Developing the capacity to collaborate

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Introduction

Collaboration in the classroom can be a consequence of asking groups of children to work on a joint task. Teachers often seat children in groups and provide them with shared activities in the expectation that mutual support will increase motivation and help to raise achievement. In this chapter we will describe some of the advantages of group work, highlight some problems that occur, and go on to explain how the Thinking Together approach has addressed the element of chance involved in asking children to work together. We suggest that direct teaching of speaking and listening skills can help children to understand the purposes of group work and provide them with the means to collaborate with one another. We offer our findings of teacher strategies which have been shown to help children as they develop effective discussion skills and begin to apply them.

Group work in the classroom

Teachers have grouped children to work together in UK primary schools since the early 1970s. This is not simply a classroom management strategy. The Bullock report (1975) pointed out that in the primary years especially, a child's ability to speak and listen is nearly always more developed than their ability to read and write. Sharing their work with others through talk can benefit children by helping them to develop their thinking in any curriculum area. The nature of such 'sharing' will depend on the context, but might include children:

- directly asking for help;
- questioning;
- discussing a joint problem;
- observing one another;
- guided activity;
- inviting feedback;
- jointly creating (for example) a picture or document;
- pooling information or understanding.

All of these joint activities are undertaken through a mixture of demonstration, writing and speaking and listening. Of these, speaking and listening provides the main medium

through which questioning, answering, discussion, dialogue, information provision and explanation take place.

However, despite there being good educational reasons to put children into groups, observers of group activity in classrooms have reported that talk was often off-task, uncooperative and of little educational value (Galton, Simon & Croll, 1980; Bennett & Cass, 1989). OFSTED evidence has indicated that grouping pupils to work together may have classroom management as its purpose and that group tasks will not necessarily entail collaboration (Kutnick & Rogers 1994). Why might this be so? Observational research provides one explanation (Fisher, 1993; Mercer, 1996). It seems that some ways of talking in group activity can be of special educational value, but that such discussions are relatively uncommon in classrooms. That is, children in classroom groups may talk with one another in ways that do not engage them in any prolonged or profound thinking about ideas or questioning of reasons, evidence or information. There seems to be a low natural incidence of the kind of discussion which has been called 'Exploratory Talk', a way of using language for reasoning which was first identified by the pioneering British educational researcher Douglas Barnes (Barnes & Todd, 1995)**.** A description of *Exploratory Talk*, or educationally effective spoken language, is given here.

In **Exploratory Talk** participants engage critically but constructively with each other's ideas.
Relevant knowledge is shared.
Suggestions are actively sought by questioning and challenge.
Contributions are treated with respect.
Opinions, ideas and suggestions offered for joint consideration should be supported by reasons.
In Exploratory Talk, *knowledge is made publicly accountable* and *reasoning is visible in the talk.*

There are good reasons for wanting children to use this kind of talk in group activities, because it embodies a valuable kind of 'co-reasoning', with speakers sharing knowledge, challenging ideas, evaluating evidence and considering options in a reasonable and equitable way. Exploratory Talk represents an effective way of using language to think collectively which is embodied in some powerful genres, such as those used in science, law and business, and it is reasonable to expect that education should help every child to become aware of its value and become able to use it effectively. Yet it is very unusual for

children to be given direct teaching which helps them to work, and more specifically talk, together productively with other children. But asking children to work in a group without teaching them how to do so may mean that the 'cognitive load' of the task is just too great. Some children may be fortunate enough to collaborate very well together, and some may have had home experiences of ways of using language which encourage the use of talk of an exploratory kind; but others may struggle so much with the social demand of the task that their learning is affected. In some situations group work may often amount to little more than a rather puzzling seating arrangement. Galton and Williamson (1992) reported that even though the seating pattern of many classrooms was to group tables and children, children were actually working individually.

It is difficult to decide what to do about this effect. Believing it to be important, many teachers have organised and encouraged group work. The National Oracy Project (Norman, 1987) with its emphasis on learning through talk strongly influenced not only a generation of teachers but also the structure of the English orders of the National Curriculum. The development of speaking and listening skills was considered equally important to developing reading or writing. However, the more recent introduction of a rigid curriculum and an emphasis on 'standards', target setting and testing have meant that the space and time for learning conversations has diminished. The implementation of the National Literacy Strategy seems to have provided the mixed message of emphasising links between children's talk, writing and cognitive development while placing much less emphasis on providing opportunities for children to develop oral skills (Grugeon et. al 2001 p 19).

