What is creativity in history?

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Abstract

The National Curriculum for History in England (DfE 2013:1) states that the purpose of studying history is to inspire pupils' curiosity, to 'ask perceptive questions' and to learn to investigate them through 'understanding the methods of enquiry': 'how evidence is used and why and how alternative interpretations of the past have been constructed'. Students must also 'understand connections' both between and within societies and across time and place. Perhaps not surprisingly submissions of teachers to the Cambridge Review (Alexander 2010) warned that, forced by constraints of the curriculum, their creativity, expertise and confidence was being undermined. This paper aims to demonstrate that creativity is integral to teaching and learning history in the National Curriculum. Each aspect of historical enquiry is exemplified in the work of academic historians, in research into creativity in children's thinking and in children's thinking in history. The paper concludes by identifying classroom ethos and teaching strategies which are a prerequisite for creative teaching and learning.

Generic components of creativity

There has been a great deal of educational research, most recently led by the late Anna Craft, which explores what is meant by 'creativity' in education although there is still no single definition, as discourse about creativity is continuously evolving. However there is a consensus that creativity involves generating ideas. These may be ideas new to human history, at the 'high creativity' end of the creativity continuum, but they may also be what Craft describes as 'creativity with a small c', ideas new to a person's previous way of thinking (Craft et al. 2001:45-61). Anyone is capable of such creativity. Creative thinking may be collaborative (Craft 2005) or individual (Leach 2001). However, creativity is not free-thinking; knowledge and an understanding of the enquiry processes of a discipline are essential to creative thinking. The

literature on creativity in education claims that creative thinking begins with taking time to reflect, to be curious, in order to:

1. *identify an area of enqui*ry, (Gardner 1999:116-7),
2. d*efine problems* within it (Craft 2003), then
3. *ask open questions*, be open-minded and able to consider a variety of possible responses or perspectives (Gardner 1999, Craft 2002, Craft 2003), in order to explore these problems. This involves
4. '*possibility and probability* thinking' (Craft 2002; Cremin, Burnard and Craft (2006) and
5. *imagination* – seeing more than is immediately apparent (Elliott 1971, Passmore 1980, Kenny 1989). Thinking in this way requires confidence to
6. *accept risks and uncertainties* (Koh, Yeo and Hung (2015) and involves
7. *making connections (Bruner 1963; Gick and Holyoak 1980; Carson et al. 2003; Sandkuler and Bhattacharya 2008)* . Creativity is generally thought to lead to a
8. *conclusion* National Advisory Committee on Creative and Cultural Education (*National Advisory Committee on Creative and Cultural Education (NACCCE)1999, 29; Elliott 131, 99 Craft 2002, 82-3*). Creative thinking depends on appropriate
9. *classroom ethos (Lucas (2001; Jones and Wyse(2004, 5-6; Bage 200,26; Cropley 2001, 73; Davies et al. 2013; Craft 2000,74) and on classroom organization* and *teaching strategies (* Cropley, 2001; Ng 2003; Woods and Jeffrey 1996).

Each of these aspects of creativity will be discussed in turn, analysing how it is reflected in:

a) the work of academic historians,

b) research into creativity in children's thinking

c) opportunities for children's creative thinking in history.

1. Identifying an area of enquiry

a) Historians

Over the past hundred and fifty years the scope of history has broadened enormously and the academic discipline of history has developed. Historians must be selective. As Elton argued (1967:15), 'the past must be sorted into aspects, to become manageable and meaningful'. Historians focus on what interests them and explore this from their own perspectives. They may focus on groups of people, (based on a social class, childhood, gender, ethnicity), on individuals they regard as significant (biography) on specific dimensions of history, for example, social history (Raphael Samuel, *Theatres of Memory* 1996) or on economic history, (Niall Ferguson, *Empire: how Britain made the world great* 2004). Mary Beard, in *SPQR: A History of Ancient Rome* (2015:18) says, 'There is no single story of Rome…my focus will be on the city of Rome…and very different kinds of history have to be written for different periods…' Elton (1967:16) said that, 'There are no ways of dealing with history which are intrinsically superior to others'. And, as Popper (1945) has said, 'There is not one history but many histories'. Historians select and interpret sources to construct accounts. Accounts change as new sources are discovered and as they are reinterpreted in different periods and by other historians.

