CEA
Rewarding Learning

Teaching for Creativity

Teaching for Creativity

1. Introduction

Creativity – what it is and how to foster it in pupils – remains an ongoing concern in education. Often, the importance of creativity has been emphasised through its economic significance: as the driving force behind innovation, invention and breakthroughs in science, technology and the arts. Increasingly, it is seen to as a way to encourage mindfulness and resilience while occupying a central role in promoting thinking Skills and Personal Capability (TS&PC).

Our model of teaching creativity requires the teacher to ask themselves the following questions:

- What does creativity look like in my subject(s)/my classroom?

- When and where do I ask my pupils to respond creatively?

- How do I plan opportunities for pupils to be creative?

- In what ways do I communicate to my pupils that I value creativity?

- How do I assess my pupils' creative responses?

The material deals with the challenges all teachers face, and suggests some ways for teachers to get started and build methodologies into classroom, assessment and learning practices.

American educationalist and creativity specialist Ronald Beghetto[1] recommends a pragmatic step-by-step, small-scale approach to teach creativity in schools.

2. Arguments for creativity

The following approach to teaching for creativity matches with Beghetto's recommendations and is based on two key assumptions:

1. If giving attention to creativity is to be worthwhile, it must in some way contribute to improving pupil performances in the subject under consideration.

[1] Beghetto, Ronald A. (2013), Killing ideas softly?: The promise and perils of creativity in the classroom.

2. Because of teachers' general lack of time, the course of action they propose must be a minor adjustment to established routines, not a major undertaking.

With the first point, we must remember that creativity is domain specific. With the second, the pupils must work with the subject content. This is a largely a question of skilful thinking on the part of the teacher.

3. Improving pupil performances

As teachers, we often set pupils work in the form of some task to perform that involves using the content we have most recently taught. You can use this to check to see how well the class has grasped the material, but it is also a way of making the new material stick through the action of working with the subject content.

The work often requires pupils to make decisions as they consider how to respond to the task. This involves:

- trying out alternatives;

- experimenting with possibilities; and

- making provisional solutions to arrive at an eventual answer.

What is not visible as pupils go about these tasks is how they are thinking through their work. We are only able to form an impression of how successful the thought processes have been once the pupil has responded to the task. However, it's clear that successful and unsuccessful responses alike are the result of making mental moves such as:

- ordering;

- selecting;

- arranging;

- choosing;

- eliminating; and

- prioritising.

Often, the pupil will make a series of small decisions as they work through the task. Each small decision requires their impetus to figure out which potential course of action seems best. Making decisions is an early form of creative thinking. It is a preliminary to creativity because it requires selecting one option over another.

If you, the teacher focus on guiding pupils to improve the quality of their decisions of this sort, then you are laying the foundation for the pupils' greater prowess in the subject.

4. Mental moves and subject knowledge

Pupils learn how to improve the quality of those small step-by-step decisions in several ways:

- their decision-making will improve as their subject knowledge expands; and

- as the teacher models the characteristic techniques and procedures of the discipline, they are being shown how to use the relevant methods and apply them in their own work.

5. Building creative capacity and imaginative facility

How can a teacher help a pupil to develop their imaginative facility?

Here are two approaches:

- In order to be effective, the pupil's imagination needs material to work with. In other words, the mind needs content from which to form images. Therefore, the pupils' imagination needs to be fed.

- The pupil's imagination needs opportunities to be engaged. The teacher should create scenarios where they ask pupils to speculate, invent, generate ideas and propose possibilities.

If the teacher frames the information they want pupils to engage with using a narrative, then they are making it both palatable, and more easily digested. When teachers add a narrative to their established classroom procedure, the lesson's structure becomes clearer and easier to follow.

Then, add a rich diet of examples and stimulus material to inspire the pupils' imaginations.

Then, set tasks that require pupils to engage their imagination to work on the most recent subject material: this will invoke the image-making capacity of their minds.

To do this, teachers should design tasks that tweak their previous approach to existing schemes of work:

- Think of the sequencing of information in terms of narrative. Link one section to the next and describe what is taking place.

- To develop, the pupils' imagination needs to be fed, so build in a range of examples. These can include illustrations, representations and stimulus material. Over time, train pupils to seek out stimulus material for themselves.

- Try to structure the tasks that you set so that they require pupils to work with subject content in ways that invite them to:
  – visualise;
  – speculate; and
  – generate ideas.