So grouping children as an organisational strategy for teaching and learning may be common, but its effectiveness for promoting understanding cannot be taken for granted. But group work can begin to promote collaboration when attention is given to the quality of children's joint activity. As Light and Littleton (1994) point out:
'To the question of whether group work leads to better cognitive outcomes, the answer will always be, 'it depends' (p.101). It is important to identify the complex range of conditions on which learning and development depends; once these are clarified, the element of chance can be reduced. When organising children into groups with an educational purpose, teachers take into account a variety of factors ranging from the mundane to the very subtle; these include the number of children, their personalities, friendships, gender and ability, which children are present on any given day, and aspects

of the children's histories only available to the teacher who knows them well. We suggest that a further factor makes just as much difference to how well learning goes on in groups: each individual learner's **_capacity to collaborate_**. In Chapter 1 Ding and Flynn emphasise the idea that for effective collaboration to occur there must be a shared understanding of task and goals coupled with the facility to collaborate embedded in a wider set of underlying skills. We argue that it is crucial that the uses of such skills, which can be directly taught, are made explicit to learners. If not, collaboration is much less likely to be effective. The capacity to collaborate is fortunately not an innate quality. It can be developed through a variety of experiences and is enhanced by direct teaching and learning in classroom situations. This capacity involves two particular aspects:

- an understanding of the purpose of collaboration;
- the facility to engage in productive discussion of the kind we have described as Exploratory Talk.

The capacity to collaborate

The Open University's Thinking Together research team has conducted a series of classroom research projects into group work with a focus on the talk that occurs as children work together. The research has established that unless children understand precisely what we (as teachers) mean when we ask them to discuss their work, their talk together may not allow an interchange of ideas and opinions. In the Thinking Together approach (see Dawes et al 2000) children were made aware that their aims for any group activity must be as much to do with high quality, educationally effective talk and joint reasoning as to do with curriculum learning. They were taught a programme of lessons which raised awareness of how to use language to generate Exploratory Talk. Illustrative transcripts of the classroom talk of children aged nine and ten years in this chapter are taken from the project data. Further information about the approach can be found at www.thinkingtogether.org.uk.

Ground Rules for Exploratory Talk

If a group of people is to work well together, for example on resolving a dilemma or solving a problem, the contributions of all participants must have the same status within the group. All must be aware that sharing their thoughts and knowledge is not just important but essential. Everyone must accept that they should be able to describe the reasoning behind ideas they put forward. The group should be aware that offering a

rational challenge to the ideas of others is an essential contribution to the discussion. Discussions conducted along these lines are adhering to a set of ground rules which, as long as they are mutually understood and recognised, may never be made explicit. Problems arise for groups when participants have different ideas of what ground rules operate. Such talk may end with people feeling that others have been dominant, assertive, unreasonable, or that individuals have been too quiet, and have not contributed. These things happen in groups in many settings – not just classrooms. The Thinking Together approach rests on raising awareness of the importance of joint ground rules and then helping groups to work within rules decided by the whole class.

Key features of the Thinking Together programme are:

1. Children are taught a series of 'talk lessons'. Aims for group talk are made explicit in the whole class introduction. During plenary sessions, groups reflect on the quality of their talk.

2. In the talk lessons, the class are directly taught speaking and listening skills (such as challenging with respect, reasoning, negotiating ideas) and are provided with contexts for collaboration in which they can apply such skills.

3. Classes create and agree on a shared set of ground rules for Exploratory Talk to use when working with one another in groups.

The 'ground rules for talk' operate in the same way as rules for sport or a board game. They reduce the degrees of freedom of individuals in a way that ensures that the whole group can benefit from joint enterprise. This may seem a little prescriptive or cumbersome; but in practice the rules are simple enough to understand and assimilate. The precise form of the ground rules is negotiated by each teacher with their class, so that they are expressed in words contributed by the children. The rules are generated from children's own reflective comments on what they think makes a 'good discussion'. A set of ground rules from a class of 9 – 10 year olds is given here.