b) Children's thinking in identifying an enquiry

Children can be involved, through class discussion with the teacher, in deciding on any of the focuses of enquiry used by historians (above). At Key Stage 1 they might discuss which individuals or changes or events within living memory they would like find out about, or share what they know about significant people or events in the past, locally, nationally and globally, before deciding they wanted to focus on, either individually, in groups or as a class. People or events might be significant in cultural, religious or social contexts. In Southbank International School in Hampstead the curriculum is based on setting out characteristics teachers want to develop and make children aware of in themselves: enquirers, thinkers, communicators, risk-takers, knowledgeable, principled, caring, well balanced and reflective. Pupils, from three to twelve play a big role in determining how they learn. 'You find out what they know and what you want to learn then you shape your unit', the programme co-ordinator said. For example for a Year 5 unit on the Saxons children's questions are posted on a bulletin board. What animals did they have? How did they go to the toilet? If they were wounded what did they do? Did the children go to school? From this starting point the teacher spends some time reflecting with the class on how to answer these questions, using primary sources and what further questions may arise. If we ask what children want from the history curriculum their answers are likely to embody the classic reasons commonly supposed for learning history. Many writers stress the importance of teachers sharing in the process of enquiry with their pupils and modeling curiosity.

c) Opportunities to identify an enquiry in National Curriculum history

The National Curriculum (DES 2013) offers considerable scope in selecting areas of enquiry. It refers to pupils understanding 'the diversity of societies and relationships between different groups' as well 'local, national, international and global history,

cultural, economic, military, political, religious or social history' (DES 2013:2). At Key Stage 1 these dimensions apply to four broad areas of enquiry (changes within living memory, events beyond living memory, lives of significant individuals and significant events). At Key stage 2 there are nine topics (for example Britain's settlement by Anglo-Saxons and Scots) but no prescribed content. Breadth studies and depth studies may be chosen within these broad topics, depending on local resources and pupils' age and interests.

2. Defining a problem

a) Historians defining problems

The next aspect of creativity to consider is defining problems within the focus selected. For example Armen, in *The Warrior Queen,* (2017), investigates the problem of whether King Alfred the Great is entitled to the soubriquet, 'Great' or whether this applies more appropriately to his daughter, Aethelflaed. Shama (2000, 2001, 2002) investigates the problem of to whom we owe our allegiance and why; where the boundaries of community lie: home, village, city, tribe, faith?

b) examples of children defining a problem in history

In one case study (Nichol 2017: 45-57) children were finding out about the Bronze Age. They were shown an image of the burial of the 'Amesbury Archer' and a list of the grave goods. They wanted to know who he was and what had happened to him. In pairs children generated three questions. Having made a combined list of their questions they worked in groups of four to try to answer them, based on the evidence they had. In another case study (Nichol 1017:58-70) children were shown an enlarged Alan Sorrell illustration of a ruined city in post-Roman Britain. The problem was, 'what had happened to this city?' They worked in fours to think of three or more questions about the illustration then researched answers by using books

and the internet. These were shared and discussed by the whole class. A third case study (Nichol 2018: 62-70) on King Arthur and the end of Roman Britain was divided into six sections, each with a key question. The pupils considered the key question then asked their own supplementary questions which they investigated using sources.

c) Opportunities to identify problems within National Curriculum topics

The problems investigated by Armen and Shama (above) could be investigated as part of the Key Stage 2 topic, 'The Viking and Anglo-Saxon Struggle for the Kingdom'. Or, in studying 'Ancient Civilizations' unit pupils might ask, 'Why did all these civilizations develop in the Middle East?' The National Curriculum aims to promote understanding connections and patterns and building a coherent picture of the relationship between Britain and the wider world. Children investigating the Stone Age (or the Bronze or Iron Age in Britain) might ask 'was there only a Stone Age in Britain? Or the topic, 'The Roman Empire and its Impact on Britain' might be problematized to ask, '*Did* the Roman Empire have any impact on Britain?' 'A study of Greek life and achievements and their influence on the Western World' could similarly be explored as itself problematic. (For further discussion of these problem enquiries see Cooper 2018: 108-163).