A good way to do this is to frame the task as a question and ask pupils to come up with a resolution.

6. Creativity and the Thinking Skills and Personal Capabilities

Classrooms should be places where teachers actively encourage thinking. Pupils should use their speculative ideas as stepping-stones to explore further possibilities. The sort of classroom environment that fosters creativity and TS&PC is described in the literature as a thinking classroom. This means that the teacher actively engages the pupils in constructive thinking about the subjects they are studying. The teacher does this by:

- demonstrating the steps through a problem; and

- thinking aloud to model the processes of information gathering, analysis and evaluation.

Being Creative as a strand of the TS&PC framework details ways in which creative thinking can be encouraged and developed over time. Building thinking classrooms is a way of making sure that the free play of ideas is encouraged, tolerated, and celebrated. The classroom should be a place where mistakes are valued as being worthwhile in eliminating negative results, and being wrong is a necessary part of the journey of searching for a correct answer.

In a thinking classroom:

- Pupils are comfortable making suggestions and trying out ideas.

- They are comfortable enough to risk being wrong, as they know that their mistakes will not be stigmatized because the environment is supportive.

You can find more information on implementing the TS&PCs framework in the Thinking Skills sections[2] of the CCEA website.

7. Stages in intellectual development

We associate creativity with play and playfulness. Examples of creativity are often of young children spontaneously creating imaginary worlds as they play. In schools, this has sometimes led teachers to believe that attention to creativity is for younger pupils.

It's not simply that schools put a stop to children developing their tendency to playful thinking. Unfortunately hindrances to that kind of free-form play – involving imagination, experimentation, exploration, and a lack of concern with finished products – start to creep in during the period of intellectual development that typically lasts from approximately 7 or 8 years of age to 12 or 13 or beyond. During this period children start to compare their own work and abilities with those around them, such as their peers and adult models. In this way, children can often judge their own performances against standards that are too high. Such comparisons often leave them doubting their own achievements.

During this extended period of development, pupils' belief in their own capacities is often fragile. It can be seen in:

- their reluctance to engage;

- avoiding activities that they previously liked; and

- pretending that they do not care about activities that they liked before.

Teachers can tell that this is happening when pupils stop voicing their ideas because they are afraid of being wrong, being compared to others, and being seen to look foolish in front of the rest of the class.

[2] **www.nicurriculum.org.uk/curriculum**

7. a) Building resilience

The best way to address feelings of inadequacy in pupils is to simultaneously build their mental resilience. The teacher should help the pupils to recognise that success often comes after several unsuccessful attempts rather than straight away. The teacher can help the pupils to develop creative resilience by making sure that they understand more about the standards for success they apply to themselves. Meeting those standards is often a question of steady advance through several sub-stages of building core knowledge, developing confidence in applying established methods, and slowly building capacity to realise their aims in their classroom activities.

This matches with the conditions for a thinking classroom outlined earlier. Resilience is one of the features of Being Creative in the guidance materials for the TS&PC, and it is explicitly covered under the bullet points:

- Value the unexpected or surprising
- See opportunities in mistakes and failures
- Take risks for learning.

You can find examples of each of these in all Areas of Learning in the Progression Maps for KS3.[3]

7. b) Ipsative assessment

As well as providing pupils with a step-by-step model for tackling problems, teachers should also consider ipsative assessment to encourage classes to develop resilience. Ipsative assessment means comparing the pupil's work being assessed to their previous work, instead of an external standard. The teacher will look for how the pupil has improved by judging against their previous personal best. Ipsative approaches can help pupils to recognise where to concentrate their next effort to make further progress.

What gets assessed is what gets taught, and what gets learned is what gets assessed. For the teacher to incorporate creativity, the opportunity to demonstrate creativity must form some part of the

assessment. This need not be difficult to assess. The teacher should stipulate what they expect to see in pupil performances that involves them making a creative response. Make an aspect of that creative response a criterion for an assessment activity. Then, define the criterion in rules. There is more on how in the CCEA material on rubrics.[4]

Clarify what you expect to see in pupils' creative responses and what they produce in this sphere: this will form part of their assessment in the subject. This communicates that you value creativity and expect to see them improving their performances over time. For this to happen, you must plan your assessment design.

