THINKING ABOUT CRITICAL AND CREATIVE THINKING

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INTRODUCTION

In Singapore, the future of schools in which critical and creative thinking is taught and encouraged is encapsulated in the slogan of Prime Minister Goh Chok Tong, ‘Thinking Schools, Learning Nation’ (Goh, 1997). ‘Thinking Schools’ characterises a situation in schools in which pupils are taught, and encouraged to develop, skills and habits associated with learning, communicating and creative thinking. ‘Learning Nation’ refers to the aim to foster the knowledge, skills and attitudes needed for continual learning, both in and outside school, and during and after formal education.

It could be said that the espousal of ‘critical and creative thinking’ as an educational goal is an expression of dissatisfaction with, as well as an attempt to correct, what is seen as an undesirable situation in Singapore schools. This situation is usually described as one in which pupils are often subjected to rote learning and ‘drilling’, after which they ‘regurgitate’ what they have learnt in tests and examinations. While this approach may help pupils attain good grades, the question arises as to whether they have understood in any real sense what they have been taught, or are able to think critically about, and work creatively in, their academic disciplines.

In the last decade, there has been a concern in Singapore with teaching critical and creative thinking. This concern is manifested in the interest shown in the use of such programmes as Edward de Bono’s CoRT and Robert Marzano’s Dimensions of Learning, or the adaptation of these for use in schools. The object of such programmes is usually the teaching of general thinking skills.

When he attended the 7th International Conference on Thinking held in Singapore this year, Professor Richard Pring of Oxford University presented a keynote address on the subject of ‘A Learning Society: A Cautionary Note’ (Pring, 1997). In it, he examined what it could mean to foster thinking in general, and critical and creative thinking in particular. He also subjected to philosophical scrutiny some of the concepts and ideas implicit in the notions of ‘thinking schools’ and ‘learning nation’. His analysis could help teachers clarify what they could, and should, hope to achieve with regard to critical and creative thinking. This article examines Pring’s ideas and discusses implications for local teachers.

OVERVIEW OF CRITICAL AND CREATIVE THINKING

When critical thinking is used in an educational context it usually refers to the ability of the individual, not simply to understand what has been taught, but also to reflect on and analyse the information so as to arrive at an evaluation of it.

The notion of creative thinking is more problematic. Nickerson, Perkins and Smith point out, for instance, that there are many definitions of creativity (Nickerson et al, 1985). Some people define it as the ability
to invent original and appropriate products. Some say that creative products should display unity, intensity, and complexity. Others use the criteria of abstractness, symbolic significance, transcendence of constraint and summary power. Whatever definition is used, Nickerson et al point out, creative products are generally competently produced and also reflect the added elements of insight and invention.

These authors also imply that the aim of teaching creativity is not or should not be to produce geniuses, such as Beethoven and Einstein, in an assembly line. This, it could be said, would be a unrealistic aim. The very idea of producing custom-made geniuses is probably self-contradictory anyway. A worthwhile goal, however, may be the enabling of children to achieve “moderate but useful improvements in creative work” (Nickerson et al, 1985; p. 100).

At the same time, it is pertinent to note that critical thinking and creative thinking are closely linked. Nickerson et al believe that the former may be necessary for the latter, although it is not sufficient for it. Their argument is that an individual often needs to be able to think critically - to go through the critical filtering out of inferior options - in the process of being creative.

There is insufficient research evidence to show that programmes teaching thinking achieve what they claim to. Indeed, different programmes are likely to succeed in varying degrees depending on the programmes, the teachers implementing them, and the type of pupils involved (Nickerson et al, 1985). However, Nickerson et al argue that, as long as there is the possibility of accomplishing something, it is more rational to make the attempt, than not to try at all.

AN ALTERNATIVE VIEW OF CRITICAL & CREATIVE THINKING

In his keynote address at the 7th International Thinking Conference held in Singapore in June 1997, Pring examined the issue of what it meant to teach general skills of thinking. He pointed out that there were general rules which need to be followed, and mistakes to be avoided, if reasoning was to be valid.

General rules and guidelines

These rules include not going beyond the evidence, avoiding inconsistency, not contradicting oneself, etc. Hence, it is possible to identify certain rules and guidelines which should be followed if individuals are to think clearly and argue logically. These can, and should, be taught to children.

