Creativity, Critical Thinking and Pedagogy

A guide to creative learning and teaching approaches

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Creativity, critical thinking
and pedagogy

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Preamble

Creativity and critical thinking are two sides of the same coin, and an understanding of these two key features informs the current approach to learning and teaching across the phases. And it forces us to realise that the skills that we want learners to gain are life skills and much broader than the ‘thinking skills’ that are sometimes talked about in school.

Elements of creativity and critical thinking are to be found in the EYFS documentation, the ECaT (Every Child a Talker) guidance as well as in the documentation for all the other key stages.

This understanding causes us to look at learning and teaching in a particular way and the methods outlined in this booklet show how there are many approaches that can deepen the learning experience. An examination of these will show the changes that have taken place in the relative position of the teacher/learner and the learner/teacher over the years and how they can deepen the effectiveness of the work of the classroom.

The argument

"Prospective teachers who are trained in thinking and teaching creatively and in creative problem-solving will be better prepared to value and nurture the same creative characteristics in their classrooms."

Here are three questions:

1. What are the personal attributes that a prospective teacher needs to bring with them and develop actively as essential components of their training?

2. How can creativity be nurtured within and beyond initial teacher training programmes?

3. What bearing does an understanding of teacher and learner language have on the notions of creativity and critical thinking and the learning transactions of the classroom?
Looking for the answers to these questions will guide the trainee to recognize that there are personal qualities needed to be a successful and effective teacher as well as philosophical, ethical, intellectual and professional understandings.

The relationship between creativity, education and learning can be viewed at two levels: first there is the macro level where creativity is seen as being a major driver of current national education policies across large parts of the world and, secondly, there is the micro level where we need to examine how notions of creativity influence pedagogic practice. This booklet focuses principally on pedagogy rather than socio-politics and looks at the implications for the shape of learning in a school based training setting.

Definitions

In the context of the work of the teacher

*Creativity is:*

- The application of knowledge and skills in new ways, to achieve values and outcomes. (NCSL)
- Imaginative activity fashioned so as to produce outcomes that are both original and of value. (NAACE)

*Features of creativity are:*
The use of the imagination, the pursuit of purposes, being original, judging value. Creativity thrives when it is identified, encouraged and fostered.
**Critical thinking is:**

A complex mixture of personal skills which will, given the right encouragement, grow in sophistication and effectiveness over time. In varying proportions these skills are:

Rationality, self-awareness, honesty, open mindedness, discipline and judgement or, in other words, the ability to make evaluations against appropriate criteria. These are the ‘thinking skills’ that have been categorized by many writers as those of the ‘higher order’ to contrast them with the ‘lower order’ skills of remembering, understanding and applying as seen in Bloom’s hierarchical taxonomy. Critical thinking can be said to be one of the key objectives of education and Halpern’s shorthand version of the definition is as succinct as it is illuminating:

\[
\text{Attitude + Knowledge + Thinking Skills = Intelligent thinking}
\]

(Halpern, 2003, p7; after Russell via d'Angelo)

The relationship between creativity and critical thinking is close, almost symbiotic inasmuch as creativity needs the ground that is prepared by critical thinking in which to grow. One of the principle outcomes, therefore, of creative teaching is a growing facility in learners to make appropriate and informed critical judgements that will be seen as well-grounded evaluations of relative worth as applied to their decisions, their actions and all the elements of the sea of stimuli in which they exist. It is seen by some researchers as being one of the essential skills needed to participate effectively in today’s society - ‘If education is to further the critical competence of students, it must provide them with the opportunity at the level of the classroom and the school to observe, imitate and practice critical agency and to reflect upon it.’

(ten Dam, G. & Volman, M. 2004)
Creativity and Critical Thinking in learning and teaching

**Teachers are being creative** when they are using pedagogical approaches that involve both themselves and learners in looking at possibilities, looking for flexibility, taking risks and experimenting. Creativity is being employed when there are unusual and exciting learning opportunities which provide high quality stimuli combined with the structure to generate enquiring language and provide deep support for the learners’ thinking and efforts.

**Learners are being creative** when they are fully engaged in making meaning together through stimulating learning tasks of which they feel ownership, they will feel confident enough to make speculations and assertions, and feel empowered to articulate their learning to any of the other people round them.

**Learners are thinking critically** when they step back and reflect on what they have achieved in relation to a desired outcome; when they can discuss and evaluate these achievements either individually or collectively against appropriate criteria and be conscious of and be able to comment on the quality of the process of which they have been a part.

**Language** is what links each of these ideas, the planned and deliberate use of language stemming from a clear understanding of its importance as an integral part of thinking and learning in a social context.
Developing a personal philosophy

If schools are to value appropriately, to nurture effectively and harness constructively the creativity of their learners those learners need to be guided by practitioners who possess a great deal of understanding of the importance of creativity, their own and that of the learners. They also need to appreciate creativity as a component of the whole landscape of learning so the content and the philosophical cast of their training programmes need to reflect this. Responsibility for the development of this understanding is therefore divided between the ITT institutions or EBITT consortium and the school so school based mentors carry a great deal of this weight. As the current modes of post graduate teacher training have developed the time available for taught sessions away from school has become increasingly squeezed. The onus now is upon the school to deliver effective input across a widening range of topics the understanding of which is crucial to the effective development of the new teacher.

