SCIENCE AND REPORT WRITING

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ABSTRACT

In recent years Australian primary schools have adopted an across-the-curriculum approach to writing. However, relatively little research has been conducted in the area of primary science. This paper reports the result of a small scale collaborative study involving a Year 2 and a Year 5 class, and their classroom teacher, which used science activities as the basis for developing report-writing skills using a framework consisting of three focus questions. Students in both classes learned to use the framework in one term and it was found that it improved the quality of reports.

INTRODUCTION

Barnes (1969) claimed that the understanding of learners is reflected in their writing. Considering this importance it is surprising that writing has received minimal attention in the field of primary science (Francis & Hill, 1990).

Tunnicliffe (1988) outlined a scheme for developing students’ skills in writing reports in primary school science. She used a series of outline shapes as a means of reminding children what to write. Each shape represented a stage in the logical sequence of a report such as “What I did”, “What did happen?” and “What I found out”. Hill and Skamp (1990) incorporated the Tunnicliffe approach in an account of the way in which primary science can be used as a vehicle for developing writing skills. They suggested a number of focus questions to which students might respond when writing a report. These included

* What do we need to find out?
* How could we find out?
* What will we do?
* What was done?
* What happened?
* What did we find out?

This was the starting point for this study which investigated the outcome of using a combination of shape code and focus question. The three questions and associated shape codes used were

1. What did I do? □
2. What happened? □
3. What did I find out? ○
THE INVESTIGATION

The authors and the classroom teachers of a year 2 and year 5 class were involved in this study. There were 29 and 28 students respectively in the classes at a primary school with an enrolment of 550 pupils from predominantly middle class families.

Students averaged one science lesson each week, taken by the teacher given responsibility for science. The school had a strong literacy program with an emphasis on narrative writing.

During the investigation the authors were responsible for eight additional science sessions spread out across the term. These sessions were activity-based and problem-oriented and organised in the manner advocated by Charlesworth and Lind (1990). The questions investigated are listed below.

<table>
<thead>
<tr>
<th>Week</th>
<th>Investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What can we do to make Aspro Clear tablets disappear faster when placed in water?</td>
</tr>
<tr>
<td>2</td>
<td>What properties can be used to describe, identify and group liquids?</td>
</tr>
<tr>
<td>3</td>
<td>How do pourable solids behave?</td>
</tr>
<tr>
<td>4</td>
<td>How and why do we change the properties of things?</td>
</tr>
<tr>
<td>5</td>
<td>What properties can be used to describe, identify and group odours?</td>
</tr>
<tr>
<td>6</td>
<td>How do ball bearings behave when they roll?</td>
</tr>
<tr>
<td>7</td>
<td>How do magnets behave?</td>
</tr>
<tr>
<td>8</td>
<td>How can a balloon be used to move a message a distance of more than 10 metres?</td>
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The intent of this series of investigations was to assist children to move from a situation in which there was a number of loosely structured activities to one which is more open-ended and in which they have greater control.

In the first week of the study the children were asked to write about their initial investigation before the report-writing framework was introduced.

In week 2 the teachers introduced the shape code and focus question framework and the children used records they had made during the activity to write a report later in the day in which the investigations were carried out. Large cardboard shapes with the focus questions on them were prominently displayed around both classrooms at this time. The students found that these were a useful reminder of how to structure a report, particularly in weeks two, three and four.

Initially the children wrote rough reports as they progressed through the activities and later wrote them up on the prepared sheets which used the shapes as a place to write answers to the framework questions. The shapes were particularly useful for Year 2 students who found it of value to link the shapes with questions - they continually related the two to assist the sequence. In subsequent weeks the students began to use the framework for organising their own records as well as their final reports. These reports were discussed in class and displayed in the classroom. In later weeks, particularly in Year 5, more students began to use the prepared sheets to write their