GEOTHINK 10

Colin Bridge

Creating the space to think

Colin Bridge discusses ideas for encouraging reflection, developing analytical skills, reasoning with confidence, understanding children's thinking and evaluating the quality of outcomes.

Creative qualities

When a child or a group has taken an activity further than you could possibly have hoped, or you feel that the children have moved their thinking forward in a significant way are golden moments for a teacher.

If pushed to define creativity in terms of what I have seen children do over the years, it comes out something like this. Creativity appears to be present when children exhibit:

- ingenuity,
- originality (in describing and presenting ideas) and
- appreciation of relationships (thinking within a wider context of links and connections).

Creativity obviously has some of the problems of 'intelligence' in that it seems to be something outstanding to be found only in a few individuals and maybe only in a few very intelligent individuals. This is a social perception. We think of creative people as being the giants of science and the arts who have produced a shift in human thinking. However, creativity is a quality that operates at a range of scales and contexts.

In the early days of the industrial revolution, Newcomen's steam engine worked at 0.5% efficiency. Today's diesel engines are more than 50% efficient and there is hope that the hydrogen fuel cell will be the next revolutionary step in energy efficiency. This gradual progression of improvement has been because of the small-scale creativity of countless individuals who, by practising engineering skills from day-to-day, have made a myriad of minor improvements which together lead to the next revolutionary step. This point is worth making because it makes creativity in some form or another accessible to virtually everyone (there needs to be an element of motivation and enthusiasm). The task, then, for the primary teacher becomes to be concerned not about failing to nurture a young Mozart or Einstein, but rather with techniques and strategies for encouraging individual creativity across a range of skills, accomplishments and personalities within the context of often, formal learning.

The long-term objectives for seeking to foster creative attitudes in the primary school, according to the Royal Society for the Arts, are about opening minds and educating for the twenty-first century. In a world of accelerating change, qualities of communicating, handling information, managing situations and being flexible and innovative are going to be at a premium.

The short-term objectives are about personal achievement and self-esteem. Meadows (1993) sees them in terms of play, exploration, imagination, insight, motivation, effort and inspiration. These sound more like the things primary teachers would like to see in their classrooms. They bring me back to my initial definition which has derived from seeing children use imagination in stories and poetry, ingenuity in model making and design, the visually unexpected in art and presentation and innovative thinking. These may not be indicators of future fame as a novelist or designer but they nurture personal wealth by bolstering a sense of special achievement and giving an individual child a feeling that they are capable of thoughts and acts that have value. This is the best foundation for achieving the long-term objectives.

In practical terms, how do we get there and, particularly, how do we get there in a geography lesson? What are the ways to encourage ingenuity and originality, and then to know how to recognise that a child is actually employing these qualities?

For fifty years psychologists have been looking at these questions, and have identified techniques that are useful for teachers. Guilford (1950) described four creative qualities with definitions which are useful in practical terms:

- Fluency (ease of using stored mental information);
- Flexibility (using different approaches to problems);
- Originality (the unusual or rare response); and
- Elaboration (the skill of enriching a simple idea).

Torrence (1965) offered suggestions for encouraging a creative learning atmosphere:

- Respect unusual questions;
- Respect imaginative and unusual ideas;
- Value pupils' ideas;
- Set some work which will not be tightly assessed; and
- Explore causes and consequences.

Fisher (1990) points out that great creative individuals spend years achieving skills and insights. Children cannot have those special creative moments unless they have the time to build some skills in writing, painting, model making or playing an instrument. They also need time to engage in a small task, ponder on it, come back to it and develop it. Classrooms where children go from one small scale unrelated task to another are likely to inhibit reflection. Fisher goes on to describe a creative process which should become a life skill:

- Stimulus
- Exploration
- Planning
- Activity
- Review

It is useful for teachers to ask themselves the extent to which they allow children to follow through this process in their learning activities and which bits of the process might easily be missed out, perhaps through lack of time.

