Creative Teaching and Learning

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Creative Teaching and Learning is for everyone interested in creativity, creative problem solving and innovative teaching and learning. It is especially for teachers who want their students to become efficient learners, skilled in creative thinking and problem solving.

Creativity in teaching and learning

The capacity to be creative is intensely human. It is essential for survival. It is, therefore, all the more surprising that creativity is generally neglected in mainstream education. This is not the case in business and industry. Large organizations, especially multinational corporations, are spending a lot of money to ensure that their top executives become skilled in creative problem solving. They have found such skills help them stay ahead of the field, invent new products and save money.

But schooling is about more than preparing people for work. There are even more fundamental reasons for putting creativity on the educational agenda. These reasons have to do with how we learn, think and solve problems – presumably this is what we want children to be able to do.

Hopefully we do, because there has never before been a time when such skills were so in demand. If children and young people are to keep pace with the accelerating rate of technological and social change, then they will all need creative skills-skills which are as basic as reading, writing and adding up.

Teachers play an important role in improving children's capacity to be creative and they can offer valuable insights on teaching and learning, yet their views have rarely been sought. Previously there have been very few comprehensive accounts of teachers' views on creativity. An exception is a Swedigh investigation by Bjerstedt (1976). Nor do there appear to have been any previous major investigations which have focused concurrently on teachers' views about creativity and their preferred ways of teaching.

This is how a head teacher replied:

Creativity is to do with being imaginative and developing ideas that are not totally second-hand. I see it more intellectually, not necessarily doing or making something, maybe because I'm useless at that ... it's to do with being able to look at a situation or what someone else has said and work on it and take it on.

A primary head teacher commented 'It's extremely hard to define. The people I think are truly creative are those who find uncommon options or solutions or ways of doing

things..... people who come up with a very simple solution to something that's foxed everyone for ages'.

In technology, a pupil who can pick a problem and find a solution is more useful than someone who can simply pass a physics exam. I've come from industry. I think that's what we want-people who can actually see their way round a problem and come up with solutions. The people who get the credit are the money makers and the manipulators. Those who are coming up with decent solutions to society's problems are not making any money. We need to do an awful lot more to recognize creativity and give it some credence. Seeing a problem and finding an answer, that's creativity.

If children don't have any original ideas, I think they're just role-playing. There are plenty of intelligent people around, learning facts and with good memories, but in both science and the arts you've got to be creative. In science, design, architecture and in the classroom, you've got to be original. I think creativity is very important.

Individual Quality of Life

The structure of work is changing. The amount of paid employment available seems to be diminishing, despite the fact that there is no shortage of work to be done. Young people with a creative approach to living will be in a better position to take advantage of opportunities and create their own employment. The ability to be creative in an artistic sense can also be a source of personal satisfaction, as a primary headmaster remarked, 'The system of education in secondary higher education demands the abandonment of artistic subjects for the majority of pupils. Options are often made with a view to preparing for a job. Art and craft need to be encouraged for all pupils as a means of self-satisfaction.

Warnock (1976,p. 203) has argued that 'it is the main purpose of education to give people the opportunity of not ever being...bored'. Yet at present in the UK, there is evidence that many children do find school boring. For example, Barber (1994,p.2) has found that 70 percent of British high school students 'count the minutes to the end of their lessons'. He also reports that 'Thirty per cent believe that work is boring and 30-40 per cent ... would rather not go to school'.

One way of overcoming school boredom is to give students the opportunity of employing creative and innovative skills on real-life problems. Such learning is likely to be exciting and challenging. Students who enjoy learning are more inclined to be effective learners, so teaching also becomes more rewarding. A high school chemistry teacher recounted how he captures the imagination of his students, some of who are quite switched off by other lessons:

I find some of the really difficult children, who might otherwise be away, It's noisy and their notebooks are not wonderfully kept, but in terms of enjoyment and participation

it's good. I don't think you can be creative unless you involve yourself and are enjoying yourself.

Artistic creativity also has a therapeutic value, something which is appreciated by art and design lecturer working with young people of low self-esteem. Many of her students arrive in her class with such a low opinion of themselves that, at first, they find it really difficult to cope with being praised. One student felt so inadequate that he regularly took sanctuary under the table.

