

THE REAL E-LEARNING: ENGAGE, ENQUIRE, EXAMINE, EVALUATE

Teaching thinking should increase children's understanding, motivation, performance and ability to operate as thoughtful, critical citizens.

Thinking skills are not exercised in a vacuum: we need something to think about, and a context to think within. Within the context of history, what might thinking skills look like?

What is the nature of historical thinking and understanding?

Thinking in history cannot be separated from the nature of history, so, what counts as understanding in history, and how is it acquired?

The DfES's view of historical understanding is laid out in Curriculum 2000, in what used to be the Key Elements (now Knowledge, Skills and Understanding). Our view in Nuffield Primary History is that history is, in addition, an irreplaceable resource for gaining insight into and critically examining the human condition and the ways in which societies work. The key is questioning – historical study is an open-ended enquiry and on-going debate.

How is historical understanding acquired?

Newton (2000, p. 39) argues that understanding in any discipline occurs through a process of enculturation, 'a cognitive socialization in which individuals learn what is an acceptable epistemic form in a subject'. This enculturation comes about:

- by learning from exemplars (such as reading how others have written history, or interpreted it, say on television)
- by transmission (for instance, the teacher tells a story about evacuees, or explains the Aztecs' religious beliefs)
- through activities (such as conducting an historical investigation, or deciding why the Great Fire of London spread so quickly)
- during interaction, with the teacher, other adults or peers (such as questioning an older person about their wartime experiences, or discussing the interpretation of objects found in a Viking grave).

Deep historical understanding involves developing, over time, a sense of period and of the particular nature of the societies we study, to understand them in their own terms, as well as from the perspective of the historian looking back from the present. It is too easy to trivialise history, for instance to treat a study of the Ancient Greeks as little more than comparing our houses and schooling with theirs. ‘Sophocles, Thucydides and Socrates didn’t live and die to tell our children that’ (Egan, 1999, p. 135). Indeed, and we can surely find some way to introduce primary school children to the distinctive character of Ancient Greek civilisation. We have done this by posing children the overarching key question: Why do we learn about the Ancient Greeks – what was so special about them?

Where does language fit in?

Language is intrinsic to history. With its challenging texts and wonderful fund of stories, history is a supremely language-based subject, providing a context for extending and practising literacy skills. Language and thinking are at the heart of history, and as such history is language in action.

Indeed, history demands a higher and more sophisticated literacy, of understanding meaning, situation and significance.

Because it is so complex, history is a perfect subject for developing language and thinking skills. Its very complexity means that the teacher’s role is central, in providing scaffolding structures to help children to understand and integrate this complicated world.

Children’s thinking can be supported through:

- discussion: about definitions, concepts, values, similarities and differences;
- textbreakers for reading: see the Nuffield Primary History website; Lunzer and Gardner, 1979, 1984;
- thinking and writing frames: see, for example, Wray & Lewis, 1997; Nicolas Roberts’ range of publications;
- a range of structures for representing, connecting, and integrating complex information;
- asking children to represent their knowledge in different forms: written genres, picture notes, diagrams, concept maps.

How does cognitive psychology relate to children’s learning in history?

Thinking skills depend on the cognitive structures that support them.

Historical narrative, explanation, role-play and investigations can give children the information, the story. But how do they understand it? How do they represent it in their heads? In what form do they store it? Is the knowledge accessible for use – can it be retrieved and applied or manipulated?

Working memory only has limited space. This means that we find it difficult to hold a whole area, situation or problem in our heads. History has high interactivity, that is, any historical situation contains many elements. To understand the situation, a child has to connect those elements, and see the interrelationships between them. The relationships are often complex, so the thinking required places a heavy load on working memory. ‘Aids to mental models, such as using notes or diagrams or equations, can be viewed as

symbolic physical extensions of mental models, and are of obvious assistance given the limited capacity of human working memory.’ (Sanford, 1985, p. 310.)

Such diagrammatic structures show connections between elements of a topic and allow an overview which would otherwise be difficult to keep in working memory all at once. They offer a way of controlling information, of making it manageable. From concept maps to tables, networks and webs to hierarchical trees, all are powerful ways of representing knowledge.

The purpose of diagrammatic structures is to enable you and your pupils to:

- see relationships
- make associations
- see and form categories
- distinguish relevant information
- help to analyse ideas
- relate new information to existing information
- gain a map of the territory.

We can use such conceptual maps:

- at the beginning of a topic, to provide an introductory overview (what Alistair Smith, 1998, calls ‘the big picture’). Overview maps provide a logical framework for children to slot new ideas and information into as they learn;
- during a topic, as a working map or thinking tool to manage the information and sort out ideas;
- at the end of a topic, to provide a succinct representation and overview. Such a map can form the skeleton for more detailed communication such as extended writing.

Can ICT help develop thinking skills?

ICT can help to develop thinking skills if used purposefully (such as searching for relevant information on the internet or a CD-Rom; categorising historical information to construct a database; as a means of communicating what has been learnt).

History investigations

‘Bogbody’ on the University of Exeter website is an example of a computer-based History Mystery with a seamless linkage between thinking skills, history and language.

Computer-based history investigations are like textual jigsaws, with each piece of the jigsaw being a discrete text file. As children conduct their investigations, they develop a range of investigative skills of the historian, putting forward hypotheses, arguing points with one another, using logical deduction, assessing evidence, and drawing conclusions. Children are in control of their own learning in an open-ended, challenging and motivating context (Nichol, Dean, and Briggs, 1987).

Through pursuing history investigations, children gain an insight into the processes of planning and executing an historical investigation. Once they understand how each textual jigsaw is put together they, and their teachers, can create their own history mysteries. The need to create a working, logically-linked investigation vastly extends each pupil’s awareness of evidence, causation and motivation – and how they

interconnect. Pupils who write their own history investigations display purposefulness, independence, a strong sense of ownership of the work and intrinsic motivation.

