The importance of quality talk and its role in raising attainment

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Talking is good for the brain

So say researchers Neil Mercer, Lyn Dawes and Rupert Wegerif after encouraging constructive debate among primary pupils.
What I want to say:

• Evidence that the way children talk makes a difference to their attainment
• Why this is so
• Evidence that ways of talking that lead to attainment for learning can be taught
• Some ideas about how to teach it
• The bigger context of success in the Internet Age
Talk has been overlooked

• Schools have mostly been about the 3Rs
• Teachers assume children can talk well enough
• But talking is the most important skill
• Through talking children learn to think and to understand

The amount and quality of the dialogue children experience at home is one of best predictors of their eventual academic attainment (Hart and Risley, 1995)
Lessons from cognitive neuroscience

The brain does not work like a computer but it needs relationship: babies are born ready for interaction eg mirror neurons

Children’s memories for their own experiences are better when a carer or teacher adopts an elaborative conversational style to help them to make sense of temporal and causal aspects of their experiences. (Goswami and Bryant, 2007)

Learning in young children is socially mediated. Families, peers and teachers are all important. Even basic perceptual learning mechanisms ... require social interaction to be effective. (Goswami and Bryant, 2007)
Children need to talk to understand

Unless children get a chance to ask questions and give explanations they will not understand.

In a meta-analysis of experimental programmes for teaching science, Murphy (2007) found that the positive effects were greatest when hands-on activity was combined with discussion.
The Beginning: An Educational Research Question

- Primary teachers mostly set children to work at computers in pairs or threes.

- Our research found that the talk of children working together at the computer was not always very useful.

- So we prepared children for working together at computers and the results were immediately impressive.
Ways of not thinking together

• the most assertive or confident person making all decisions
• members of the group ridiculing one another’s ideas (or one another)
• members of the group listening but not contributing
• the group disagreeing with each other and unable to resolve the conflict
• disputes about seating arrangements etc as the main topic for discussion
• informal, ‘playground’ talk used with the computer seen as a games machine
• members of the group blaming one another when things do not go the way they planned
• individuals deciding to leave the group
• one EAL child sitting quietly saying nothing or becoming disruptive

[Wegerif and Dawes 2004]
Exploratory Talk

a) Orientations e.g. Exploratory

b) Ground rules or social norms e.g.
   Each group member should be actively encouraged to contribute to the discussion.
   Everyone should listen to others attentively.
   Each suggestion should be carefully considered.
   Group members are asked to provide reasons for ideas and opinions.
   Constructive challenges to ideas are accepted and a response is expected.
   Alternatives are discussed before a decision is taken.
   The group works together with the purpose of reaching agreement.

(Wegerif and Mercer, 1997)
Teaching Thinking Together lessons

Introduction: explicit learning intentions for talk and revision of ground rules

Group work: groups of three (mixed ability) children

  teacher intervention to support group talk

Closing plenary: a focus on talk

  • reflection on achievement of the aims for talk
  • do the ground rules help, or do they need revision?
  • how can the learning be useful in other contexts?
  • setting of personal and group targets for further work.
(Class 5 D) Rules for Talk

1. Everyone should have a chance to talk
2. Everyone’s ideas should be listened to
3. Each member of the group should be asked
   - what do you think?
   - why do you think that?
4. Look and listen to the person talking
5. After discussion, the group should agree on a group idea
Change around B12

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1  2  3

4  5  6

1  2  3

4  5  6
The effects of teaching talk

Many studies of teaching Exploratory Talk in the UK, Mexico and China have found that it works

- raised achievement in *group* situations (non verbal reasoning, maths, science, writing)
- raised achievement in *individual* work
- a positive approach to group work
- side effect: improved handling of social problems
But why did the groups do better?

**Pre-test start**
Trisha: Square and diamond, it's 2
George: No it's not
Trisha: It is 2
George: No it's not
Trisha: It is
George: No it's not

**Post-test start**
Trisha: That has got to be a diamond, a square with a diamond with a circle in that one, number 6, do you agree?
George: No, what do you mean?
Trisha: OK no it's got to be square

Later ...
George: I don't understand this at all
Trisha: Because look on that they've taken the circle out yes? So on that you are going to take the circle out because they have taken the circle out of that one
George: On this they have taken the circle out and on this they have taken the diamond out and on this they have put them both in, so it should be a blank square because look it goes circle square
The key shift ...