7. c) Combating the idea that only the particularly talented can succeed

Pupils often believe that those who succeed in a particular field have a predisposition that confers advantage. This happens when people attribute conspicuous success to the performer being gifted and/or talented rather than as the result of sustained effort. The risk is that the child who perceives themselves as average and compares themselves with those doing better will conclude that it's not worth making any further effort.

8. Removal of constraints

A common misapprehension about creativity is that for an individual to function creatively, they need constraints removed in order to 'think freely'. In reality, it is more usual for a creative response to arise while tackling a problem and finding a novel means to work within those constraints while producing a solution. These situations happen when a class reaches an impasse and the question arises: *what can be done to get past this problem?*

[3] **www.nicurriculum.org.uk/curriculum**

[4] **www.nicurriculum.org.uk/curriculum**

To tackle problems:

1. Rephrase the question to clarify the precise nature of the problem.

2. Generate a number of suggestions that may have the potential to solve the problem.

3. Rank these ideas according to how promising they seem.

4. Starting with the most promising:
   – make a dry run;
   – carry out a test; and
   – try out the potential solution to see if it succeeds in solving part or all of the problem.

5. Evaluate the outcome of the dry run. Modify the proposal, taking account of what the class has discovered.

6. Proceed by trial and error to test all available ways forward. Refine the idea based on results at each stage, until the class has either solved the problem or exhausted the possibilities.

7. If none of these routes entirely solves the problem, ask the class to repeat the process, or in some cases accept a partial solution to be going on with.

Note that a sequence like this will not work for every situation. This is an example of a systematic approach to defining a problem and seeking solutions that would be highly customised in any given situation. For example, if the problem facing an author is defined as 'How can I make the character of the protagonist more convincing?' then the sequence that follows might begin by asking further questions such as 'What is it about the character that is less than convincing at the moment?'

The equivalent problem faced by an app designer might start by asking 'How can I make the user interface easier to navigate?' and digging into the problem could generate further questions to consider: 'Would changing the layout of information on screen make it easier to understand what is happening at each stage?' and so on.

In any field, creative people have internalised this kind of process. Their idea generating is already informed by thinking about the existing constraints. Their route through a problem-solving process can seem faster and more efficient than a beginner only because they have practised the sequence many times. Educating for creativity is initiating learners into working through a process of clarifying the problem, identifying possible solutions, and evaluating success at each stage. It is very important that learners realise that it is a process and does not happen overnight, even for geniuses.

Note also that in modelling the problem-solving approaches of experts, what typically limits learners when generating ideas is a lack of background knowledge. Therefore, in the lead-up to setting a problem-solving task, teachers should provide pupils with a relevant stock of subject knowledge. They can then draw on this when generating ideas.

9. Generating ideas

A strategy for leading pupils through the process of idea generation is a Q&A session. The teacher can begin modelling the process of problem-solving by leading a class through the first stages of gradually redefining and refining their responses to a problem in the session.

A well-run Q&A leads pupils to recognise what sort of questions are useful, how to judge when a proposed question is likely to be a productive one, and when it can be discounted. The teacher needs to structure these sessions so that the teacher's questions lead[5] the class towards the intended outcome. This helps the pupils to practice honing their ideas. It is an example of modelling the decision-making process: they discount weaker ideas and list genuine possibilities to be used later in trial runs.

[5] **www.nicurriculum.org.uk/curriculum**

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This is difficult, as the teacher has to reject some ideas and critique those suggestions that are peripheral. You have to juggle two competing concerns: you want members of the class to speak up and offer suggestions, but you also need to dispose of suggestions that aren't helpful.

A way of focusing the direction of Q&A sessions is to separate different sorts of Q&A. There will be occasions when it might be suitable to announce beforehand: 'Here I'm only checking comprehension, this is not a time when I want speculation or guessing.' On another occasion you could set up an idea-generating session by saying: 'This is the time to generate ideas, I want to hear what you think in response to my questions; there are no right or wrong answers, I want to hear your suggestions.'