Social and Global Issues

Most social structures, including political systems, have evolved slowly over the centuries, but many of them are no longer appropriate to the modern world. People will need to be both flexible and resourceful if they are to adjust to the 'rapid multidimensional transformation of social, political, economic, demographic and cultural aspects of life' and increasing globalization (Ayman, 1993). At the 1993 President's Convocation of the Creative Education Foundation, USA, Dr Iraj Ayman stressed the key role that education has to play in enabling young people to deal with this transformation effectively and in ethically sound ways.

Those responsible for future policy will need to be skilled in making difficult decisions both wisely and quickly. This may seem far removed from the everyday life of the classroom, but people who can make such decisions may soon be in short supply, unless we educate for the future now.

Of course, not everyone will be called upon to make far-reaching decisions, but we all need to be able to make socially responsible choices. As our lives become more complex, we need to be increasingly skilled in recognizing and weighing up alternative courses of action. It is skills like these which training in creative problem solving is designed to foster. Such training can have another valuable social function, which is to help us see things from differing perspectives. The ability to appreciate after people's points of view is especially valuable in times of social upheaval. Even more crucial is young people's ability to think for themselves, to avoid falling prey to external forms of control (Ayman, 1993).

At the same convocation, the astronaut Dr Edgar Mitchell, famous for his moon-walk, voiced his concern about the accelerating rate of change on a global scale The explosion of new knowledge is now so great that most of the things that young children are currently learning will be obsolete by the time they grow up. We have never been in this situation before.

Mitchell is really concerned that, because of the exponential way in which major global changes are occurring, it is possible to be entirely oblivious of what is happening to the planet, until it is virtually too late to do anything about it.

Training in creative problem solving can enable people to be skilled in finding the best solution quickly in these kinds of situations (see for instance Parnes, 1992). Most school curricula comprise received knowledge from the past but offer woefully inadequate preparation for the future (Guilford, 1997; De Bono, 1993).

To cope with the demands of the future, people will have to be quick-thinking, flexible and imaginative. They will need to be competent in producing effective solutions to unfamiliar problems in unclear situations. If creativity development were to have the same status in education as it does in the corporate setting, the children would be in a much better position to cope with these kinds of challenges.

Creativity is being original, being able to take an idea forward and develop it in your own way. (Primary teacher)

For most people creativity is a subconscious process.

(Lecturer in construction)

Creativity is what one person produces and is interested in. Anyone can be creative, but not everyone is. (Lecturer in electronics)

Views of a few teachers

I see creativity as ideas basically. These can be translated into various areas. Creativity involves first of all thinking, imagining. If you can get a child to think or imagine, whether it's art, craft, music or poetry. Get children to think for themselves. That's one of our biggest aims. Creativity is not something that can be superimposed.

Creativity seems to have been largely applied to products, but the creative manipulation of ideas is of great significance – advertising, religion, personal relationships, even teaching.

With the arts at least, creativity is so wide and spread out that giving it a definition is in fact giving false restrictions to something that should have no restriction at all.

Creativity is the ability to look at things in a different way, to find satisfaction in making or creating something and persevering with it until the end-product. It involves hard work. It's not airy-fairy.

I don't know if I can define it. It's something about breaking ground. I don't think it can be defined absolutely because what is creative for one person might be run-of-the-mill for another. It's something to do with enlightenment and making connections obvious and non-obvious. It's about discovery. I don't think there needs to be an end-product. Creativity doesn't often get tapped by the teacher.

It's putting an idea forward. Often the first idea that comes to mind is a cliche. You have to keep pushing beyond that and being disciplined. It's only by experimenting and doodling and making trial runs that other things become apparent. At the starting point you can't realize what the final objective is going to be. It's a series of investigative steps,

comparisons and happy accidents. Creativity is about self-awareness. You can't rely on others to tell you what's wrong or right. You can to begin with, but eventually it's got to be your own decision. I think it's a very personal thing, creativity. You have an awareness yourself. People will express it in different ways from others. Perhaps to the lay-person it's not always recognizable.