Whilst the apprenticeship model is to be commended for many things, it leaves the trainee with much necessary self-study in some very important areas of understanding. There is a risk that the trainee will complete the programme being strong on day to day tactics but with a relatively underdeveloped grasp of the importance of a philosophically based strategic overview that is needed to inform both purpose and methodology. Successful performance in the classroom depends upon the acquisition of many skills, but is underpinned by a clear working philosophy, even if it appears to be somewhat below the surface in the case of many busy teachers in the context of their day to day classroom and school responsibilities. The education of teachers is more than merely training in technique, it is rooted in the formation of the ethical self (Freire, P. 1998, p23) and the trainee will quickly realise that their journey towards QTS is one of personal discovery as well as professional development.
Philosophical development starts with the growing awareness of the child centred nature of the learning process, with the appreciation of how close is the relationship between language, thought and learning, culture and society and that ‘effective teaching is much more than just a compilation of skills and strategies [but] is a deliberate philosophical and ethical code of conduct’ (Larrivee, 2000) and that the practising teacher is making ‘a purposive cultural intervention in individual human development which is deeply saturated with the values and history of the society and community in which it is located.’ (Alexander, 2005).

Trainees should move away from the suggestion of a ‘banking’ concept of education where the learners passively receive that which is owned by the teachers, filing and storing deposits of information (Freire, 1970) towards a model of personal transformation that puts the learner in the centre of the picture, a model where teachers and learners are asking questions, solving problems, making connections and making meaning dialogically. Creative teachers realise the importance of knowing the situatedness of the learners; they guide rather than tell; they model learning and create possibilities for the construction of meaning rather than dispense knowledge.

Anna Craft emphasises the development of the relationship with self and others that is at the heart of creativity and that this can only take place in a ‘self-knowing’ training programme. (Craft, A. 2000). For this to happen there needs to be emotional support, a coherent and supportive trainee network, and the opportunity in the structure of the programme for trainees to receive effective feedback that is away from but linked to their learning and teaching situation. The importance of the personal development that takes place during the programme cannot be understated and for many is it profoundly life changing.

The particular attributes of trainees that are scrutinised and actively developed in training and beyond are these:
• A commitment to the development of their own and others’ learning.
• A view of themselves as being creative individuals.
• A commitment to sharing ideas.
• An open mindedness to innovation and flexibility of approach.

To these, as the training progresses, will be added professional, technical and ethical understandings including:

• A developing concept of the term ‘creativity’ taking it from a narrow arts and performance based concept to an appreciation of the broader implications of creativity in the context of the learning and teaching experience;
• an appreciation of the close relationship that exists between creativity and critical thinking;
• a rapidly growing repertoire of creative teaching strategies with the confidence, understanding and ability to deliver them;
• an awareness of the distinctive dynamics of the creative classroom;
• an explicit understanding of the centrality of language in the thinking and learning process and the implications of this;
• the ability to reflect critically in order to grow professionally and learn from experience.

A coherent personal philosophy of learning and teaching will develop as depth of understanding increases with experience. The details of this will be informed by active, detailed and insightful observation, planning and classroom practice and well directed reading. Teaching for creative learning and the development of critical thinking demands that we look at the learning process in a constructivist way where:

• The learner is placed at the centre of the learning process.
• Curricular arrangements are developed to suite the learners’ prior knowledge.
• Learning is based on searching for and making meaning in a hands-on problem solving in a dynamic social setting.
• Methods are used that enable learners to make new connections thereby gaining new understandings.
• There is an expectation that learners’ analyses, interpretations and hypotheses will be valued as the key steps of learning thus promoting critical thinking skills.
• The language life is democratic and rich with dialogic transactions based on the use of open questions.
• Learners learn how to take part in the assessment of their progress.
• And, fundamentally, that the activity of teaching is not the transfer of knowledge, but the creation of possibilities for the construction of knowledge. (Freire, P. (1998) p30)

Creativity and learning

The nature of creativity and its relationship with learning has been discussed widely and vigorously, the value of this discussion is that it has served to focus much attention on the nature of learning. This has taken place in the context of the rapidly developing understanding in neuroscience and in the psychology of learning as well as the development of socio-cultural and social constructivist approaches to learning in particular. This has resulted in the existence of a much more focused and coherent literature than was the case in the recent past when much of what existed was the result of the drive to develop simple behaviourist theories (John-Steiner, 1996). From the socio-cultural perspective we need to examine the range of opportunities that learners must be given for meaning-making by using imaginative and inclusive pedagogies that involve, amongst other things, the appropriate scaffolding of learners’ efforts and the modelling of teacher disposition (Craft, Cremin et al, 2007). The creativity of the teacher is then brought to bear on the ways in which these and the growing capacity for critical thought, become the weft and warp of the learning experience.

The visible products in the classroom that are a function of creativity can be seen in, for example, the ways that problems have been solved and the quality of both the conclusions
arrived at and of the decision making process itself. There is a richness in the thinking activities and the beneficial effects on the learning can be seen. There are some subtle understandings present that will make the experience of the learners more inclusive, more dynamic, more purposeful, more collaborative and more effective with enhanced cognition and metacognition.