In order to forestall potential disappointment and attempts from pupils to derail the session by offering deliberately ridiculous ideas, create some rules for accepting suggestions. The activity of guiding classes through idea generating in this way is not easy, so teachers need to pre-plan. You need to have a draft of questions to use that will push the class towards the responses you are seeking. You also need to have anticipated regularly-occurring misapprehensions that could crop up, and to have thought about responses that let down gently those who are enthusiastic but mistaken. This is more art than science and is very much to do with the teacher's own individual style when handling whole-class sessions. There is more discussion of the pitfalls of making responses to pupils when having to reject mistaken responses in the material on feedback.[6]

Experience of working in this way will gradually train your classes to understand:

- the sorts of problems that they are likely to encounter in the subject; and

- the techniques, processes and methods that they develop to cope with them.

This process of idea generating is a great way to teach pupils problem-solving and exam technique in a way that relates directly to their subject.

9. a) Strategies to prompt idea generation: Thinking Cards

A resource to help with generating ideas is available from the *Think Pack*[7] section of the CCEA website. It has three sets of *Thinking Cards*[8] along with accompanying advice and guidance material.[9]

The Thinking Cards are three sets of pre-prepared questions that the teacher can use to prompt the pupils to generate ideas. Each set is designed with an escalating degree of age-appropriate language. The green set 1 uses the simplest language and the red set 3 has more difficult language. The teacher can use them during the planning stage, and the pupils can then use them in class. They are particularly useful when pupils are stuck and don't know how to proceed.

The cards support creative thinking and work like the well-known S.C.A.M.P.E.R. exercise (substitute, combine, adapt, modify, put to other uses, eliminate, reverse or rearrange) to expand the possible approaches to a problem. They do this by providing prompts to encourage thinking and ideas as well as suggestions for ways to evaluate thinking in progress.

They work best when the teacher chooses a specific card or cards to use, and directs small groups (two or three) to work through the questions. Each group can use the same card(s) or be given their own card(s) to work with.

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[6] **www.nicurriculum.org.uk/curriculum**
[7] **www.nicurriculum.org.uk/curriculum**
[8] **www.nicurriculum.org.uk/curriculum**
[9] **www.nicurriculum.org.uk/curriculum**

10. Summary

Creativity is seen as a highly desirable ability that gifted and talented individuals can use to develop new ideas, solve problems and create stimulating artefacts and performances. It is a fundamental aspiration for education to provide for. It is the engine that drives developments across culture, technology and commerce. Historically, the education system of the UK is recognised as having been extremely good at producing innovative and independent thinkers and creators across the full range of academic, cultural and technical disciplines.

One of the principal goals of educating our young people is to help them to successfully develop their innate creativity. This involves nurturing the learner's creative faculty so that they become ever-more effective at generating new ideas and approaching problems in novel ways. By helping pupils to develop their creativity, you are helping them to grow into well-rounded individuals who are capable of enjoying the satisfactions of a rich inner life as well as a prosperous working life. The ability to think and act creatively is one of the main ways in which the educated individual can contribute to society.

These kind of statements are often made by educational policies, institutions, and programmes as part of their aims and intentions. However, such statements can also contain a series of assumptions: they can often presume that creativity is somehow the preserve of geniuses or the preserve only of the arts.

The issues that have been aired here should provide teachers with some ideas on exploring their own understanding of creativity, for example:

- what it means to them;
- how it can become part of their subject context; and
- how they can build creativity into their lesson plans and assessment design.

11. Conclusions/Takeaway messages

1. Be clear about what you understand by creativity in the context of your own teaching.

2. Review your existing lesson plans to make sure that you build in opportunities for creativity.

3. Look for small, incremental refinements to your lesson design and delivery that can stimulate your pupils' creative thinking.

4. Use narrative structure to make the subject content accessible to your pupils.

5. Plan how you will assess creativity.

6. Communicate how much you value creativity to pupils.

7. Use Q&A sessions for classes to practice generating ideas and evaluation.

8. Design task activities so that they give pupils opportunities to respond creatively.

9. Use creativity as a way to reinforce subject learning and help the pupils to build their individual engagement with the subject. Make it an intrinsic part of successful problem-solving within the subject context.

10. Demonstrate the methods and typical thought processes of the subject by modelling and thinking out loud to draw attention to where you are making small decisions, and what considerations influence those decisions.

11. You need to feed the pupils' imagination, so make sure that you provide a variety of stimulus material and train pupils to seek out such material for themselves.

12. To become creative you have to want to be creative, and nothing kills the pupils' impulse more effectively than feeling inhibited about sharing their ideas. Make your classroom a thinking classroom by encouraging ideas. Teach the pupils to value their mistakes as important stages on the way to eventual success.

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