These response raise a few more issues such as: How original does something have to be to count as creative? How helpful are notions like 'the subconscious' in describing the creative process? Does there have to be a tangible end-product or does an idea count as creative? Who can decide what counts? What kinds of environments are most conducive to the development of creativity? These are the kinds of issues we shall address.

Creativity has a reputation for being a notoriously difficult concept to pin down, even though it is no more difficult to get to grips with than other concepts we find easier to accept such as love, learning or education (Holloway, 1978). Holloway describes such concepts as fuzzy, because not all of their distinguishing features are evident in every instance, as in Chinese writing. In the case of creativity, it is possible to focus on either the person creating, the created product or idea, the process of being creative or the environment in which this occurs or indeed any combination of these, as illustrated by the following examples:

Process

Creative activity appears simply to be a special class of problem solving activity characterized by novelty.

Product

Creativity is the occurrence of a composition which is both new and valuable.

Person

Creativity is the disposition to make and to recognize valuable innovations. Creativity is the ability to see (or be aware) and to respond.

Environment

The reciprocal relationship between culture and creativity is such that a creative product is not really an invention unless it is socially accepted. The creative product has to operate within the culture; it has to work. If it does not work, it is a failure as an invention.

It would be artificial to envisage any of the four categories (person, product, process or environment) as independent of the rest. They all interact something which is better reflected in the following more comprehensive definitions:

The creative process... is the emergence in action of a novel relational product, growing out of the uniqueness of the individual on the one hand, and the materials, events, people, or circumstances of his life on the other.

Creativity is a process that results in novelty which is accepted as useful, tenable, ore satisfying by a significant group of others at some point in time.

One of the strengths of Stein's definition is that it allows for a sociocultural dimension a dynamic relationship between individuals and their environment. Stein also points out that, although education normally emphasizes the cognitive, motivational and emotional factors are just as relevant. For a complete understanding of creativity, it is necessary to take account of them all (Tein, 1994).

Table 1.1 shows those aspects of creativity with which the teachers as a group most identify. From this it can be seen that the most popular way of envisaging creativity is in terms of imagination, with originality coming a close second:

I see creativity as the ability to imagine and put imagination into effect

I think it's about producing something highly personal. You might want ot use other's ideas, but what you produce at the end of the day is your individual product. It's also being given the space, the opportunity, to be original in a mental sense. (FE Social Care lecturer)

Alex Osborn, founder of the Creative Education Foundation, regards the ability to imagine as central to the concept of creativity (Osborn, 1993). However, in the literature as a whole, it is divergent thinking i.e. generating a range of ideas, which is most emphasized (Hocevar, 1981).

According to Guilford (1977) and Parnes (1992), creativity also involves convergence, as when homing in on an appropriate solution. Yet only 10 per cent of the teachers see this as integral to the creative process. Their response is not really surprising since popular notions of creativity stress idea generation more than the selection of a suitable solution.

Table 1.1 Perceptions of creativity among Project 1000 teachers (N = 1028)

Aspect	%
Imagination	88.7
Original ideas	80.1
Self-expression	73.7
Discovery	65.4
Seeing connections	65.4
Invention	61.4
Innovation	59.3
Divergent thinking	53.8
Thinking processes	51.9
Awareness of beauty	49.7
Combining ideas	49.5
Inspiration	46.6
Aesthetic products	33.6
Valuable ideas	32.8
Unconscious activities	18.1
Convergent thinking	10.2
Mysterious processes	9.8
Tangible products	9.5
Other aspects	5.0

Source Fryer, 1989.

Modern and Traditional Perceptions of Creativity

The teachers involved have a modern view of creativity insofar as hardly any of them see it as mysterious or involving notions of an unconscious. Yet, nearly half of them

think inspiration is involved. The notion of inspiration can be traced back to the Ancient World (Weisberg, 1993; see also Chapter 4).

