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Teaching Creativity in Singapore Schools: What Needs To Be Done?\footnote{This paper consolidates two earlier papers (Soh, 1997a and 1997b).}

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Creativity: What Is It?

Creativity is a magic word for which all great minds do not always think alike and dictionary definitions are not very useful either. It may help to look at some words usually associated with creativity and thereafter develop personal, implicit definitions. Here are some of them:

- Originality, Expressiveness, Imagination, Innovation,
- Inventiveness, Productivity, Formativeness, Craftsmanship,
- Novelty, Generative, Ground-breaking...

Creativity research has been concerned with four essential concerns, namely, the creative product, creative process, creative person, and creative press. These have implications for educational policy and practices. To prepare for the questions will be raised later, a cursory look at the characteristics of the four P's is in order.

Creative products can be found in many different human endeavours. Gardner (1993) propounds the theory of multiple intelligences. This has de-mystified the oligarchy of the conventional concept of general intelligence which has monopolised the educational scene for more than half a century. This has also conferred the status long over-due to abilities other than those related to the learning language and mathematics, such as musical, spatial, kinaesthetic, interpersonal, and intrapersonal abilities. The exercise of these abilities have throughout the history enhanced and enriched human’s living, making it more personally and socially exciting and meaningful.

Notwithstanding the diversity in creativity, two characteristics commonly used as the criteria for judging their worthiness are novelty and appropriate (e.g., Sternbert and Lubart\footnote{1}, 1995). These two characteristics have been aptly put together earlier by Bruner (1962) as effective surprise. In other words, creativity researchers have agreed that for a product to be considered as being creative, it must be new, unheard of, unique and, at the same time, serve some useful purposes or fit the context in which it has been created. While uniqueness is easy to detect and confirm, appropriateness is more difficulty as the histories of the sciences and the arts show.

Creative person is obviously necessary for creative products to come into being. While the heritability of creativity, like that of intelligence, is a living controversy, there is no dearth of lists identifying personal qualities of creative people. A early example of such lists is that of Gough (1979) based on self-descriptions 1701 creative persons. They see themselves as being capable, clever, confident, egoistical, humorous, individualistic, informal, insightful, intelligent, interests wide, inventive, original, reflective, resourceful, sexy, snobbish, unconventional

Obviously, some of such personal qualities of creative persons are highly valued by the society while will invite displeasure. As early as 30 years ago, Wallach and Kogan (1965) reported that teachers do not like creative students even if they are intelligent, probably because creative students ask unexpected questions and thus embarrass their less creative teachers. Such students are likely to be seen as irrelevant or even insurgent. Creative students are seen by their creative peers as trying to be too smart. The outcome? They are disliked.

1. capacity, cleverness, confidence, dogmatic, egoistical, humorous, individualistic, informal, insightful, intelligent, interests wide, inventive, original, reflective, resourceful, sexy, snobbish, unconventional

2. This paper consolidates two earlier papers (Soh, 1997a and 1997b).
Creative process is the harbinger of creative products. It involves exploration, alteration, combination, modification, substitution, re-arrangement, etc. It is through such creative process that the creative person moves away from the status quo to the unknown, unfamiliar, and uncharted. Breaking ground breaks rules; being creative is by definition being deviant, although not all deviations are creative in that they may be surprising but not effective. Understanding and tolerance is needed to promote creativity.

Although it has recently been recognised that both divergent and convergent thinking are necessary for solving problems effectively, problem-solving has been over-emphasised to the neglect of problem-finding. Yet, as the histories of sciences and the arts show, almost all significant creative outputs begin with problem-finding. This creates a tension in the creative persons and motives them to search for solutions which were not there before.

Another aspect of creativity is its serendipity. Accidental or unexpected discoveries are common, especially in the realms of scientific, technological, and medical discoveries (Rosenman, 1988). It is the prepared minds playfully exploring and "toying with the idea" that bring about significant discoveries and inventions. Such playfulness is, in the traditional sense, wasteful.

Creative press refers to the social milieu that encourages creative persons to involve in creative processes for creative products. As Aristotle says, "What a nation cultivates will flourish there." Creativity needs a conducive environment within and around the school to successfully develop. This has to do with value and motivation.

Creative persons need to feel psychologically safe while engaged in creative processes. When they find their creative ideas incompatible to the social norm, two options are open to them: give up the idea or leave the place. Steve Jobs and Steve Woznaik obviously chose the second when they left IBM to set up a cottage industry in a garage. Had they chosen the first option, we are unlikely to have the personal computer.

Risk-taking is a requisite of creativity since what is new may fail. The permission to make mistakes or be a minority of one is a crucial part of the psychological environment needed for creativity to flourish. We see the sensationalised news of new discoveries and inventions, obviously oblivious of the fact that numerous 'failures' precede the much publicised success.

That the East and the West are two different worlds is the evidence of how different values have channelled creative energy into different realms of human endeavours. The belief of the East that there should be harmony between Man and Nature and the belief of the West that Man should conquer Nature have led to obviously diverting paths. At a much lower level, the accumulation of pre-packaged knowledge has been over-emphasised so much so that such accumulation has become self-serving to the neglect of the real purpose of learning – preparing for creativity.