Much research has concluded that the benefits of encouraging and facilitating creativity are many in terms of personal development and the growth in learners’ capabilities. Pupils who are encouraged to think creatively and independently become more interested in discovering new things for themselves, more open to new ideas, keen to work with others to explore ideas, willing to work beyond lesson time when pursuing an idea or a vision. As a result of this, it has been discovered, their pace of learning, levels of achievement and self-esteem all increase.

Positive dispositions, whilst they may already exist to varying degrees in the make-up of learners, have to be dynamically nurtured and encouraged, this development cannot be left to chance. All Our Futures (1999, p95), proposes the need for teachers to be mindful of three key issues.

**Firstly:** the need for the teacher to be adept at *identifying* creativity both in themselves, and in the learners. Teachers should be looking for creative, imaginative and stimulating possibilities in the planning and the structuring of learning; they need to develop the ability to recognise and acknowledge the value in the pupils’ utterances, responses and products of learning and to be able to respond appropriately.

**Secondly:** the importance of being able to *encourage* creativity in learners by allowing them to feel comfortable in taking chances and in seeing new possibilities. This needs to come from the teacher’s own enthusiasm, their depth of subject knowledge, the fact that their presence in the classroom models a creative outlook which is manifested in the methodologies used and the understanding of the power and purpose of these and the value of the resultant climate that is created in the class.

**Thirdly:** the importance of fostering creativity in learners. Creativity generates creativity and just as this should be modelled by the teacher it should also be understood by the learners that
they can learn from each other. This can only be done by considering actively the class arrangements - groupings, physical layout, and management of learning – this implies a clear understanding of why the particular arrangements have been chosen. Within the structure of these arrangements is the need for the feeling of learner inclusivity to be infused in the class where everyone, including the teacher, is a co-participator, a co-creator, part of a joint endeavour. (Craft, 2005)

The Creative Classroom

When we plan for learning which encourages critical thinking we are ourselves thinking creatively. The essence of critical thinking is a questioning and challenging approach to knowledge and Harrington (2001) lists a number of components that need to be present in a creative classroom that will allow for critical thinking to take place and describes what he calls the ‘creative ecosystem’ which, he suggests, consists of the following interrelated elements:

- The opportunity for play and experimentation/exploration,
- a non-threatening atmosphere in which children are secure enough to take risks and make mistakes,
- activities presented in exciting or unusual contexts,
- opportunity for generative thought, where ideas are greeted openly,
- opportunity for critical reflection in a supportive environment,
- children given a sense of engagement and ownership of ideas and tasks,
- respect for difference and the creativity of others,
- choices given to children in terms of resources and methods.

Each of these features makes important assumptions about the role and position of the teacher, about the nature of the thinking and the activity of the learners, and about the quality of the relationships that exist in that space all of which are transcendent of the curricular subject. The ‘creative ecosystem’ shows a clear recognition of the essentially social and collaborative nature of effective learning that contrasts markedly with didactic, transmission
models of learning and teaching which only emphasise the worth of the individual’s solo achievements.

The successfully creative classroom is, therefore, a function of certain interconnected understandings. There is the presence of a learner centred model of learning and teaching with an understanding of the implications and expectations that this has for the teacher – learner relationship. There is an understanding of the essentially dialogic nature of effective learning and the power and the value of talk, to, with, by, and between learners in this. There is the understanding that this talk cannot take place in a vacuum and arrangements made must facilitate this to create the desired creative climate.

The essential developmental skill of the teacher is the increasing ability to choose from a range of appropriate strategies and approaches over the course of time; good classrooms are places of flexibility and are responsive to learners’ needs. The creative climate alone is not enough and the teacher’s role must be seen as going beyond simply being an encouraging adult and must embrace specific active techniques and strategies. (NGFL Scotland, 2003).

‘Creative teaching is seen to involve teachers in making learning more interesting and effective and using imaginative approaches in the classroom’ (Cremin, T. 2009). Learning can take place anywhere and we are all aware of the power of the learning situation that is in itself stimulating by being unusual and unconventional perhaps; farms, zoos, playgrounds, fields, woods and so forth are all places where rich learning can take place. And the activities for learning can be equally varied be they digging in ruins, collecting leaves in forests or shells from beaches. However, as these situations do not provide the most usual day to day learning environment, being based in the prosaic surroundings of most classrooms, something has to be done to enliven and enhance and invigorate the learning space.
The physical nature of the learning space with its advantages and limitations is one thing, the décor of the room can be enhanced in enlivening and stimulating ways but walls, after all, are walls, and no amount of will power on the part of the teacher can alter that fact. However, there are more subtle creators of environment under the control of the creative teacher. Based on the understanding that learning is a social enterprise and that how the teacher relates to the learners and the learners relate to one another are the essential dynamics of the process, there are things that the creative teacher needs to address in the construction of a space where there is exploration, where there can be enquiry, where there is stimulation and where there is support.

**The creative classroom is a safe space, a place where:**

- There is questioning and challenge.
- There is the opportunity to make new connections and see new relationships.
- Where learners are able to envisage what might be.
- Where there is the exploration of ideas and the where options are kept open.
- Where there is the mental space to reflect critically on ideas, actions and outcomes.
- Where there is the expectation that all are involved.
- Where there is support for and value of each learner’s efforts.

