

# Making Links: Developing Children's Thinking Skills using ICT

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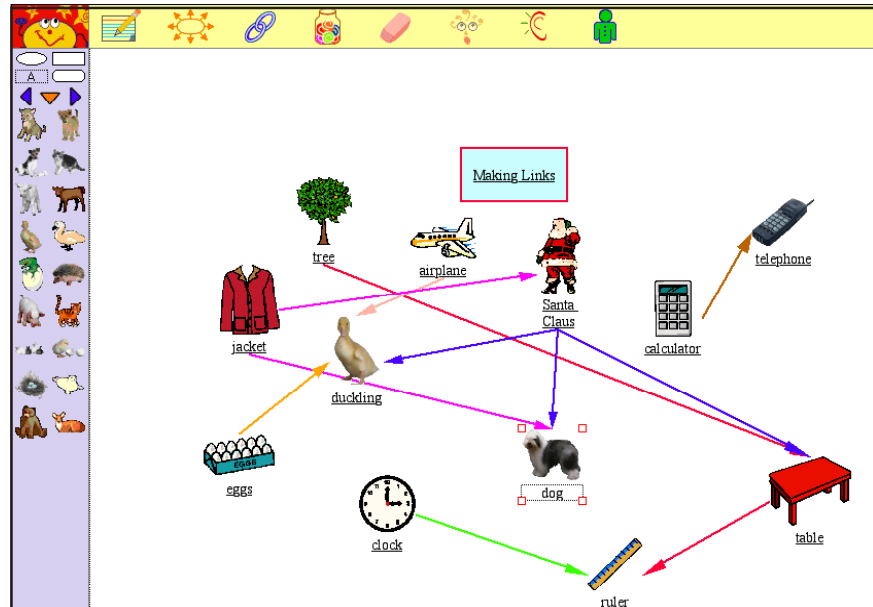
## Introduction

The work described in this section looks at the effectiveness of using ICT in developing children's reasoning and creative thinking skills. The particular focus of this activity was to develop information-processing, reasoning, creative thinking and evaluation skills. The activity was undertaken using the visual learning software *Kidspiration* (Inspiration, Inc.). *Kidspiration* enables pupils to envisage their working ideas, revealing patterns and interrelationships with pictures, text and links.

tory talk (see Section 1) through working in small groups, and making explicit connections between ideas using visual prompts. The children were to engage critically but constructively with each other's ideas, and statements and suggestions sought and offered for consideration. The project was undertaken with a mixed ability Year 4 class, who are familiar with a variety of thinking skills activities. Rules were discussed before the lesson to ensure they were aware that all ideas should be considered, as there were likely to be no clear right or wrong answers. We were influenced by the work of the

## The activities

As pressure upon the curriculum mounts, teachers are obliged to deliver the core areas of the curriculum, with key emphasis on reading and writing skills. Less time can then be devoted to developing the children's thinking, speaking and listening skills. This is a key issue at our school, and we have heightened its profile by making it one of our whole school curriculum targets. The aims of our project were to develop the children's use of explora-



Open University research and used their guidelines for talk rules (Section 1, p. 1) explicitly.

The activities were carried out in the computer suite, where the children worked in groups of three. They were encouraged to make connections between twelve objects on screen, and to use the mapping tools in *Kidspiration* to create visual links to organise their ideas.

The software enables the children to move between the visual diagrams to a writing view where the children can expand upon their ideas and give reasons for their links. Children were already familiar with the format of the software and had previously used its tools to create an explanation text to illustrate the life cycle of a duck.

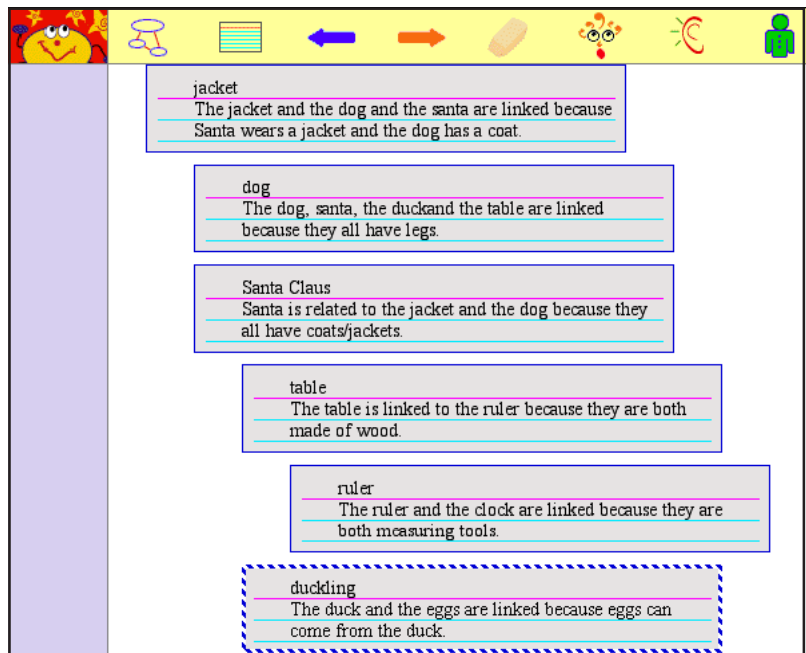
To lead the children into the lesson and to encourage the children to think creatively, the teacher led a range of short thinking games such as Odd One Out (from *Thinking Through Primary Teaching*) and Consequences (from *Top Ten Thinking Tactics*). The children were reminded of the talk rules and then given thirty minutes to discuss and make the relevant links between objects on screen. Groups were able to print out their work, giving them instant access to the ideas to be used in a whole class debate.

### Outcomes

To bring the work to a conclusion, the children were brought together to share their reasons for the links they had made. They were encouraged to challenge and counter-challenge each other, as long as they could justify their reasons and offer alternative hypotheses. The work did engage the children in exploratory and creative talk, and provided an enjoyable level of challenge. Ideas were considered by all members of the class, and reasons given to support their views.

*Claim: 'The calculator and the phone are linked because they've both got buttons'.*

*Counter-challenge: 'But what about the clock, the phone and the calculator as they all have numbers?'*



This really got the children engaged in conversation, finding reasons why their links are justified and seeing how other children have linked the objects together for different reasons. The children also came up with more analytical and creative reasoning such as:

*'The clock and the egg-box are linked because the clock has twelve numbers on it, and the egg-box has twelve eggs in it'.*

### Further information

- Dawes, L., Mercer, N. and Wegerif, R. (2000) *Thinking Together: A Programme of Activities for Developing Thinking Skills at KS2*. Birmingham: Questions Publishing (see also their web site <http://www.thinkingtogether.org.uk/>).
- Fisher, R. (1997) *Games for Thinking*. Oxford: Nash Pollock.
- Higgins, S. (2001) *Thinking Through Primary Teaching*. Cambridge: Chris Kington Publishing, ISBN 1 899857 39 7.
- Lake, M. and Needham, M. (1993) *Top Ten Thinking Tactics*. Birmingham: Questions Publishing Company.
- Kidspiration (Inspiration Software, Inc. [www.inspiration.com](http://www.inspiration.com)).