What is really surprising is that 70 per cent of the teachers believe creativity is a rare gift. This contrasts quite sharply with the American view. In the United States creativity has been perceived as amenable to development in most individuals since the Second World War (Razik, 1967). But apart from its association with the arts, creative education in Britain tends to be most commonly associated with giftedness. The term gift seems to imply some kind of finite innate ability, a view which is difficult to defend psychologically. Nor is it especially accurate, since many advocates of gifted programmes, such as Treffinger, see these as useful for all pupils. Substitution of the term excellence, as recommended by Stein (1994), would counter an awful lot of faulty perception, confusion and misguided elitism.

Opinions differ about what level of achievement may legitimately be regarded as creative. One source of confusion is that the terms creative and creativity have been used freely far too freely in Stein's view. He points out that they have been used for 'paradigmatic shifts (Kuhn, 1970), big and little inventions, "new and improved" products, creative cookery...and for creative financing (usually for "Questionable" deals)' such as great works of art, can be legitimately called creative (see for instance Ausubel, 1978). It is, therefore, hardly surprising that those who hold this view regard creativity as something which only geniuses have. Others maintain that we all have the capacity to be creative, but in varying amounts (see for instance Weisberg, 1993).

The head of an inner London comprehensive high school explaned why she sees creativity as rare:

Often a lot of what you read is a re-hash of what someone else has written. I'm a historian and (most people are) par of a system...and then you're a cog in a wheel, processing received information. When I said it was rare, I meant very few people seem to have the ability and opportunity to get out of that and stand back and stop and can really say, 'That was me; that was original'....may be it's the opportunity that's rare, rather than the ability.

One of this head teacher's highest priorities is to help her students realize that opportunities do exist. She and her staff achieve this partly by helping to raise the pupils' self-esteem, but also by heightening their awareness of opportunities which they previously did not consider as within their grasp. She has also taken practical steps to improve their learning environment.

Explanations of Creativity and the Learning Process

Although imagination is the aspect of creativity with which most teachers identify, many staff have also described creativity as a thinking or problem solving activity.

The literature has also described creativity either in terms of problem solving or imagination.

It is worth mentioning here that creative problem solving is widely regarded as most applicable to puzzling, unclear situations or for venturing into uncharted territory. What is not generally mentioned in the creativity literature is that problem solving is far more pervasive in both thinking and learning than is generally acknowledged. In learning, it tends to comprise what is generally referred to as active learning and in thinking, it may be referred to as reasoning. So, we can think of problem solving as linking learning and thinking (see for instance Holloway, 1978). Another connection between learning and thinking is imagination, which in turn is closely associated with creativity. (Fryer, 1989; 1994; building on the work of Johnson Laird, 1987).

We can also regard memory and perception as link pins between learning and thinking. This is beginning to sound like an argument for abandoning terms like learning and thinking in favour of the more accurate descriptor, cognition-in other words, reversing the traditional practice of artificially breaking down complex concepts like cognition and creativity into various categories in an attempt to understand them better. such a strategy has been both helpful and counter productive. However, it is worth bearing in mind that such categorization is merely a device. In these and other fields, old atomistic approaches are now giving way to more holistic ones, in which the dynamic and complex nature of concepts like creativity and cognition is being recognized.

Summary

The capacity to be creative is closely bound up with what it means to be human. It affects personal well being and quality of life it affects how we cope with the quickening pace of social, economic and technological change. Creative skills are in demand as never before. Major organizations who invest in creativity development are finding that it makes a significant difference to their efficiency, effectiveness and hence their success. Paradoxically, such training is largely neglected in mainstream education. Yet there are fundamental reasons why creativity should be on the educational agenda. These reasons have to do with how we learn, think and solve problems.

Teachers can offer valuable insight into teaching and learning. They have a major contribution to make to the development of creative skills, but their views have not been sought as much as might be expected. Those staff who regard the development of creativity as important do so because they realize that ultimately children will have to think for themselves.

Creativity is often regarded as a difficult concept to handle, but really it is no more difficult than concepts like work and play, education even, which we normally find much more acceptable. A common way of making creativity a more manageable concept to deal with is to focus on the creative process, person, product or idea, the environment or any combination of these.

The investigation described in this book offers clear evidence that male and female teachers perceive creativity in quite different terms, with female staff envisaging it in much more personal terms than the male staff.