**Language and creative teaching**

The nature of the learning transactions that take place in classrooms has changed considerably over time. Pedagogic approaches that were considered appropriate in the post-war period are being replaced as the research based understanding of the learning process has been deepened and refined, and as political and cultural shifts have impacted upon the work of the classroom. But the informed observer might also see the resistance to change that certain transmission models of teaching show. There still seems to be a measure of reluctance in some classrooms.
to embrace a more democratic, a more egalitarian form of teacher/learner discourse, one which is built upon an understanding of the power of the active use of language. Wolfe & Alexander (2008) see this, and the slow speed of change, as being evidence of the dilemma faced by teachers as they grapple with the implications of the growing evidence based understanding of the need to allow learners ‘to reason, argue and adopt the habits of critical enquiry’. The implication, they suggest, is that changes in the way that schools frame knowledge and assess learning are as essential as they are fundamental.

In order to teach creatively an understanding of the need for the measured use of language has to be manifest and the planning process needs to look imaginatively and in some little detail at the nature of language use that is going to take place in the lesson. The widespread acceptance of the Vygotskian understanding that effective verbal reasoning is a skill developed in a social setting leads us to examine the importance of both the social and the language dynamic of the lesson. What balance should there be between different language forms such as telling and explanation, questioning, discussion and dialogue? What are the different functions and values of these elements of the repertoire? The effective use of language is the bridge across to the learner and the teacher who knows this appreciates that language both manifests and structures thinking (Alexander, 2005) and is the foundation of learning itself. (Halliday, 1993)

The principle architects of the current research into the impact of dialogue on learning and sociocultural theory are, respectively, Robin Alexander and Neil Mercer and their main texts are listed at the end of this chapter. Here is a body of scholarship that clearly articulates the theoretical base, the research evidence and the practical implications that arise when the principles of dialogic talk in the class are used to underpin pedagogy. Mercer, (2000) (reiterated in 2007, p133) coined the term interthinking, to describe the talk used by learners to think collectively, thus linking the cognitive and social functions of group talk. Alexander (2004) describes the nature of the different kinds of talk in the classroom and, having analysed these goes on to demonstrate how meaningful dialogic talk can be achieved. Both these eminent academics have conducted extensive research over a number of years and have agreed with
Vygotsky’s claim that social interaction does in fact shape intellectual development though the medium of language, the principle human cultural tool.

For classroom talk to be dialogic it must have certain features: It must be collective, reciprocal, supportive, and also cumulative and purposeful (Alexander, 2004). It is collective because it is a social process; reciprocal because listening and responsive contribution takes place and it is supportive in the way utterances are received with linguistic and paralinguistic signals and reactions. It is also cumulative, utterances in response to questions move over time from being right or wrong to being cognitive stepping stones and the talk builds and moves towards planned purposes. (Alexander, 2004).

The planned use of language therefore defines the learning that is going to take place in the class and there are features enabling of creative dialogue that need to be present. Fisher (2009) mentions twelve key features that need to be considered. These can be used to interrogate planning and, bearing in mind that not all twelve features need to be present in each lesson, over a period of time it would be useful to reflect on whether the teaching and learning that was being planned was including them collectively, in combination and individually, as integral parts of the child centred pedagogies being habitually used.

Does the teaching allow for …

- Opportunities for learners to ask questions?
- A shared agenda?
- The use of imaginative and exploratory language?
- The encouragement of alternative viewpoints?
- The reflective use of dialogue?
- How does the use of language define the learner/pupil relationship?
- Is persuasive language encouraged?
• Are there situations where a range of possible answers is expected, received and celebrated?
• Is language used as the medium of cooperative enquiry?
• Is the language used promoting of the personalisation of learning?
• Is the language used related to the inner purposes of the learners?

(Fisher, R. 2009, p11)

By looking at the language life of the classroom in an holistic way a potential can immediately be seen which makes the stultifying and much over-used ‘Initiation-Response-Evaluation’ teacher/whole class ‘interaction’ seem rather threadbare, lacking in cognitive effectiveness and loaded with negative and non-inclusive values. The ideas above allow us to think about the wide range of possibilities that exist.

The potential for a language rich classroom becomes reality when the art of the teacher’s questioning develops. This is necessary for the success of the learning and over time will develop into something sharply focused and powerful; deeper questions will lead to deeper enquiry. Meaningful arrangements of learners need to be used and the interactions between them need to be fostered, focused and managed. The teacher’s feedback will become informative rather than merely encouraging, it will become a real part of the progress of the learning dialogue, not merely inquisitorial or just indulgently appreciative. Moreover, the teacher’s questions will not be the only ones that are being addressed; learners will be framing and asking questions, they will be responding and feeding back to each other, this is learning in the socio-cultural round.
Creative planning for creative learning