Ground rules for exploratory talk.

1. We will share what we know with each other.
2. We will ask everyone to say what they think.
3. Everyone should listen to others.
4. We will think about what to do together.
5. We will give reasons for what we say.
6. We will decide what to do only when everyone has said all they want..

The children in the study rapidly learned to apply the ground rules during group work. They seemed to appreciate that the rules provided a common, agreed understanding of how things should proceed. We noted that when children were using spoken language in this way, their reasoning became 'visible' in the talk – shown for example in their increased use of words like 'I think…' 'because...' and 'why…?'. These words can be thought of as *indicator words* of Exploratory Talk. Children in the study were observed to begin to use more Exploratory Talk (compared with children of similar backgrounds in matched 'control' schools) and became significantly better at working together to solve the non-verbal reasoning problems of the Raven's Progressive Matrices Test (Mercer, Wegerif & Dawes, 1999). Learners who were under- achieving in areas of curriculum learning when they started the lessons benefited most from the consistent use of the 'ground rules'. It appears that this approach, the opportunity to experience structured dialogue with their classmates, helps to develop their facility to reason things through. Working in mixed ability groups of three helped those with a range of Special Needs in Education to become better integrated into the class and to gain increased confidence in communicating with others.

The effect of group activity on individual development can be related to the claims made by the psychologist L.S. Vygotsky (1987) that intermental or *social* activity can promote intramental or *individual psychological* development. That is, helping children to become more effective in using language for thinking together can contribute to the development of personal ways of thinking. The importance of ensuring that children have the opportunity to collaborate through talk together cannot be overstated. In our Thinking Together groups, the children have been taught to use spoken language as a tool for thinking together.

'The greatest change in children's capacity to use language as a problem solving tool takes place […] when socialised speech is *turned inward*; […] language takes on an intrapersonal function in addition to its interpersonal use' (Vygotsky 1978 p 27). The 'socialised speech' of the talk groups had been 'turned inward' to help develop a facility to think (using language) when working alone. So it seems that developing the capacity to collaborate can support both social and individual achievement. Compared to the children in the control schools, children who had studied the Thinking Together lessons improved their joint problem solving skills. More than this, individual children

showed an increased capacity to reason when asked to complete the Raven's 'puzzles' alone. We believe that our data shows that given the skills and opportunity to undertake rational discussion with groups of their peers, children can develop a way of internal questioning and reflection which enables them to think through their ideas and come to more reasoned conclusions when working individually.

During their talk lessons and group discussions, the children were learning new combinations of words, new structures and new purposes for their talk. By doing this they seemed to assimilate a 'model' for reasoning which they could use in situations where they had to puzzle something out for themselves. Having practised with their classmates, they were better able to generate an inner dialogue in which they weighed up alternatives and considered reasons before taking a decision. We measured the effect of this dialogic reflection when we asked the children to undertake the Raven's reasoning tests: they did better, having applied the structure for reasoning provided by their new capacity to collaborate. The tests are described by their originators as tests of 'clear thinking' and 'educive ability' which is an aspect of problem solving.

We have talked about 'raised achievement' which is an important aim in classroom contexts. But from the child's point of view, there are additional benefits to learning talk skills and agreeing to joint ground rules for talk. Relationships shape talk and relationships are shaped by talk (Maybin, 1996). The ground rules allow children an opportunity to escape, for a while, some of the most constraining or stifling aspects of their relationships with their peers. Children using the approach do not have to compete too hard for attention, or be constantly careful what they reveal of their thoughts or feelings in case they are criticised, rejected or simply ignored. Video evidence of children discussing their work using their class ground rules shows a marked increase in tolerance of one another's views, a constructive response to suggestions and a positive style of interaction. Children are engaged with the subject of the discussion in a way that reduces the drive to comment on, or react to, one another's personal manner. All can expect to be asked what they think. To be a valued participant in an active discussion is to be in an interesting situation. For the duration of the activity, at least, the difficult and often dismaying negotiation of the social hierarchy of the classroom (playground, school, housing estate, part of town...) is for a time suspended. From a wider perspective, perhaps we might even consider talk as a tool for re-defining larger contexts. That is, *how* the child speaks and listens to those around them may have a more profound impact on

their circumstances than the acquistion of a better understanding of (for example) mathematics or science. The brief suspension of the most negative aspects of group interaction could be extended as the child learns strategies to negotiate with a wider group of others, to gain confidence in their own voice, and to make things happen through talk (Littleton *pers. comm.)* There is some evidence to support this assertion in the interviews conducted with both pupils and adults involved in the Thinking Together study. Participants commented that they were now more able to use talk as a tool for negotiating to resolve issues and to get things done in contexts 'beyond' the classroom and these particular lessons.