What Need Be Done?
To teach creativity in Singapore schools, we are immediately confronted by four questions arising from the above description of the creative person, process, product, and press. (See Figure attached)

1. Creative person we find 'disturbing'?
'Disturbing' creative person needs to be tolerated, understood, and accepted, and of course guided. This calls for a re-definition of our concept of classroom discipline and a revision of disciplinary practices. It calls for a scrutiny of the fundamental assumptions of student behaviour (creative or otherwise) and attitudes towards such students. There is also a need to learn to recognise creative students through daily observation and by using suitable measurement techniques.

2. Creative process we find 'disrupting'?
'Disrupting' creative process needs the generosity of time. Without time almost nothing can be done. This is especially true for creativity. By definition, creative ideas are statistically infrequent and will emerge only after the ordinary and mundane one have been exhausted. They come at the end of a long process of exploration.
Then, we need to teach or train the students to be disrupting – divergent thinking, remote association, bisociation, SCAMPER, brainstorming, brain-writing, asking What-if questions, answering Just-suppose questions, etc., etc. These creative processes demand much more time than the conventional close-ended teaching.

3. Creative product we find ‘disquieting’?
‘Disquieting’ creative product needs legitimisation. Criteria other than those conventionally applied are needed to evaluate the worth of creative ideas which may be unacceptable or ‘wrong’ in the usual sense. As a corollary, techniques of the evaluation of creative products are needed and teachers need be familiarised with these, since the conventional one-correct-answer questions cease to be relevant in the creativity context.

Related to this is the question of reporting students’ achievement. ‘Achievement’ here needs be re-defined to include not only the traditional learning outcome of accumulating pre-packaged knowledge but creative endeavours. The ultimate question is: one combined score or more separate ones for a particular subject learned.

4. Creative press we find disagreeing?
‘Disagreeing’ creative press requires a change in the social milieu of the school and beyond. Amabile (1988) found certain management styles facilitate while others inhibit creativity. The facilitating style is characterised by freedom and control over work, sufficient resources, encouragement of new ideas, recognition of creative work, working across divisions, sufficient time to think. To the extent that the prevalent style is not facilitating, change is needed.

A facilitating school ethos is a necessary but not sufficient condition for creativity to flourish in the classroom. The teacher needs open-mindedness and flexibility in their dealing with creative students. Some 20 years ago, Chambers (1973) found facilitating teachers to be more informal, receptive to unorthodox ideas. They allow students to choose topics to investigate and show enthusiasm for what they are doing. They also interact more with students outside classroom. To the extent that this teacher style is not practiced, change is needed.

The school curriculum is a vehicle of value. Teachers teach (and students are supposed to learn) what the formal curriculum prescribed. For creativity to develop, teachers need to teach, and teach well, the essentials, for these are the building blocks of creativity. Teaching the basic and essential (the must-know) also leaves room (time) for teaching creativity. Separating what is the must-know from what is the good-to-know is a task, not an easy one though, of the subject specialists.

More Questions

The above discussion on the implications of the four P’s of creativity for teaching creativity in Singapore schools cannot be but limited in scope, as there are more questions that can be raised and explored. These are practical questions relevant to programme goals, programme design, and evaluation.

For programme goals:
1. Which of the four P’s of creativity should be emphasised? And, at which point of time?
2. Should ipsative (personol) or normative (eminent) creativity be emphasised and expected? And, at which point of time?

For programme design:
1. Should content-free or content-bound creativity training programmes be mounted? And, if the later, in which subject areas or all?
2. What role does content knowledge/skill play and how much knowledge/skill is needed to serve as a launching pad for creativity?
3. Should creativity training be made available to all or only the selected ones? And, if the latter, how are they to be identified? At which stage, with what criteria and measurement?

For evaluation:
1. Should creativity assessment be closely linked to subject matter?
2. Should creativity assessment be part of the usual assessment? And, should it be counted for channelling and promotion purposes?
3. What is the place of creativity assessment within the usual reporting system? What modification needs be made to the current practices?

Conclusion

Because of the nature of creativity, there will be tension between the currently prevalent educational goals and practices and those needed for creativity to be taught effectively in Singapore schools. Specifically, to effectively promote creativity in the students, Singapore schools will have to make the necessary adjustment not to contend with but to accommodate ‘disturbing’ creative person, ‘disrupting’ creative process, ‘disquieting’ creative product, and ‘disagreeing’ press (environment). The teaching of creativity in Singapore schools will be successful to the extent that such tension is resolved.

It is readily appreciated that teaching creativity in Singapore schools is not a simple matter of adding another subject or importing a ready-made programme from overseas (read America) to the existing curriculum which is commonly believed to be already overloaded. It calls for a total change of the mini-set of all concerned with educating the younger generation of Singaporeans. These include people in and outside the education circle. Basically, this means revising the definition of education and making consequential changes in educational practices in Singapore schools.

References


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The Four P’s of Creativity and Their Implications