From what has gone before it will be clear that the creative teacher is someone with a specific mind-set able to see the importance of reflecting on questions about their teaching and about the relationship between that and creativity. They will have made the link between this and the encouragement and facilitation of critical thinking. They will have begun the process of working out what they believe to be the function and purpose of the teacher’s role and the wider purpose of education. They will also be increasingly ready to see the impact that this understanding will have on planning, on delivery, the methodologies selected and the techniques used at different points in the lesson in pursuit of the lesson’s objectives. The Ofsted survey of creativity in schools concluded that ‘teachers were seen to promote creative learning most purposefully and effectively when encouraging pupils to question and challenge, make connections and see relationships, speculate, keep options open while pursuing a line of enquiry, and reflect critically on ideas, actions and results.’ (Ofsted, 2010)

Armed with the succinct definition that creativity is ‘imaginative activity fashioned so as to produce outcomes that are both original and of value,’ (NACCCE, 1999, p30) the planning process can begin. All Our Futures asks us to consider whether the teaching proposed in a lesson plan is going to be purposeful, original, valuable, does it involve the use of the imagination? It is useful to examine these issues more closely in terms of questions that trainees could usefully ask themselves, the parameters are: purpose, originality, value and exercising of the imagination.

**Is the learning in this plan purposeful?**

- Do you have ownership of the ideas? Will a freshness and a commitment to what you are doing come through?
• Has the learning plan aroused curiosity, emotion, interest, and passion in you and is it, therefore, capable of arousing some of those feelings in the learners?

• Has there been some measure of co-construction and learner input thereby showing a responsiveness to the learners’ needs?

• Is the learning path and purpose clear and relevant to the learners and is there a clearly visible link between this work and what has gone before?

• Is the methodology chosen underpinned by the use of language and is it actively, engaging, inclusive, cooperative and encouraging of a range of learner-teacher dynamics?

**Is there a measure of originality?**

• What elements of this plan are original – and how is this originality demonstrated, for example the use of unexpected questions, unusual challenges, unusual outcomes?

• What elements of the plan will allow for the originality of the learners’ efforts to be stimulated and supported?

• How is the originality of the learning outcomes to be recognised in relation to work previously done?

• How is this achievement going to be celebrated?

**Is the learning in this plan of value?**

• Is it clear to you and the learners what the value of the learning contained in the plan will be in relation to its cognitive and metacognitive purpose?

• Is there an opportunity for you and the learners to critically appraise the achievements of the lesson and to share these appraisals?

**Does this plan show imagination?**
• Has a potentiating context been created, with an interesting environment, with unusual stimuli?
• Are there new ideas in the planning that can be enjoyed by both teacher and learners?
• Are there areas where the learners could be divergent, original, create unexpected responses and express alternative views and have the listened to?
• Is there a journey planned that will take the learners from the familiar into new territory?

How can a trainee effectively evidence creativity
(See appendix 2 for summary)

Through the active reflection contained in the self-evaluation of the lesson, the trainee will be able to make valuable assessment of the outcomes of the lesson against both the cognitive and metacognitive objectives. Valuable as this process is, has to be seen in the context of the assessment of the trainee’s performance made by mentors and tutors and this begs the question of how the creativity in a lesson can be assessed. The issue here is whether the observer/assessor is appropriately briefed before the lesson by the trainee and how well the documentation of the lesson is prepared; does this allow the observer to see a clear picture of the lesson’s ethos and intentions? (Robson et al, 2009) Does the plan make sufficiently explicit the trainee’s understanding of the relationship between language, thinking and learning? Is this understanding clear in the delivery of the lesson as well as in the planning?

The Teachers’ Standards document (DfE, 2011) does not mention creativity and critical thinking explicitly but subsumes these within the standards and subsidiary bullet points as with other details of pedagogic approach. The trainee and the NQT will be assessed on the effectiveness of their overall performance, the assumption being that high quality components make a high quality lesson. The expectation is that part of the effectiveness of the teaching will be the
demonstrable facility in the use of creative and imaginative techniques. It is worth noting that in the Ofsted inspection report’s section ‘How Effective is the Provision’ evidence of the use of creative teaching techniques, good questioning and the promotion of wide and deep thinking is commented upon specifically. This can be taken as an indication of the importance that is being attached to these components of creative teaching, and the Ofsted report ‘Learning: creative approaches that raise standards,’ shows how since the scrapping of KS3 testing schools have been able exercise greater flexibility in the design of curricula to ‘extend opportunities for creative and interactive approaches to learning’. (Ofsted, 2010, p4)

The appendix shows where creativity and critical thinking will be most relevant as part of the assessment of achievement against the current teachers’ standards. The responsibility lies with the trainee, therefore, to evidence explicitly the creative aspects of the lesson through annotations of the plan, to ensure that the methodologies adopted are suitable and to make sure that the observer/assessor is appropriately briefed, and finally, to reflect in detail on the success of the lesson in terms of the creative methods used.

A very coherent and comprehensive guide to the practical issues of creativity in the classroom, along with planning resources designed for the teacher in training can be found on the ESCalate website by following the link to the Creativity in Initial Teacher Education (CITE) project. A summary of the approaches and references for further research and resources are tabulated in appendix 1. Details of examples of practical teaching ideas using a range of creative teaching techniques and promoting of critical thinking can be found in a companion volume to this book ‘Global Learning and Sustainable Development’ (2010).

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Adapted from ‘Creativity in – Creativity out: creativity and critical thinking in the context of initial teacher training.’ in Padget, S., Creativity and Critical Thinking, Routledge, 2012.
A (non-exhaustive) compendium of creative teaching methodologies.