Collaborative Controversy

Helping learners to collaborate in order that all might benefit is not just a matter of ensuring that everyone is placidly amenable or that disagreement is quickly stifled or avoided. The essence of Exploratory Talk is that it encourages contribution of a range of opinion and a variety of reasons for ideas. By the nature of things, some of these are going to conflict. Indeed Johnson and Johnson (1997) advocate building collaboration and co-operation through encouraging controversy and argument. They note that ensuring groups tackle problems through presenting opposing arguments helps learners to generate discussion and sharing of differing view points. If the mixture of competitive and co-operative elements within group work can be balanced, the ensuing discussion can move the group towards deeper understanding. Whilst learning to collaborate, children can be made aware that there will be differences between their ideas, conclusions, theories, information, perspectives, opinions and preferences, which they can usefully state and rationalise. So, while everyone may offer competing ideas, intellectual development depends on co-operation with one another to examine these ideas and make meaning of one another's claims.

There is an interesting relation between the work of Johnson and Johnson and that of the Thinking Together approach.

> 'Although controversies can operate in a beneficial way they will not do so under all conditions. […] Whether there are positive or negative consequences depends on the conditions under which controversy occurs and the way in which it is managed' (Johnson and Johnson 1997).

This is confirmation of Light and Littleton's 'it depends' - the cognitive outcomes of group work are very dependent on context. The conditions or **key elements** which Johnson and Johnson specify for ensuring the co-operative harnessing of controversy to educational ends are:

1. a co-operative context: open minded listening to the opposing position;
2. heterogeneous participants: heterogeneity leads to diverse interaction and resources for achievement and problem solving;
3. relevant information shared among participants;
4. social skills: disagreeing with ideas while acknowledging each other's personal competence: seeing the issue from a number of perspectives;
5. rational argument: generating ideas, making tentative conclusions based on current understanding.

(adapted from Johnson and Johnson 1997).

Johnson and Johnson do not say how to enable teachers and learners to control these crucial contextual elements. We suggest that the Thinking Together approach offers ways of addressing all of them, starting with ensuring a co-operative context for heterogeneous groups of children. The ground rules for talk ensure that information is shared and provide a structure in which children can generate rational argument without adult intervention. Direct teaching of talk skills establishes active listening and facilitates social interaction. The positive gains for children undertaking Thinking Together may be a result of providing a classroom environment which meets all of the conditions for collaborative controversy.

Teaching talk

When considering types of group talk it is important to take account the wider classroom context in which these occur. Groups do not work in isolation, but within the scope of the lessons designed and taught by the teacher. Evidence from the Thinknig Together study has highlighted two critical factors affect children's learning of the skills they need to use talk as a tool for co-reasoning or **interthinking** (Mercer 2000):

• the way the lesson is structured;
• the strategies the teacher employs to engage children in the process of learning to use dialogue effectively.

The management of both of these factors lies with the teacher. Planning the effective structuring of lessons involving a range of teaching strategies can support the

development of a collaborative approach within groups. The Thinking Together lessons are designed in the three-part structure that has become increasingly familiar in classrooms following the introduction of the National Literacy Strategy and the numeracy framework. This format involves a whole class introduction, a group work session, and a whole class plenary. The next section of this chapter describes teacher strategies which emphasise, teach and sustain collaboration during each of these sections of the lesson.

