. London: Routledge.

Norman, D. A. (1978). Notes Towards a Complex Theory of Learning. In A.M. Lesgold (ed) *Cognitive Psychology and Instruction*. New York: Plenum.

Ogilvy, C.M., (1994). Social Skills Training with Children and Adolescents: a review of the evidence on effectiveness. *Educational Psychology*, 14(1), 73-83.

Palincsar, A., & Herrenkohl, L. (1999). Designing collaborative contexts: lessons from three research programmes. In A. M. O'Donnell & A. King (Eds.) *Cognitive perspectives on peer learning*. Mahwah, NJ: Lawrence Erlbaum Associates.

Perret-Clermont, A-N (1980). *Social Interaction and Cognitive Development in Children*. London: Academic Press.

Plowden Report (1967). *Children and Their Primary School*. London: HMSO.

Plummer, G. & Dudley P. (1993). *Assessing Children Learning Collaboratively*. Chelmsford: Essex Development Advisory Service.

Slavin, R. (1995). *Cooperative Learning*. (2nd Edition). Boston: Allyn & Bacon.

Slavin, R., Hurley, E. A., & Chamberlain, A. (2003). Cooperative learning and achievement: Theory and research. In W.M. Reynolds & G.E. Miller (Eds.) *Handbook of psychology: Educational psychology* (Vol.7, pp.177-198) New York: Wiley.

Tolmie, A., Thomson, J., Foot, H., Whelan, K., Morrison, S., & McLaren, B. (2005). The effects of adult guidance and peer discussion on the development of children's representations: Evidence from the training of pedestrian skills. *British Journal of Psychology*, 96, 181-204.

Webb, N. & Farivar, S. (1994). Promoting Helping Behavior in Cooperative Small Groups in Middle School Mathematics. *American Educational Research Journal*, 31, 369-395.

Webb, N. & Mastergeorge, A. (2003). Promoting effective helping behaviour in peer directed groups. *International Journal of Educational Research*, 39, 73-97.

Webb, N. M., & Palincsar, A. S. (1996). Group processes in the classroom. In D. C. Berliner, & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 841–873). New York: Macmillan.





**Table 1: The effect of SPRinG vs. Control and other explanatory variables on attainment results at KS1 and KS2**

<b>Outcome variable</b>	<b>Coefficient (SE)</b>	<b>P-value</b>
<b>Key Stage 1</b>		
<b>Reading/Literacy</b>		
Group (SPRinG Vs Control)	0.23 (0.10)	<0.05
Sex (Males vs females)	-0.10 (0.05)	<0.05
<b>Mathematics</b>		
Year 1 Group (SPRinG vs Control)	0.0 (0.13)	=0.99
Year 2 Group (SPRinG vs Control)	0.71 (0.13)	<0.001
<b>Key Stage 2</b>		
<b>Macro Science test</b>		
Group (SPRinG vs control)	0.208 (0.083)	0.01
<b>Evaporation items on Science Macro test</b>		
Group (SPRinG vs control)	0.429 (0.081)	<0.001
% pupils eligible for FSM	-0.111 (0.022)	<0.001
<b>Forces items on Science Macro test</b>		
Group (SPRinG vs control)	0.294 (0.077)	<0.001
% pupils eligible for FSM	-0.074 (0.021)	<0.001
<b>Evaporation Micro test</b>		
Group (SPRinG vs control)	0.576 (0.220)	0.009
% pupils with EAL	-0.076 (0.025)	0.002
<b>Macro Science test with evaporation and forces items omitted</b>		
Group (SPRinG vs control)	0.089 (0.17)	0.37

Note: only one control school was able to take on the forces unit, and so results were not analysed.