Lucy was interested in how she could promote literacy in her science lessons. In an end of topic test, Lucy noticed that the pupils’ answers to the questions that required a longer written answer of two or three sentences were not very good. They tended to answer too briefly and did not use scientific vocabulary. The pupils did not seem to be able to explain the scientific ideas for themselves and some did not seem very interested in science.

She looked at some studies on literacy (reading, writing, speaking and listening) and her reading led her to the work of Neil Mercer and the ‘Thinking Together’ project. Through her reading she began to develop some ideas about the sorts of activities she might include in her lessons to improve literacy and understanding of science.

She developed two main research questions and two sub-questions:

**RQ1:** What attitudes do students have about science?

**Sub question:** Can targeted activities designed to support scientific literacy, improve student attitudes to science?

**RQ2:** How can I improve pupils’ writing in science?

**Sub question:** Can targeted activities designed to support scientific literacy improve students’ learning of scientific concepts?

At the start of the topic, Lucy gave her class an ‘attitude survey’ that she found in the literature. She used the results of that to identify four pupils to interview in more depth. During each lesson, for the duration of a topic on electricity (which took about five weeks) she included one activity specifically targeting literacy, or discussion.

A colleague, who was interested in her work, came to three of the lessons and observed specific groups of pupils as they worked on the activities. (Lucy and the colleague agreed an observation checklist in advance). Three times during the topic, she gave the class a questionnaire asking them about the activities they had been doing and she convened a focus group to discuss some of the themes that emerged.

At the end of the topic, she set and marked a test and compared the results with those of the previous Physics topic. She also repeated the attitude survey. She recorded the semi-structured interviews and the focus group discussions on an MP3 player.

There was little hard evidence that the class did better on the longer written questions, but some individuals did make significant improvements. The results of the questionnaire and the interviews suggested that the pupils had enjoyed the range of activities and understood more clearly the importance of making sure that they understood the meanings of the key words. She also found that by the end of the topic, they were asking more questions themselves and were more likely to ask each other for answers.

Attitudes overall had not shown a significant change, but five individual under-achievers, did show a more positive attitude at the end of the topic. These five were weak at writing and had enjoyed the opportunity to talk more.