Teacher strategies 1: whole class introduction

A whole class introduction provides an opportunity for the teacher to link the lesson with previous learning and to recall the ground rules for talk once these have been generated. It draws on the shared memory of the class (Wertsch, 2001), allows the teacher to make the ground rules an important focus for the lesson, set the curricular context and explain the activity. A key part of the introduction is to set clear objectives for the lesson so that the children know what they are going to learn. Learning objectives include aims for the kind of talk that is to be used (which sometimes might include specific vocabulary) and aims for the curriculum content of the lesson. As well as sharing these objectives with the children, it is very important to set *criteria for success* that relate to both of these objectives (Clarke, 2001). In this way the children know what they need to do to achieve the objectives, and the teacher establishes a clear framework within which to assess children's learning. Employing this existing good practice, the teacher is able to introduce a new element to the lessons – that is, groups using talk as a tool for thinking together.

How can the teacher ensure that the whole class introduction is effective in setting the scene for collaborative learning? It is essential to capture the children's interest right from the start. Teachers use strategies which help the entire class to move along the same line of thinking, generating common understanding of the lesson content and purpose. In Thinking Together lessons, the way in which the joint recall of the ground rules is undertaken is important in motivating the children's engagement with group work. In Transcript 1: *'Revising the Ground Rules'*, which has a mathematics context, a teacher elicits this previous shared experience in a stimulating and effective way. As she questions the class, the teacher records the rules in speech bubbles on the whiteboard for visible reference.

Transcript 1: '*Revising the Ground Rules*'

Teacher: How are your Thinking Together skills going to help you with that? Why do you need to do that in your Thinking Together group? Kelly?

Kelly: We need to talk about it.

Teacher: Why do you think we need to talk about it?

Kelly: To get more ideas.

Teacher: Excellent. If we talk about it we might have a few more ideas than just working on our own.

Paula: And because you can't just think that it's the answer when somebody else has got another idea – you have to check with the group – see what they think.

Teacher: Excellent. OK. So if I walk around the classroom while everybody is talking together in their groups I wonder what kind of things might I hear people saying?

Asif: "What do you think?"

Teacher: That's a good one. Why is that an important question Carl?

Carl: Because you ask someone else their opinion.

Sarah: I think this because.

Teacher: Why did you add 'because' to the end of that sentence?

Girl: Because then they know why you made that remark.

Teacher: Well done. Brilliant. You need to explain so that everybody understands what you think.

Comment

At the very start of this part of the lesson the teacher's questioning re-establishes the reasons for using a collaborative approach with the class. It is made clear through the children's responses that they are likely to be able to develop their ideas further and achieve more through thinking together than if they were to tackle the task alone. Thus, the culture of collaboration is constructed through the teacher's line of questioning. The class is encouraged to re-construct their list of rules through recall. This has more impact than simply displaying a list and referring to it. There is now a shared memory of previous joint experience to consider before they apply the rules to a new situation. The teacher is extremely positive in her responses to the contributions. The rules are thus given high status and are seen to be valued. The children are in no doubt that this set of

rules is a vital element of the learning objectives for the lesson and are shown how their success in using these will be achieved; if the teacher hears certain words and phrases she will know that the groups are using the ground rules to think together about the maths activity.

Another important strategy employed by teachers who are successful in teaching children to collaborate effectively is that of modelling the kind of talk that is useful in discussion. In Transcript 2: *'Choosing a Number'* the teacher demonstrates this strategy as she introduces a maths activity to the whole class. The objectives for the session have already been explained and the ground rules have been revised together. The maths activity uses the software called 'Function Machine' in which the children are asked to consider what operation might have been done to one number in order to end up with another. As well as deciding on the operation, the groups have to come up with a strategy for discovering it and for testing their ideas about it.

Transcript 2:'Choosing a Number'

Teacher: OK. I'm going to put a number in –

Louis: One thousand.

Teacher: OK Louis immediately said one thousand – is that a good number to put in?

Child: No

Teacher: You are shaking your head – why do you think it is not? Shall we come back to you? You've got an idea but you can't explain it? OK Louis had one thousand. Anybody think yes or no to that idea? David.

David: Start off with an easier number.

Teacher: Start off with an easier number. By an easier number what kind of number do you mean?

David: Um. Something like -lower – five.

Teacher: Fine. A smaller number – a lower number – yes. Louis can you see that point of view?

Louis: Yes

Teacher: If we put in a thousand we could end up with a huge number. If we put in five do you think it will be easier to work out what the machine has done?

Class: Yes

Teacher: Everyone agree?