This section should be read in conjunction with the document ‘Starting Points’ and the other materials to be found at http://www.steveslearning.com/teachertraining.htm

It is useful to look at the increasing number of very accessible and effective classroom techniques in terms of four broad and overlapping areas:

- The strengthening of learning dispositions,
- the development of a community of enquiry,
- the use of thinking tools,
- methods of cognitive acceleration.

The common factor is that each of these approaches is underpinned by the understanding of the importance of the use of language in a social context as being the essence of learning. There are those methods promoting the competence based curriculum, those using thinking tools, Accelerated Learning, Community of Enquiry, specific learner organisation and learner disposition. To these should be added the considerable contributions made by

- Mike Fleetham and his Thinking Classroom approach http://www.thinkingclassroom.co.uk/
- Jason Buckley’s P4C (Philosophy for Children) material at http://www.thephilosophyman.com/ (see appendix for a tabulated summary).
The competence based curriculum

Opening Minds is a method that had been adopted school-wide by some institutions. Developed by the RSA http://www.rsaopeningminds.org.uk/about-rsa-openingminds/

Thinking tools

Some of the easiest methodologies to access are those that could be called ‘thinking tools’ this list is not exhaustive.

Methods developed by Edward de Bono

Thinking Hats.

This method is useful for all ages and has the advantage of taking the personality away from the opinion—it therefore allows pupils to express their opinions in an atmosphere of respect. This technique can be used for problem solving and can be used to start the understanding of critical thinking. The link takes you to the Edward De Bono Foundation:

http://www.debonofoundation.co.uk/

Cognitive Research Trust

For secondary learners the CoRT materials can be very useful in generating critical thinking. These ask learners to solve problems and approach issues in a variety of different ways. As with the thinking hats learners are in social groups. http://www.edwarddebonofoundation.com/cortforschools.htm

Thinking Maps
Mind Maps

Tony Buzan’s widely used techniques have been the salvation of many a classroom because of the ease of use of this technique across a wide age range.
http://www.thinkbuzan.com/uk/

Mapwise

Accelerated Learning Though Visible Thinking was devised by Oliver Caviglioli and Ian Harris, the rationale for the Mapwise approach can be seen in the article at http://www.sebas.vic.edu.au/resources/ian_harris_visual.pdf

LogoVisual Thinking

This is a unique thinking tool consisting of 3” magnetic hexagons that are used to represent thoughts as they are placed on an A1 sized board. Learners work in groups to solve problems using the LVT Core Process which asks them to gather their thoughts, arrange them into new and sometimes surprising relationships and then reap the benefit of the understanding that comes from this. Suitable for learners from mid primary upwards. http://logovisual.com/

Accelerated Learning

The Accelerated Learning website has materials and ideas for both primary and secondary phases. Based on the brain based ideas of Alastair Smith, this methodology
has been popular in schools for a while now.
http://www.acceleratedlearning.com/primary/index.html

**CASE**

Cognitive Acceleration through Science Education is the name of the project devised by Philip Adey and Michael Shayer at King’s College, London, the website gives methods and rationale to the research: http://www.cognitiveacceleration.co.uk/ and a case study can be found at:

**Community of Enquiry Techniques**

One way of approaching social learning is through those methods that work by creating a ‘community of enquiry’. Preeminent among these is Philosophy for Children, devised by the American academic, Matthew Lipman. These methods can be a bit daunting for beginners, but it is necessary to have a look at thee and see how they fit into the picture of the teacher you are aiming to be.

**Philosophy for Children**

This link takes you to the website of Sapere, the organisation that promotes P4C and is a very useful opening to a range of resources and opportunities.
http://www.sapere.org.uk/

**Mantle of the Expert**

Devised by Dorothy Heathcote (her own life-story is interesting in itself) and Brian Edmiston, this uses ideas based on drama to create the community of enquiry.
Socratic Questions

A guide to the use of Socratic Questions can be found here ...

http://changingminds.org/techniques/questioning/socratic_questions.htm

... and elsewhere. It is a form of enquiry that can take learners into an understanding of ethics and morality. This site exemplifies the six categories of Socratic questions and can be a useful resource for teachers wanting to develop their deep questioning skills.

Organisational Techniques

There are a range of techniques the effectiveness of which I would say revolves around details of organisation of the learning and the learners. They incorporate some of the techniques and philosophical elements of much of the above, but the slant is slightly different, the emphasis is in a different place.

Jig Saw Cooperative Classroom

This is described as a cooperative learning technique and was devised by Elliot Aronson, the details of the Jigsaw Classroom technique can be seen at: http://www.jigsaw.org/.