When children write their own computer investigations, they engage in several E-learning processes, including the following.

- 1** The children's interest is Engaged when we provide them with the challenge of conducting a computer investigation.
- 2** This process gives children a model to follow when they construct their own investigations. As teachers, we must explicitly teach the children about the structures underlying the investigation, about its logically-linked elements.
- 3** Children then conduct an Enquiry into a suitable area or topic of interest. Analysis, extrapolation and inference come into play here.
- 4** The children Examine and Evaluate their information in detail, deciding which are the key elements, and how they connect to each other. They will need to exercise Empathy in understanding a situation from the inside, in thinking about what historical characters might have said.
- 5** The children synthesise their knowledge by planning and Expressing the shape of their computer investigation in the form of a map of the topic, showing all connections between the key elements.
- 6** Next children write the text for each key element and enter it into the computer.
- 7** Children run the investigation, then try it on peers to Evaluate its success.

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Nuffield Primary History project

General editors: Jacqui Dean and Jon Nichol

Author of 'The real E-learning': Jacqui Dean

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THE REAL E-LEARNING: ENGAGE, ENQUIRE, EXAMINE, EVALUATE

A MODEL FOR LEARNING AND THINKING IN HISTORY

ENGAGE the interest and imagination of the children, through:

- Story (e.g. The Trojan War; the Great Fish Dispute)
- Challenge (e.g. Was there a Trojan War?)
- Mystery (e.g. What can the clues we've dug up in this burial mound tell us about the Vikings?)

ENQUIRE further to construct a richly textured picture. Here the children are searchers, scavengers, detectives, seeking clues the past has left behind. Enquiries are driven, given purpose and focus, by key questions, such as 'Was Henry VIII a great king'? Enquiry is at the heart of history.

EXAMINE sources of evidence.

- What are they telling us?
- Which are the most important?
- Which can we rely on?
- How do they connect? (How can we make sense of them?)

EVALUATE what we have learned.

- How shall we structure and represent our knowledge?
- Is our picture, our explanation, plausible? Is it justified by the evidence?

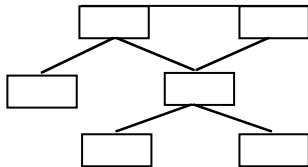
How to write a detective investigation for the computer

- 1.** When you write an investigation, you have to split yourself into two different people: you are the writer of the mystery, but you must also imagine what it's like to be the detective who has to solve it.
- 2.** Your detective investigation is a kind of story, but you don't write it in the normal way. Usually, if you write a story for someone, they just read it.
- 3.** An ordinary story is like a Lego house (or a finished jigsaw) which you have built for someone – you give it to them ready-made. They don't notice all the pieces it is made of, and how you put them together.
- 4.** Writing a detective story for the computer is different. It is like giving someone all the blocks for making a Lego house, but they have to build it themselves – you don't do it for them.
- 5.** So, you must break your story into separate pieces for the detective to put together. To do this, decide what are the subjects that detectives will be able to investigate (people, places and things). For example, in Bogbody, three of the subjects were police, body and Nebelgard Fen.
- 6.** You need to give the detective enough clues to lead him/her from one subject to another. The pieces of your mystery must be linked together in some way, otherwise the detective won't be able to discover all of them. Draw a plan showing how all the subjects connect to one another.
- 7.** Now it is time to write your story. The best way is to write a subject's name on a card (e.g. body), then write the bit of the story about them underneath. Do this on separate cards for each subject.

Using Word to create a computer investigation

These instructions are for use with Word 97.

1 PLANNING Gather all the information you need. Then work out a structure for your text database. You will need a start document that will contain links to other pages. It is essential to do this planning on paper to give you an overview of your database structure. It might be like this.



2 WRITING Type out all the documents, saving them as separate files in a single folder on the hard drive of your computer. For example:

Folder Bogbod

Files bodystart

body

peat-cutters

doctor

Nebelgard Fen, etc.

3 LINKING Open your start file in Word, e.g. Bodystart. Select (highlight) a word or phrase that you want to link to another document. Then, either use Insert-hyperlink from the toolbar, or click on the shortcut button for *insert-hyperlink*. A dialogue box will appear. There is a box at the top labelled *link to file or URL*. Click the browse button to the right of this and find the location of the file that you want to use (this file should have been saved in the folder that you set up in stage 2, e.g. peat-cutters). When you have selected the required file, click OK in both dialogue boxes.

You should find that the word you selected (e.g. peatcutters) now appears in a different colour on screen and is underlined. Clicking on it will take you to the relevant document.

Now return to your start file (e.g. Bodystart) by using the back button on the web tool bar. [If this is not shown on screen, click your RIGHT mouse button once on the grey area above your document and check Web.]

When you have linked several documents (e.g. doctor, body, Nebelgard Fen) to your start file, the file will show the hyperlinks like this (with the underlined words in a different colour):

You are a journalist in Denmark, 1952. A body has been found by two peat-cutters in Nebelgard Fen, near Aarhus. Your editor has sent you to investigate.

Now link your other files with each other in the same way, according to your plan.

4. IMAGES Images may be inserted into the Word documents you create for your text database. Alternatively, images may be saved as separate files in an *Images* folder within the database folder (e.g. within the Bogbod folder). It is important to keep all files and folders properly organised to make linking easy and reliable. If you do save your images separately, save them as jpg, tif or gif files.

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General editors: Jacqui Dean and Jon Nichol

Authors of 'Creating a computer investigation': Kate Watson and Jacqui Dean

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