Class: Yes

Teacher: OK I'm going to type in five…

Comment

The teacher is modelling the ground rules for talk in her demonstration of the activity. They are embedded in her own language as she speaks with the class. She is sharing relevant information with the group, in this case the whole class, about the number which is to be put into the input box of the function machine. She initiates discussion about the number by questioning the first suggestion of one thousand, followed by requests for reasons for opinions and assertions. The language she uses is full of indicator words, such as 'what', 'how', 'if' and 'why' as she leads them through a line of reasoning. She accepts and discusses the challenges made by David and the un-named child to Louis' suggestion, whilst respecting his contribution in initiating the discussion. She demonstrates how to consider the validity of alternative suggestions, at the same time as seeking clarification. She invites others to speak so that as many people as possible feel able to join in the discussion. This element is hard to model as part of a whole class introduction, but at other times she employs a strategy to address this by inviting the children to share their ideas with the person they are sitting next to so that everyone a chance to say what they think. Finally she ensures that an agreement is sought and reached. In this way, through careful modelling of the ground rules for talk, the teacher is demonstrating to the children effective collaboration as an integral element of her introduction. The children are engaged in the discussion, motivated to participate and are real partners in the learning. By witnessing the usefulness of this modelling of the ground rules they are prepared to employ the same approach when they continue the activity in small group discussion.

Teacher strategies 2: group work

By the time the children begin to talk together in their groups, effective means of collaboration have been made explicit to them as well as having been demonstrated implicitly in the teacher's own style of talking. During the group work section of the lesson children are specifically asked to *think together* about the task they have been given. Group work is not something that carries on independently of the teacher. Observing and listening to the quality of group interaction is a valuable formative assessment opportunity for the teacher, both in terms of determining the level of understanding of curriculum objectives and of making judgements about the effectiveness of talk within

each group. Intervention in group talk allows the teacher to address speaking and listening or curriculum issues as they arise. In Transcript 3: *'Which Dog?'* the teacher intervenes after listening to the group talk for a short time. This citizenship activity involves deciding which dog from a dogs' home would suit a particular owner. The teacher has observed that one group member, Jane, has been finding it hard to express her ideas in a way that engages the others. She approaches the group and joins the discussion:

Transcript 3: *'Which Dog?'*

Teacher: Who are you trying to find a dog for at the moment?

Robert: Mrs Jenkins

Teacher: Mrs Jenkins. Right. What do you know about Mrs Jenkins, Jane, so far? (Pause). You read it out to everybody?

Michael: Yeah.

Teacher: Right. What do you know about Mrs Jenkins so far? Who can tell me something?

Heidi: She's got a small home and a tiny garden, so she can't have a big dog.

Teacher: No, that wouldn't be sensible, would it?

Michael: And she can't. And she can't walk very far.

Teacher: Ah right.

Michael: So it has to be a very lazy dog.

Teacher: (laughs). Oh right! Good boy.

Robert: Sits by the fire. Look! (Points to a dog card)

Teacher: Have you got a lazy, small dog?

Jane: We were thinking about Fifi. (Points to Fifi's card).

Heidi: But this one – to be patted.

Robert: I think this one – to be patted.

Teacher: Why do you think that one? What's your reasons?

Robert: Well to, it was like, laying down, so that the lady could reach it.

Teacher: (Reading) Running and snow. It dislikes running and snow. It dislikes running, so yes, it would be quite a quiet dog. It likes to be patted by an old lady. That's quite a good reason. Why did you want Fifi, Jane? What were your reasons?

Jane: (Silent)

Another child contributes inaudibly.

Teacher: (looking at Jane). Can you remember? What did you think about that one? Pick up Fifi and have a good look. Is there a reason that you chose that for Mrs Jenkins?

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Jane: Cos Mrs Jenkins has got a small garden and she needs a little dog.

Teacher: And you think Fifi's a little dog?

Jane: Yes.