3. Asking open questions to investigate a problem and consider a variety of possible responses and perspectives

a) Historians ask open questions to a investigate a problem with different possible responses and from different perspectives

Collingwood, a leading historian on Roman Britain was one of the first to consider the questions historians ask and how they try to answer them. In *An Autobiography* (1939). He saw historical enquiry as involving a complex of ordered specific

questions, based on empirical evidence. He began with specific questions about sources, traces of the past which remain. Sources may be artefacts, whether buttons or buildings, or written, visual or oral evidence. How were they made? By whom? How were they used? What might they tell us about the lives of people who made and used them? He also considered that, although people in the past were different from us because they lived in times with different attitudes, values and knowledge bases, it is possible to understand them, to some extent, through shared humanity. To do this we must ask, based on what we know about their actions, what their feelings might have been, and so how they might have thought.

Hastings, in *Bomber Command* (1979), asked what was the outcome of the RAF Bomber Command strategic bombing of Germany in World War 11? Was it a failure of policy? Was it decisive in making Allied victory possible? Was it a catastrophic misjudgment? To investigate these questions Hastings used documentary sources, diaries, letters and interviews with surviving key witnesses. Figes, in *A People's Tragedy* (1996) asked, what was the nature of the Russian Revolution? Was it a revolution or a Bolshevic Coup d'Etat? What was its effect on the ordinary Russian people: workers, soldiers, intellectuals and peasants? He analysed the personal archives of ordinary people.

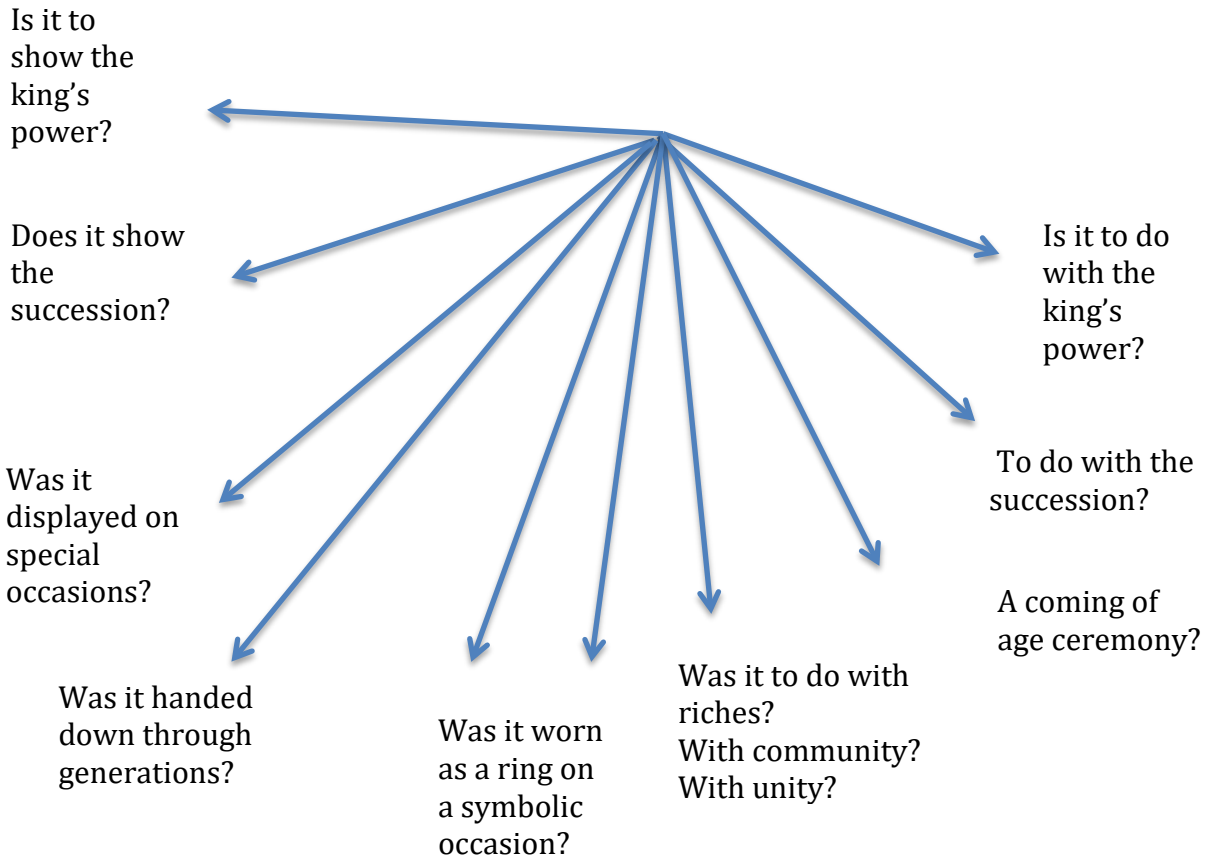
b) Children's open questions

Asking open questions has been identified as a dimension of creativity, which often raises new questions. This requires, being open to new information, the tenacity to pursue questions and accepting that there may be no 'right' answer (Langer 1997). Gardner (1999:116) differentiates between intelligence and creativity, saying that both involve asking questions but that creativity only operates when asking questions within a discipline.

