Improving writing

Ed Walsh
Ed Walsh

• Science education consultant
• Series Editor, Collins GCSE and KS3 Science
• Regional Development Lead, Science Learning Network
• CPD provider for AQA and ASE
• ITT tutor
Session outline

• Challenge presented by literacy in science
• Adapting an effective mindset in relation to developing writing
• Examples of effective practice
Improving writing

CHALLENGE PRESENTED BY LITERACY IN SCIENCE
“Writing floats on a sea of talk” (James Britton).

Accurate use of key terminology
• Physical items, processes and connectives
• Activation
• Reinforcement

Effective sentence construction

Being able to structure extended writing

Understanding the role of command words
• Knowing what it means
• Responding effectively
Accurate use of key terminology

Selection of key words
- Physical items
- Processes
- Overarching concepts

Activation of key words
- Introduction of words – reasonable number and identifying common patterns
- Exemplification
- Expectation of use

Inclusion of connectives
- Explicit reference
- Modelling
- Reinforcement
Effective sentence construction

• Focus on the function of the sentence

Sentence templates
• I think that a key point here is ..........
• I think that .......... shows the same as ............... 
• I think that .......... shows something different to ...........
• Can we summarise this by saying ..................?
• Do we need to pay some attention to ................?
• I think if ..........changed then the ............. would alter.
• I think that ..........happened because of ............. 
• I’m not sure that it’s quite clear how .......... 
• Does anyone see how we can explain how .............?

Describe and explain
• Use a simple experiment and ask students to, in pairs, write one sentence to describe what happened
• Ask several pairs to read out their sentences and ask someone else to say which they thought was effective, and why.
• Draw out and summarise key features of a good descriptive sentence.
• Now ask them to write another sentence, suggesting an explanation.
• Draw out and summarise key features of a good explanation.
Structuring extended writing

Ofqual condition 5.4 stipulates that examinations should include questions that require extended responses, whereby:

“... an ‘extended response’ is evidence generated by a Learner which is of sufficient length to allow that Learner to demonstrate the ability to construct and develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.”
Generic level descriptors

5. Evaluate: Use the information supplied, as well as knowledge and understanding, to consider evidence for and against. Make a judgement about the value of something, with respect to a particular purpose.

The response is based on analysis – so identification of relevant features is necessary and the use of relevant criteria. Response might need to look critically, from a number of angles.

6 (or 4) marks with three (or two) level descriptors.

<table>
<thead>
<tr>
<th>Level 3: A judgement, strongly linked and logically supported by a sufficient range of correct reasons, is given.</th>
<th>5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2: Some logically linked reasons are given. There may also be a simple judgement</td>
<td>3-4</td>
</tr>
<tr>
<td>Level 1: Relevant points are made. They are not logically linked.</td>
<td>1-2</td>
</tr>
<tr>
<td>No relevant content</td>
<td>0</td>
</tr>
</tbody>
</table>

Graphic organiser - explain

What happened?
- (List key features)
  -
  -
  -

Why did it happen?
- (Suggest reasons why)
  -
  -
  -
This is the point I want to make/this is my judgment

Here’s some evidence:

This supports my point because:

Here’s some more evidence:

This supports my point because:

Here’s some more evidence:

This supports my point because:
Role of command words
ADAPTING AN EFFECTIVE MINDSET IN RELATION TO DEVELOPING WRITING
Key principles to effective practice

• Integrating the focus on literacy with the focus on science

• Provide feedback in relation to:
  – Word
  – Sentence
  – Text organisation

• Modelling effective practice in relation to
  – Speaking and listening
  – Reading
  – Writing
EXAMPLES OF EFFECTIVE PRACTICE

Improving writing
Providing a context for focused speaking and listening and the use of target terminology - sorting out materials

Useful questions:
1. Are all metals magnetic?
2. Are all magnetic materials metallic?
3. Can an object ever be both non-magnetic and magnetic?
4. Are magnets magnetic?
5. Can a magnetic object be turned into a magnet?
Analysis of function

What is it?

What does it have?

What would happen if it didn’t have it?

From: Active Assessment in Science, Naylor & Keogh, Millgate House
Graphic organisers

What:

How:

When:
Thinking Frames

• Following an experiment or demonstration on a single phenomenon, ask students to:
  • suggest key words that would be useful in explaining what had happened
  • sketch simple diagrams to explain
  • structure a bulleted pointed list of key points in sequence
  • develop as extended prose.
• This ‘unpacks’ the process of writing into a number of stages and enables students to develop their vocabulary, ideas and sequencing before they embark on the full response
Session feedback

It’s easy to leave feedback on this session via the online programme Sched. Go to the session’s page and pick your emoji!

aseannualconference2020.sched.com

Conference feedback

You can also feedback on the overall conference. Please complete the online survey at:

ase.org.uk/conf-survey