TASC Wheel

Thinking Actively in a Social Context was devised by Belle Wallace. This technique is a thinking skills framework that supports independent and creative thinking within a social context. The website is very informative and has case studies of how the
techniques has been used very successfully in both primary and secondary settings.
http://www.tascwheel.com/

Thinking Through Schools

This is the title of a series of books by Anne De A’Echevarria. In the article at
http://www.teachingexpertise.com/articles/thinking-through-school-building-a-learning-community-1818

De A’Echevarria describes how the building a learning community idea works. Honiton Community College in Devon uses this and their material can be seen at
http://www.school-portal.co.uk/GroupHomepage.asp?GroupID=454972

Kagan Structures

Devised by Spencer Kagan this is an all-encompassing series of techniques with the aim of making group work productive, stimulating and above all, inclusive. Many schools have at least looked at this and had trainers in and invested in building the expertise. It is complex and involved and well worth having a look at. Some of the Americanisms of the scheme can be a little hard to take this side of the Atlantic. To have some of the techniques in your repertoire can be very useful and I have observed trainees using them selectively and effectively on placement. There is a lot of material including You Tube clips available. http://www.kagan-uk.co.uk/

Dispositional methods

There are other ways of looking at the issues and I call these the dispositional methodologies. This is where the view has come from the idea of boosting and emphasising the worth of the habits of mind that will enable learners to get the most out of their experiences in school.
These ideas are important because they emphasize the worth of what the learners already have as part of their make-up as individuals and that they can bring to school. Main in the field is Guy Claxton, he say that learning dispositions are like mental muscles and need to be regularly and effectively exercised.

**Habits of Mind**

Devised by Bena Kallic and Art Costa ‘Habits of Mind’ moves away from ‘thinking tools’ to something more substantial, the development of attitudes and attributes of the learner. [http://www.habitsofmind.co.uk/](http://www.habitsofmind.co.uk/)

**Building Learning Power and the ELLI project**

BLP is the brain child of Guy Claxton and the result of a great deal of research at Bristol University. The book ‘Building Learning Power in Action’, co-written Sarah Gornell and Meryl Chambers provides the map that a school needs if it is to bring this way of looking at the curriculum in across the whole school.

A series of case studies on Learning Power have been published in ‘Learning Power in Action’ edited by Ruth Deakin Crick. The contributions to this book show the success of the Learning Power model across the phases. [http://www.buildinglearningpower.co.uk/](http://www.buildinglearningpower.co.uk/)

**Summary**

Many of the techniques that have been discussed on the last few pages are whole school approaches to learning and teaching and therefore need financial and intellectual investment and the influence of a prime mover from the leadership team to succeed. In some of your schools you will see the evidence of whole-schools initiatives like these.
By looking at these methods from a trainee’s perspective you will also see tactical elements that you can use and begin to assess how the different methods work for you. Some need very little in the way of resources, they just need a cast of mind, a point of departure, an interesting target—others are more involved and can perhaps wait until next year!

To add to the tactical methods it would be useful to look at graphic organisers and free ones can be found here:

http://freeology.com/graphicorgs/ and here http://www.teachervision.fen.com/graphic-organizers/printable/6293.html. These are very useful to help plan writing, and not just in English, but wherever there is a writing component to a lesson—I also think that they are good as thinking and organising tools to be discussed between learners. Concept maps and Venn diagrams can also be very useful.
# Appendix 1 – Creative Learning and Teaching

<table>
<thead>
<tr>
<th>Competence based curriculum</th>
<th>Opening Minds</th>
<th>Key References and Sources</th>
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<tbody>
<tr>
<td>Competence based curriculum</td>
<td><strong>Disposition</strong></td>
<td><strong>Habits Of Mind</strong> Art Costa and Bena Kallick <a href="http://www.habitsofmind.co.uk/">http://www.habitsofmind.co.uk/</a></td>
</tr>
<tr>
<td>Community Of Enquiry</td>
<td><strong>Mantle of the Expert (MOE)</strong> Dorothy Heathcote, Brian Edmiston and others <a href="http://www.mantleoftheexpert.com/">http://www.mantleoftheexpert.com/</a></td>
<td></td>
</tr>
<tr>
<td>Thinking Tools</td>
<td><strong>The TASC wheel (Thinking Actively in Social Contexts)</strong> Devised by Belle Wallace There is a TASC Wheel presentation by Claire Seeley, it is a downloadable ppt - PowerPoint</td>
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<tr>
<td>Thinking Tools</td>
<td><strong>Thinking Hats</strong> Edward De Bono Foundation <a href="http://debonoforschools.com/asp/six_hats.asp">http://debonoforschools.com/asp/six_hats.asp</a></td>
<td></td>
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<tr>
<td>Thinking Tools</td>
<td><strong>Cognitive Research Trust (CoRT1,2,3,4,5 &amp; 6)</strong> Edward De Bono Foundation <a href="http://www.debonofoundation.co.uk/whycort.html">http://www.debonofoundation.co.uk/whycort.html</a></td>
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<tr>
<td>Thinking Tools</td>
<td><strong>Thinking Maps</strong> David Hyerle and Chris Yeager, <a href="http://www.thinkingmaps.com/">http://www.thinkingmaps.com/</a></td>
<td></td>
</tr>
<tr>
<td>Thinking Tools</td>
<td><strong>Mind Maps</strong> Tony Buzan <a href="http://www.thinkbuzan.com/uk/and">http://www.thinkbuzan.com/uk/and</a> many readily available books</td>
<td></td>
</tr>
<tr>
<td>Other sources</td>
<td><strong>Jig Saw Cooperative Classroom</strong> Elliot Aronson <a href="http://www.jigsaw.org/">http://www.jigsaw.org/</a></td>
<td></td>
</tr>
<tr>
<td>Other sources</td>
<td><strong>The Thinking Classroom</strong> Mike Fleetham <a href="http://www.thinkingclassroom.co.uk/">http://www.thinkingclassroom.co.uk/</a></td>
<td></td>
</tr>
<tr>
<td>Other sources</td>
<td><strong>Socratic Dialogue</strong> Various sources <a href="http://www.criticalthinking.org/">http://www.criticalthinking.org/</a></td>
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## Appendix 2