Teacher: Yes, she does look little, doesn't she? …

Comment:

The teacher is aware that Jane is finding it hard to express herself within the group. There are three other children in the group, two of whom are articulate and confident. Through her own engagement with the group, the teacher draws Jane into the discussion and demonstrates that she can make a valuable contribution. She addresses her first question, about Mrs Jenkins, to Jane, who is either unable or reluctant to answer. At that point she encourages others to share the information about Mrs Jenkins, so that Jane is able to hear it again, in a non-threatening way. This reinforces the ground rule that all information should be shared. After the important criteria for the selection of the dog have been revisited, Jane begins to offer a suggestion, that Fifi might be a good choice. Heidi and Robert suggest another dog and explain their reasons. The teacher acknowledges their suggestions, but crucially redirects the discussion to Jane at this point, and supports her in her explanation of why Fifi might also be an appropriate choice. In this way she has modelled another essential ground rule, that all alternatives and the reasons for them are considered before moving towards a conclusion. She avoids direct questioning of whether the group has done this, but through her intervention she reminds them of this rule and models ways to implement it. Thus the children learn to consider a variety of perhaps conflicting options and are supported in developing their capacity to collaborate.

Teacher strategies 3: the whole class plenary

The concluding whole class plenary session is an opportunity to share with the class some of the issues that have been observed or dealt with during interventions in the group work, so that learning is evaluated and compared with the objectives. In this way learners receive feedback from the teacher about observations made of the groups' ability to use the ground rules whilst working collaboratively, using the Success Criteria as a measure. For example; (*Teacher addressing class in plenary session*)

> 'I heard a group where the talk was, 'It is this? No it isn't'. Does this meet the Success Criteria? How could it have been done better? Do we need to alter any of the ground rules following this activity?'

Another strategy is to invite feedback from each group using the ground rules to structure questioning and challenges by other groups. In this way some assessment of children's learning success is possible, both in terms of talk skills and the understanding of curriculum concepts.

Children's comments about their experience of learning to use the ground rules for talk show that they perceive benefits in learning to collaborate. Interview evidence suggests that the approach has helped children to see the importance of assessing various alternatives before reaching decisions.

(Children in the project talking about their work:)

'It has helped us if we are working in groups – now we've got the rules for it as well, it's made us think, 'Oh, if one person's talking we can't barge in and talk in front of them.'

'We normally take it in our turns and say 'What do you think?' instead of leaving someone out.'

'(I'm not) afraid to challenge someone with their answer – (I) don't just sit there and say 'Alright – pick that one. I don't care'.

'(It) makes us feel more confident if we're in a group'

'Before the project, …If we'd been sitting in the group and got one answer we'd say like – 'Oh just say it's that'. But now we've been thinking 'Oh let's think of another answer it could be as well', not just…saying 'Oh it looks like that one'. Try *each*'

Children indicated that they felt more able to proceed by pooling their ideas than when working alone:

'It has helped us a lot doing this, being in groups with other people. At one point we had to say 'Is this food?' *(Food Sorting ICT activity)* When we were doing that one time I thought *this* was *that*, but then we discussed it and it helped us learn something else with it.'

'It's easier to work in a group than it is on your own because then you've got the time to talk to the person you are working with … if you both get the same answer you know it's got to be right because two people have got more chance than just you working it out on your own. … even if you do get it wrong you've got it wrong as a group and not just as a person.'

Conclusion

Group work is a way of organising classroom activity which can support curriculum learning. The Thinking Together approach provides children with the capacity to engage in collaborative conversation and so enhance their work in groups. Successful collaborative conversation can develop an individual's ability to think and reason in a way that is helpful when subsequently working alone. Effective group discussion thus provides children with the essential language tools for raised individual achievement. Children's capacity to collaborate may be under-developed in ways that make it difficult for them to contribute to group work. However, direct teaching can help children to understand the importance of learning conversations with one another. It is possible to teach not just this awareness but also talk skills and strategies which enable children to engage in effective discussions. Children's emerging capacity to collaborate requires a classroom culture which supports Exploratory Talk.