Dispositions and virtues

However, equally important and often overlooked is the identification and cultivation of the dispositions or virtues that promote clarity of thought and logical argument. Pring suggested, among other things, that children need to be concerned about the truth, to be responsive to criticism, and eager to find contrary evidence. They also need to value constructive criticism. It is therefore not enough that children know what general rules and guidelines to follow, they need to care about thinking clearly and logically, and have the dispositions that support this.
Concepts and standards of an academic subject

Pring further noted that 'thinking' is a complex concept, and should be regarded as such. 'Academic subjects' are essentially 'maps' of public knowledge in a society. Each has its own logical structure and set of concepts, and these need to be acquired before they can be applied. At the same time, there has to be an internalisation of the standards of an academic subject, i.e. the framework by which understandings can be corrected, debated, criticised and refined. For example, children can only 'do literature' if they grasp certain concepts. They need, for instance, to know what symbols are and how these contribute to the developing theme or structure of a novel. If children are to think critically or creatively – indeed, if they are to think at all where literature is concerned - it is not sufficient merely to equip them with general rules and guidelines for thinking. They need the requisite knowledge about literature as well. In other words, they need to know, and correctly to apply, literary concepts in relation to other literary concepts.

In addition, if children are to understand and evaluate literary works, they need to have been initiated into certain standards. For instance, in order to be able to distinguish a finely written piece of work from a sentimental one, or to be able to compose a well written piece of work themselves, children need to have acquired a taste for good literature, and to have identified and understood in a deep sense the qualities that characterise good literature.

The exploration of important questions

Pring also indicated that there are important questions which children need to be introduced to, and to have thought about, such as those pertaining to how one should behave, or the ends which are worth pursuing. The humanities, in particular, allow individuals to explore such important questions.

A community of learners

Finally, Pring made the point that learning in general, and learning to think in particular, must take place in a community of learners. Such a community provides a forum for sharing and criticising ideas, in which different perspectives can be presented and explored. Quoting Lawrence Stenhouse, Pring pointed out that there is an educative quality in the sharing of experiences in a group (Stenhouse, 1967).

CONCLUSION

If children are to think critically and creatively certain conditions need to be met in order for them to do so. These conditions include teaching children the concepts of a subject, fostering the necessary dispositions, inspiring children to care about the standards of a subject, encouraging them to take up subjects in the arts and humanities, and fostering a community of learners. The adoption of these features in schools might well involve changes in the attitude and approach of principals and teachers to education and teaching in general.
IMPLICATIONS

If we accept Pring’s arguments, then there are a number of implications for local teachers to bear in mind.

1. **Teach pupils about the forms of argument**, about basic rules such as not contradicting oneself, not going beyond evidence, and so on. The aim of education should be to lead children to a stage where they can evaluate for themselves views or propositions pertaining to the academic subject.

2. **Avoid teaching practices which involve a high degree of drilling** (e.g. getting children to do many mathematical problems of the same time type). Such practices often aim at training children to recognise the form of the question, to which a standard approach is prescribed, rather than helping them achieve real understanding of concepts and standards. Hence these practices create conditions that are inimical to thinking – critical, creative or otherwise.

3. **Place greater emphasis on helping children grasp the concepts associated with an academic subject, and also the standards according to which ideas or theories of that subject may be evaluated.** Invest greater effort in identifying what these are for the respective subjects, and make a deliberate attempt to ensure that children acquire these.

4. **Initiate children into academic subjects with the aim of leaving them full participants in the learning process.** Hence, it is necessary to teach in such a way that children not only know about the concepts and standards of an academic subject, they care about these standards as well. In this, the teacher’s passion for a subject, and concern for the standards which underlie it, are crucial as models for pupils to emulate; these could also be a source of inspiration for them.

5. **Encourage children to reach their own conclusions.** The caveat is that conclusions should be derived according to the procedures of an academic subject, and conform to its standards. Teachers should therefore help and encourage children to reflect on, and struggle with, their ideas. An important aspect of this is that teachers need to be open to the possibility that their pupils may arrive at views which are unpopular, or which are different from their own. Where applicable, teachers should acknowledge such views as being legitimate.
6. **Encourage all pupils to seriously take up the humanities**, not simply as another examination subject, but one in which they can explore the important questions in life. In this regard, the practice of discouraging children from taking subjects in the humanities and arts because these are difficult to score high marks in, with a view to improving a school’s ranking in the league tables, is short sighted.

7. **Provide opportunities for children to share ideas and discuss these in groups.** In this context, teachers need to be prepared for their role as facilitators in managing these groups so that the discussion in such communities would achieve their intended goal.

8. **Maintain a good grasp of the discourse and standards of academic subjects in order to know how to correct children when they make procedural mistakes.** At the same time, move away from the view that the teacher’s role is to provide pupils with determinate answers, to one which aims to leave pupils fully fledged participants in the learning process.

9. **Act as role models for pupils.** Be concerned about the truth, responsive to criticism, eager to find contrary evidence, etc. Emphasise the importance of these qualities, and reward children by giving them credit when they display them.

**SOURCES**