c) Children's open questions in history

Here are some of the open questions asked and discussed by groups of eight year olds, during a tape-recoded discussion of the Sutton Hoo sceptre, when no adult was present. (Cooper 1991). They are considering what the scepter may have meant to people who made and used it.

http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=88895&partId=1



4. Possibility and probability thinking

a) Historians, probability and possibility thinking

There are, of course some facts in history. Historians can prove some things, for certain: a date, a place, the occurrence of an event. But, historians also need to form hypotheses, 'good guesses' or inferences about sources and to explain why they think

this. Grund (2017) thinks it *possible* that, before the invention of bows and arrows, women hunted on a par with men, throwing darts (atls) but after bows and arrows were created women did not have sufficient upper body strength to fight alongside men and this changed the status of women. After the discovery of a large Bronze Age wheel, a symbol of wealth for a family living on the outskirts of the Fenns in about 1,100 BCE, archaeologists thought it *probable* that people on the banks of the Nene were equally at home on land and on water and might travel long distances with their belongings and livestock, burning their homes as the community moved on.

www.cam.ac.uk/research/news/most-complete-bronze-age-wheel-to-date-found-at-must-farm-near-peterborough

b) Research into children's possibility and probability thinking

Cremin et al. (2006) see possibility thinking as the core of creative learning. This involves open-mindedness (Craft 2002). It is the ability to consider a variety of possible responses or perspectives, in response to a question, problem or situation. It includes the ability to hypothesise, to consider possible alternatives, to suppose, to ask, 'what if…' Possibility thinking, like other aspects of creative thinking, must have a perceived goal. Langer (1997) calls possibility thinking 'mindful learning'. Generating creative ideas may lead to experimentation and innovation (Levin and Nolan (2004).

c) Children and possibility thinking

Harnett, Whitehouse and Carter (2018: 130 -38) describe a case study which encouraged Year 4 children to consider different possibilities, to explore ideas, listen to other opinions and to piece together what might have happened when the first Europeans arrived in North America. They describe many strategies for exploring

possibilities, including children's creation of 'flap books' telling the story of the arrival of the English, in which alternate pages, (beneath a flap), show the possible thoughts of Europeans and of Native Americans at each stage of the story. Year 3 heard the story of Pocahontas. They then made 'perspectives cubes'. They each made the net of a cube. In the central square the child wrote a key event that the participants (Pacahontas, King James, John Smith and Chief Powhatan) were involved in. In the other four squares they wrote the possible thoughts of each participant about the event. Next the cube was constructed with these thoughts inside. Each person's name was written on 'their square' on the outside of the cube. Children could compare their cubes and the different thoughts they had ascribed to people. Possibility thinking applies to considering possible causes and effects of behaviour or events, seeing different viewpoints, making a variety of inferences about sources and to 'filling in the gaps' when evidence is incomplete.

5. ***Imagination***

a) Historians and imagination

Over time historians have gradually developed an articulation of the concept of historical imagination. It is not free-floating but is based on evidence, on what is known. Kitson Clarke (1967) pointed out that, 'men's actions can be the subject of detailed research but what went on in their minds can only be known by inference'. Elton (1970) saw historical imagination as 'a tool for filling in the gaps when facts are not available'. Ryle (1979) saw it as a means of 'cashing in on the facts' and using them; 'ammunition shortage and heavy rain before a battle cause the historian to wonder about hungry riflemen and delayed mule trains'. Thomas (1983) said that what interests him about the past is what ordinary people might have thought, felt and believed. Historical imagination does not mean identifying with people in the

past but trying to understand and explain how they might have thought and felt and behaved.

b) Research into imagination in children's thinking

Possibility thinking involves imagination in envisaging a variety of possibilities, with the intention of finding solutions, so imagining and imagination are essential for creativity (Craft 2002). To imagine something is to create a mental image, picture, sound or feeling in your mind. It is a thought process that establishes a new idea, establishing new possibilities. It allows learners to conjecture a world different from their own. Passmore (1980) makes a distinction between imaging, (mental representation), imagining (hypothesising or empathizing with another's perspective) and 'being imaginative', (generating a novel outcome). As Kenny says (1989:114) 'The objects of imagination are created, not discovered; it is disciplined, not fanciful'. Considering possible ambiguities through imagination involves risk-taking; the ability to live with uncertainty and not always to expect what may be predictable.