George: I don't understand this at all

Trisha: Because look on that they've taken the circle out yes? So on that you are going to take the circle out because they have taken the circle out of that one

George: On this they have taken the circle out and on this they have taken the diamond out and on this they have put them both in, so it should be a blank square because look it goes circle square
Pre-test
Post-test
The key: Learning to listen

When researching groups of children solving reasoning test problems together it was found that the key to success was the children learning to listen and to change their minds. This suggests we were teaching not just talk but also dialogue: thinking as holding more than one perspective in mind and being open to other voices.
Why did individuals think better?

Why did some children in our research do so much better at reasoning tests after teaching them how to talk together better?

Simple: because they had an inner companion questioning them, asking ‘Why?’ ‘Are you sure?’ ‘Have you tried all the other alternatives?’
Why does talk matter so much?

• Thinking is seeing things from at least two points of view at once
• That is why bilingualism can be valuable for cognitive development
• Learning to think means internalising dialogue and participating in dialogue
• Teaching critical and creative dialogue that engages with new and different voices is the essential skill for the Internet Age.
So why did it improve the atmosphere of the classroom?

Problem A
Nuresha’s group: Pre-test talk

Kyle : It’s four not five (referring to the number of the puzzle)
Vijay: We’re on number five now, bogey. Look, we done number four, dumb brain. It’s this one, isn’t it?.
Kyle : No.
Vijay: It’s this one isn’t it?
Kyle : No,
Vijay: Yes
Kyle : No
Vijay: It’s number 1.
Kyle : No, It’s my turn to cross it off (Attempts to take the pencil from Vijay who keeps it and marks number 1 on the answer sheet)
(Kyle raises a fist to Vijay and Vijay runs away from the table saying ‘don’t hit me.’)
Kyle: Which one ... *(to Nuresha)* You have to ask us which one we think. OK. You have to say “Kyle and Vijay, whose name, which one?”

Vijay: You have to say ‘I don’t want to do this’ or ‘Kyle, what do you think?’....say...

*(And a little later)*

Vijay: Next. Nuresha’s getting the best ones, isn’t she? You have to say ‘what do you think, Vijay or Kyle ’?

Nuresha: I think that *(number 2)*

Kyle: I think that *(number 4)*

Vijay: Nuresha, look.

Nuresha: I think, that, that, that.

Kyle: No, because, look, because that goes round. It goes out. It goes out.

Vijay: Or that one.

Kyle: No, because it hasn’t got squiggly lines.

Vijay: It has to be that.

Vijay: OK num’ 4.

Nuresha: Num’ 4

Nuresha speaks 26 times in the post test and 0 times in the pre-test
Talk and attainment

• It is likely that the reason for low attainment in some social groups is a lack of induction into ‘educated’ or ‘exploratory’ or ‘reflective’ talk and dialogue.

• Therefore we need to actively teach exploratory educated reflective talk and create opportunities to draw children into exploratory dialogues in the classroom.
Some whole-class strategies that work

• Introduce everything as possible (might be) and from a perspective (according to some people) rather than as simply true and unchallengeable [From Ellen Langer]

• Ask ‘why’ questions (rather than only ‘what’ questions)

• Ask not just one, but several students for reasons and justifications for their views before going into a topic

• Ask students to comment on each others’ views

• Hold back explanations until ideas of at least some students have been heard (and then, where possible, link what you say to issues they have raised). [From Lyn Dawes]
Some strategies for teaching Talk for Learning through group work

- Modelling
- Norms for Talk
- Supporting talk in groups
- Intervention in group talk
- Supporting reflection on learning
- Evaluation of talk in plenary
The main thing is to get children involved in their own learning
What I think I said:

• There is evidence that the way children talk makes a difference to their attainment
• One reason is induction into dialogue
• There is evidence that ways of talking that lead to attainment for learning can be taught
• Some ideas about how to teach it
• The bigger context of success and happiness in the Internet Age
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So say researchers Neil Mercer, Lyn Dawes and Rupert Wegerif after encouraging constructive debate among primary pupils.
For more information...

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http://www.dialogiceducation.net/

(resources)
Selected References


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