Teaching children how and why to use Exploratory Talk, as defined in a set of ground rules for talk, encourages them to begin to engage with each other in an educationally effective way, freeing them from some of the problems created by personal relationships. The classroom teacher has a crucial role in the process of developing children's capacity to collaborate. Teachers whose classes benefited from the Thinking Together approach exhibited a range of strategies directed towards this end. Most importantly, these effective teachers:

- stressed the collaborative element of the lesson as a central focus alongside other learning intentions;
- explained the criteria by which individuals would be judged to have succeeded in achieving the learning intentions;
- incorporated Exploratory Talk skills into their own use of language;
- modelled the kinds of conversations that the children were being asked to engage in during introductory work, group work, closing plenaries and 'internally' during individual work;
- encouraged children to reflect on and evaluate the quality of their discussion as well as their achievement in the curriculum content of the lesson. This involved identifying their own contribution to the group talk and noting good practice in their peers.

In these ways teachers can create a talk-focused classroom community where discussion supports all the learning that takes place, and where whole class and group sessions have a coherence of style which helps to build, reinforce and develop the child's capacity to collaborate.

The classroom context is critical if organising group work is to be a dependable strategy for teaching and learning. We advocate intervention to establish a context where an understanding of the importance of speaking and listening in children's development is integrated into the design of teaching and learning activities. Such a context can be generated by the direct teaching of specific skills which support group talk. In addition ground rules which govern group interaction are clarified and made explicit. This input helps children to generate Exploratory Talk during their group work, an outcome with profound implications for their learning. Thinking Together is based on a belief that all children have a capacity to collaborate which can benefit from focused input and systematic fostering. We place the teacher at the heart of the classroom in managing and organising intervention to develop this capacity on behalf of the child. In this way, speaking and listening to one another allows teachers and learners to generate an environment in which the cognitive outcomes of collaboration can be less uncertain, and even reliably positive.

References

Barnes, D., Todd, F., (1977) Communication and Learning in Small Groups. London: Routledge and Kegan Paul.

Bennett, N., Cass A. (1989). The effects of group composition on group interactive processes and pupil understanding. British Educational Research Journal, vol. 15, no 1, 1989, p 19-32

Bullock Report (1975) A Language for Life. London: HMSO.

Clarke, S. (2001) Unlocking Formative Assessment. London: Hodder & Stoughton.

Dawes, L., Mercer, N., Wegerif, R., (2000) Thinking Together. Birmingham: Questions Publishing.

Fisher, E. (1993) Distinctive features of pupil-pupil classroom talk and their relationship to learning: how discursive exploration might be encouraged. *Language and Education* Vol 7, no 4, pp 239-257.

Grugeon, E. Hubbard, L. Smith, C. and Dawes, L.(2001) Teaching Speaking and Listening in the Primary School. London: David Fulton Press.

Galton, M. and Williamson J.(1992) Group work in the Primary School. London: Routledge.

Galton, Simon, Croll (1980) Inside the Primary Classroom. London: Routledge and Kegan Paul.

Johnson, D. W., & Johnson, F. 1997. Joining Together: Group Theory and Group Skills (6th Ed.). Boston: Allyn & Bacon.

Kutnick, P. & Rogers, C. (1994) Groups in Schools. London: Cassell.

Light, P. and Littleton, K. (1994) Cognitive Approaches to Group Work. In Kutnick, P. (1994) Groups in Schools. London: Cassell.

Maybin, J (1996) in Maybin, J and Mercer, N. (Eds.) (1996) Using English: from conversation to canon. London: Routledge.

Mercer, N. (1996) The quality of talk in children's collaborative activity in the classroom. *Learning & Instruction*, 6, 4, 359-377.

Mercer N. (2000) Words and Minds. London: Routledge.

Mercer, N. Wegerif, R and L. Dawes (1999) Children's talk and the development of reasoning in the classroom. British Educational Research Journal.Vol 25, No 1., 1999 pp 95 - 111.

Norman, K. (Ed.) (1992) Thinking Voices: the work of the National Oracy Project. London: Hodder & Stoughton.

Kutnick, P. (1994)   Groups in Schools. London: Cassell.

Raven, J., Raven, J. C. & Court, J.(1993) Manual for Raven's Progressive Matrices and Vocabulary Scales (1993 edn.)Oxford: Oxford Psychologists Press.

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

Wegerif, R and Dawes, L., (2002) Talking Solutions: The role of oracy in the effective use of ICT. In Monteith, M. (Ed) (2002) Teaching Primary Literacy with ICT. Buckingham: Open University Press.

Wertsch, J. (2002) Voices of Collective Remembering. Cambridge: Cambridge University Press.