Children and historical imagination

Children can be particularly creative in discussing artefacts made for a cult, symbolic or ceremonial reasons which we no longer understand. What is the status of a torque, the symbolism of a portrait? Why was a document written or a photograph taken? In this example children consider the meaning of The Uffington chalk horse, in Berkshire, which may be a cult or ceremonial object whose meanings we no longer understand? These eight year olds used what they knew of pre-history to suggest that,

'They might have rode horses or used them for work.'

‘They could live on the chalk. It’s well drained. The soil would be thin, easy to plough.’

‘They must have used tools to dig down into the chalk. It must have taken a long time…hard work…they co-operated…they lived in a community.’

‘It’s not an ordinary horse…It must be special or they wouldn't go to all that trouble. It’s probably a symbol for something.’

‘To bring a good harvest?’ ‘A symbol of strength?’ ‘A sign to an enemy?

‘Perhaps it brought good luck and enemies stayed away. Perhaps it was just for fun – or they prayed to it when someone was ill.’

‘I think they had beliefs’ – ‘And ceremonies.’

6. *Risks and uncertainties*

a) Historians’ hypotheses and risk-taking

Since evidence is often incomplete historians ask questions and form hypotheses about sources, which are valid if they are based on reasoning, conform to what is already known and there is no contradictory evidence. Such thinking is fundamental in history. There may be no single answer or different, equally valid answers. Making inferences requires a high degree of possibility and probability thinking, open-mindedness exploring and evaluating different possibilities and tolerating uncertainty. A recent paper on making inferences about stone artefacts (Lin et al. 2017) argues that ‘a greater emphasis on hypothesis construction… is needed in order to establish sound linkages upon which constructive analogic inferences about the past can be built’.

b) Children and risk-taking

Considering possible ambiguities through imagination involves the ability to live with uncertainty, to consider surprises rather than expect what may be predictable, to

make choices depending on the knowledge available. Possibility thinking involves confidence and a 'can-do' approach to learning.

c) Children's possibility thinking and risk-taking in history

Here are some examples of children, in small group discussions, with no adult present, taking risks in discussing Stone Age artefacts (Cooper 1991). Most children are confident in making suggestions and taking each other's thinking forward. When ideas are suggested which others disagree with they point this out gently, with their reason, so that no-one is inhibited in participating.

Discussing flint tools.

'The white bits are chalk.' 'No Frank, I think it's where the flint is worn.' The ones at the back look like aeroplanes.' 'Actually Paul, they're arrowheads - although it *looks* like a hang-glider…It's very nicely shaped.'

'It was found 94 years ago.' 'In 1975?' 'Well work out how many years ago then.' 'About 16.' 'No it was 11 years ago.'

7. Creativity and connectivity

a) Historians and connectivity

Historians increasingly select enquiries about different cultures. For example, Shea (2017) examines *World Cultures: analyzing pre-industrial human societies across the world.* Historians write social history across a century and a continent; Tomka (2013) writes *A Social History of Twentieth Century Europe.* They write political history which is global and spans centuries as in *The Origins of Political Order: from prehuman times to the French Revolution (Fukyama 2012) and Political Order and Political Decay: from the industrial revolution to the globalization of democracy by Fukuyama (2014).* A Recent BBC 2 television series compared and contrasted civilizations. Three experts travelled to over thirty countries, exploring human

creativity, the development of art through the ages and the impact of culture and religion on art. https://www.bbc.co.uk/programmes/p05xxp5j/episodes/guide

b) Research into connectivity

Bruner (1963) first stressed the importance of making connections. He said that it is important to relate specific instances to general principles so that connections can be made and detail can be placed in a structural pattern which is not forgotten. Recently functional brain-imaging analysis has suggested that creative thinking occurs when three major areas of the brain are functioning together (Beaty et al. 2018). The ability to make separate ideas coexist in the mind is a crucial creative tool. Gick and Holyoak (1980) say that the key element of this 'conceptual blending' is a willingness to free our minds to search for analogies rather than concentrate on detail.