Most of what I have described is applicable to learning in any subject. Let us begin to home in on some specifics. Fisher also offers a 'Scamper'

Substitute	Who else instead? What else instead? Other place? Other time? Other material? Other approach?
Combine	Bring together? Unite with another? Combine ideas?
Adapt	What else is like this? What ideas does it suggest? Can it be adjusted for a purpose?
Modify	Magnify? Minimise? Multiply? What to alter? What to add? Change colour, form, shape, motion? Other changes?
Put to other uses	New ways to use? Other uses if modified?
Eliminate	What to remove, omit, get rid of? Part or whole?
Rearrange	Try different pattern, layout or scheme? Turn it round, upside down, inside out? Try opposites?

Figure 1: Scamper checklist for creating ideas. Source: Fisher, 1990, p. 49.

checklist (table 1). This stimulus for creating new ideas would be useful to engage children in a project on recycling or devising an environmental improvement scheme.

Finally how have I tried to offer children opportunities for ingenuity, originality and making links and connections in my own teaching? The following approaches will have been some use if they only make you think 'I can do better than that!'.

The stimulus

Discussion

At the start of a project take time to talk about the issues and ideas involved. We know it makes sense but when the teacher already has a clear objective in mind it is easy to forget that the children may not share that objective. Explore what they think they are going to investigate. Do not take anything for granted, be on the lookout for misconceptions and do not confuse them with creative thinking! Encourage as many ideas as possible, do not make initial judgements about the ideas, explore links and associations and decide how to use the final collection of suggestions.

Questions

We are constantly being urged to involve children in asking geographical questions. However, it is difficult not to make these questions closed and directed. My favourite science question is 'Are all daisies the same?'. Why not try 'Are all clouds the same?'. Fisher (1990) also suggests:

- What can we do on a rainy day?
- What could you do if you got lost?
- What adventures might a 50p coin have had?
- Can you see figures, shapes or faces in the clouds?
- Would you like to see a door, a window or a hole in the roof?
- What would happen if there were no hills, no trees or no rivers?

Innovation and investigation

A school improvement project questionnaire

This is an activity from an RSPB booklet (Bridge, 1999). Children devise a proposal to change a section of the school grounds into a wildlife area. They then canvass the views of the rest of the school through a questionnaire. However, this is not a 'yes/no' exercise. The proposal must be presented with consideration for the rest of the school. Views must be analysed and, perhaps, the proposal amended. Decisions then need to be made about when, how and if the scheme should go ahead.

A lorry survey

This moves on from the traditional traffic count. Using what clues they can gather, children use their knowledge and imagination to conjecture about what a vehicle might be carrying, where it might be coming from or going to, who might own it etc. The children choose a passing lorry and record any possible information, any writing or numbers, the registration, an open or closed vehicle, if it is a refrigeration unit for example, colour (food lorries are often white) size etc. They then use the data to produce a pictorial profile of its possible contents and journeys.

What can you learn from a door?

Do a survey of all the doors in the school. Draw each type and assess it in terms of solid, panelled, glass inserts (what, where, why?), handles, one/two way opening, condition, ease of use, locked/unlocked, emergency doors, suitable for children/adults, how does the door reflect the space behind it and the contents of that space? Are some older than others? Do they reflect the building and history of the school? Make models of some of the doors.

School plan board game

Use a school plan or a child's plan of the local area to devise a board game with the usual dice, counters etc. Take time to plan and consider a range of ideas before starting to make the game.

Key concepts

I can't resist returning to geography's wonderful concepts that open eyes and minds and underpin geographical enquiry. 'Change' is the most obvious. Everything in the classroom is changing, but how it is changing is not so easy to explore. Encourage the children to explore movement in the room of both objects and people. Follow the systems on which the school depends. There's location, area, distributions, conflict, management, communication and interaction. Be creative!

Titles

Whenever children complete a piece of written work ensure they create a title. This is not as easy as it sounds because the title is a summary of all they have written. It requires some mental ingenuity, especially if they have copied a lot off the internet!

Final reports

At the end of an investigation make sure the children produce a final report, either written or for a brief talk. This is the moment where the thoughts and findings of an activity become either part of your personal thinking and attitudes or victims of short term memory. It is vital for the child but just as crucial for the teacher because the quality of the learning and understanding that has gone on is instantly evident.

So now it is my turn to think of a title to sum up this writing. It has got to be about creativity, about thinking, about having the time to reflect...

References

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