### Evidencing creativity in your planning and teaching

#### Standards for Teachers

| 1 | Set high expectations which inspire, motivate and challenge pupils | Establish a safe and stimulating environment for pupils, rooted in mutual respect  
Set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions  
Demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils |
|---|---|---|
| 2 | Promote good progress and outcomes by pupils | Be accountable for pupils’ attainment, progress and outcomes  
Be aware of pupils’ capabilities and prior knowledge and plan to teach building on these  
guide pupils to reflect on the progress they have made and their emerging needs  
demonstrate knowledge and understanding of how pupils learn and how this impacts on teaching  
Encourage pupils to take a responsible and conscientious attitude to their own work and study. |
| 3 | Demonstrate good subject and curriculum knowledge | Have a secure knowledge of the relevant subject(s) and curriculum areas, foster and maintain pupils’ interest in the subject, and address misunderstandings  
Demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship  
Demonstrate an understanding of and take responsibility for promoting high standards of literacy, articulacy and the correct use of standard English, whatever the teacher's specialist subject  
If teaching early reading, demonstrate a clear understanding of systematic synthetic phonics  
If teaching early mathematics, demonstrate a clear understanding of appropriate teaching strategies. |
| 4 | Plan and teach well-structured lessons | Impart knowledge and develop understanding through effective use of lesson time  
Promote a love of learning and children’s intellectual curiosity  
Set homework and plan other out-of-class activities to consolidate and extend the knowledge and understanding pupils have acquired  
Reflect systematically on the effectiveness of lessons and approaches to teaching  
Contribute to the design and provision of an engaging curriculum within the relevant subject area(s). |
| 5 | Adapt teaching to respond to the strengths and needs of all pupils | Know when and how to differentiate appropriately, using approaches which enable pupils to be taught effectively  
Have a secure understanding of how a range of factors can inhibit pupils’ ability to learn, and how best to overcome these  
Demonstrate an awareness of the physical, social and intellectual development of children, and know how to adapt teaching to support pupils’ education at different stages of development  
Have a clear understanding of the needs of all pupils, including those with special educational needs; those of high ability; those with English as an additional language; those with disabilities; and be able to use and evaluate distinctive teaching approaches to engage and support them. |
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<th>6 Make accurate and productive use of assessment</th>
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<tr>
<td>Know and understand how to assess the relevant subject and curriculum areas, including statutory assessment requirements</td>
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<tr>
<td>Make use of formative and summative assessment to secure pupils’ progress</td>
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<tr>
<td>Use relevant data to monitor progress, set targets, and plan subsequent lessons</td>
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<td>Give pupils regular feedback, both orally and through accurate marking, and encourage pupils to respond to the feedback.</td>
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<th>7 Manage behaviour effectively to ensure a good and safe learning environment</th>
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<tr>
<td>Have clear rules and routines for behaviour in classrooms, and take responsibility for promoting good and courteous behaviour both in classrooms and around the school, in accordance with the school’s behaviour policy</td>
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<tr>
<td>Have high expectations of behaviour, and establish a framework for discipline with a range of strategies, using praise, sanctions and rewards consistently and fairly</td>
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<tr>
<td>Manage classes effectively, using approaches which are appropriate to pupils’ needs in order to involve and motivate them</td>
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<td>Maintain good relationships with pupils, exercise appropriate authority, and act decisively when necessary.</td>
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<th>8 Fulfil wider professional responsibilities</th>
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<tr>
<td>Make a positive contribution to the wider life and ethos of the school</td>
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<tr>
<td>Develop effective professional relationships with colleagues, knowing how and when to draw on advice and specialist support</td>
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<tr>
<td>Deploy support staff effectively</td>
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<tr>
<td>Take responsibility for improving teaching through appropriate professional development, responding to advice and feedback from colleagues</td>
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<tr>
<td>Communicate effectively with parents with regard to pupils’ achievements and well-being.</td>
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Appendix 3

**Selected Reading List**


Steve Padget (Editor) 2012, Creativity and Critical Thinking, Routledge, Oxford.


The Campaign for Learning is a pressure group and research body dedicated to the furtherance of creative methodologies in school through supporting whole school initiatives and providing in-service training.

This body seeks to demonstrate how creative learning and teaching methods can deliver outstanding lessons.


See the compendium on page 10 for links to the major creative learning sites. Commendable for their practicality and their immediacy are Mike Fleetham’s Thinking Classroom and Jason Buckley’s Philosophy Man site.
Robert Fisher has researched and written widely on all aspects of creative learning and two of the most coherent and comprehensive (and readable!!) documents on the subject can be found at:

Tools for Thinking

Thinking to Learn

Both of these are well worth downloading. Tools for Thinking links creativity and critical thinking with information processing in the context of pupils’ learning.