The work of Sandkuler and Bhattacharya (2008), in neuropsychology, found that the capacity for connectivity is greater when we are relaxed; we are more aware of a stream of remote associations coming through wave ripples in the right hemisphere and more likely to have insights. If we are relaxed and not afraid of taking risks or getting things wrong this enhances creativity because the part of the prefrontal cortex concerned with self-control is deactivated and this leads to a surge of spontaneous ideas. Carson et al. (2003) found that when our thinking is not focused this helps to ensure a rich mixture of thoughts and 'eminent creative achievers'. Instead of approaching a problem from a predictable perspective people consider analogies. It is in constructing interpretations and in comparing interpretations that most connections are made.

c) Children and Connectivity in history

The expectation that pupils will learn to make connections between places, between different types of history and different time scales is set out in the National Curriculum for history. It states that students must 'gain historical perspective' through understanding connections between 'local, regional and national, international history', between 'cultural, economic, military, political, religious and social history' and short and long time scales.

Connectivity is a dimension that has run through the English National Curriculum since 1991. Connections have to be made between chronological understanding, knowledge and use of sources. Continuity and progression should be achieved through building on each of these strands, by 'establishing clear narratives', within the topics in each study unit, consisting of depth and breadth studies. Pupils should make connections between the different study units, over time and between local global and international dimensions. History also involves multi-dimensional creativity because history is an umbrella subject. It makes connections between all aspects of societies from the past: music, art and literature. This involves not just interpreting them as sources but also engaging with the creativity within the subjects themselves.

8. Creativity and creating accounts

a) Historians and accounts

Historians select sources and combine them to construct an account, an interpretation. Accounts are interpretations which vary, because of the opportunities for creative thinking in each stage of an enquiry, which were discussed above. Historians write accounts in many genres. McGregor, when director of the British museum, wrote *A History of 100 objects* (2010), stories of objects spanning two million years and many civilizations. The food historian, Wilson, wrote, '*Consider*

*the Fork: a history of invention in the kit*chen (2011). Historians write in academic journals. They also write for television. Peter Moffat's drama, *The Villa*ge (BBC 1, 2013) was constructed from diaries, letters and oral accounts of a Peak District village. Jenkins writes accounts of *England's Best Churches* (1999) and of Britain's 100 Best Railway Stations (2017). Historians write narrative accounts, for example Norman Davies' *The Isles: a History* (2000). Historical accounts are constructed in paintings, in 'The great Tapestry of Scotland' and in the Bayeux Tapestry, in dramas, in opera and in poetry.

b) Generic research into creativity and outcomes

Elliott (1971:139) thought that creativity is 'imagination manifested in any valued pursuit, tied to an objective, but the process can be considered creative without necessarily making anything'; problem-solving is a creative process which creates an idea. And it has been argued that each aspect of historical enquiry involves creative thinking, identifying questions, seeing problems, designing enquiries, selecting, evaluating sources and interpreting sources are all creative processes.

However others consider that creative processes must have an outcome. The National Advisory Committee on Creative and Cultural Education (1999: 29) defined creativity as an imaginative activity which aims to produce outcomes that are both original and of value. It makes a distinction between creative thinking, which generates new thoughts, creative behaviour in which the first step is suspending judgment and creative action, which results in innovation. Craft (2002:82-3) also argues that creativity must have some sort of outcome, something to show for it, 'a book or a poem perhaps'. Fryer (2004) explains how an idea can gradually lead to an outcome. To begin with there may be an idea within a person's head which is not

shared with others, later this idea might be shared with others, and finally it might lead to a product which can be examined.

c) Children's accounts, or interpretations

Children, like historians, can construct accounts in many genres and for many purposes. They may be constructed for a number of reasons: to tell a story, to explain why something happened, to interpret what happened and why, to explain a process of enquiry, to persuade a point of view, to report on findings, to present an historical problem or a possible solution to one.

Children can also construct accounts in many genres as historians do: as historical fiction, crime fiction, debates, dramatic recreation, tableaux or poetry, models, reconstructions as video, music or art, providing the account is based on the processes of historical enquiry. They may be constructed in many modes: advertisements, posters, confessions, interviews, leaflets, letters, newspaper accounts, notes biographies or obituaries. They may be written from many different perspectives: as an archeologist, television programme maker, historian, newspaper reporter, journalist, an historical person, a friend or an enemy. And they may be written for many audiences: local history presented to visitors to a local library, museum or church, at local site that has been investigated or shared with parents or older visitors to the school.

9. Classroom ethos, environment and fostering creativity

Analysis of the interdependence of good history teaching and creative teaching is totally irrelevant if the classroom ethos does not foster creativity. For feelings are involved in creativity: 'curiosity, determination, excitement, satisfaction, pride anticipation and elation' Cropley (2001: 73). Craft (2000:74) said that the humanities provide a model of imagination and creativity because they are in large part about

understanding human experience and behaviour. History is an interpretive subject. So it is surprising that the considerable literature on creativity in education rarely mentions history. However the literature on creative teaching is very relevant to inspiring and supporting creative learning in history. Craft et al. (2001) make a distinction between 'teaching creatively', (using imaginative approaches and making learning interesting and effective), and 'teaching for creativity', (which aims to develop creativity in the learner). Developing creative learning requires valuing learners' innovative contributions, giving them ownership and control, encouraging questioning, discussion and debate. The teacher is a co-participant in the learning. Craft and Jeffrey (2004) and Craft (2003) undertook research that analysed the relationship between 'teaching creatively' and 'teaching for creativity' and showed that they are interdependent. They examined the characteristics of creativity and pedagogy identified by Woods (1990), relevance, ownership, control and innovation. Through observations and interviews with parents and children, they found that if the children saw the learning as relevant, this led to their sense of ownership of their knowledge, of the learning process and of their skills and understandings. This sense of ownership gave the children a sense of control, which enabled them to think of possibilities in responding to problems and this led to innovation. Craft and Jeffrey (2004) added a new concept to creativity; the involvement of the learner in making decisions about what is to be investigated.

Many writers stress the importance of teachers sharing in the process of enquiry with their pupils and modeling curiosity. To make a creative plan come alive teachers need to provide an environment full of ideas, materials and resources. Bage (2006: 26) say that 'leading learners willingly into other worlds is a moral act of the highest order. Children should ask questions that encourage opinion, justification and

alternatives. They should have the opportunity to formulate questions especially at the start of a history project, because this provides them with a personal view and a point to which their study can be referred and guides the teacher with the material to provide for the project. Children ask questions and together teacher and children try to find answers. Bage says that such a model emphasizes the social, emotional and personal aspects of learning.

Teaching Strategies

There is evidence that the skills of creativity can be learned. This involves a foundation of knowledge, learning the thinking processes of a discipline and mastering a way of thinking. We learn to be creative by experimenting, exploring, questioning assumptions, using imagination, recognizing many possibilities, synthesing information and, very importantly, having permission to be wrong. This requires practice. George Land famously tested the same group of 16,000 students at the age of five, ten and fifteen and as adults, between 1968 and 1983. He found that they all became increasingly less creative The test found that, seemingly as a result of their educational experiences, at 5 years old 98% were creative, at 10 years old, 30% were, at 15 years 12% were creative and only 2% as adults.

The role of the teacher

A large part of a teacher's role is to encourage learners, give them confidence to try, to think for themselves, to form independent judgments and help them to understand that there may be more than one way to interpret a situation. Teachers need to work alongside children to encourage constructive talk and help them to articulate their thoughts (Vygotsky 1978). Children should be given time to reflect and encouraged to learn outside school. Davies et al. (2013) identified characteristics of a

pedagogical, creative environment as a balance between freedom and structure, risk-taking sand playful, games-based learning.

Children need to be given time to think and talk and to feel that they have completed their work, Children need to negotiate the time scale and outcomes of an activity, whether it be a short discussion or a lengthy role play. Teachers must also listen. A child explaining something confirms what has been learned and may extend ideas further. Children need to learn metacognition, the understanding of their own thought processes. They need to be given the confidence to try, to think for themselves and form independent judgments, to develop commitment and resilience.

Conclusion

> We teach a subject, not to produce little, living libraries, but to consider matters as an historian does, to take part in the process of knowledge . . .
>
> If we respect the ways of thought of the growing child, if one is courteous enough to translate material into its logical forms and challenging enough to tempt him or her to advance, then it is possible to introduce him, at an early age to ideas and styles that, in later life will make him an educated man.
>
> *J S Bruner 1966:52*

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