A framework for stocktaking

Creativity is not simply a matter of helping children get better at having as many ideas as possible in the shortest possible time. On the contrary it involves both the whole person and all aspects of personal development as well as all phases of the creative process. Teachers need guidelines that help them to review their own practices in order to evaluate how far their teaching is fostering development of children's creative thinking, learning and acting. The questions below provide such guidelines. They are organized according to the components model set out above and refer to classroom instruction at all levels. Their intention is to provide a framework for teachers to evaluate their own classroom practices. By asking themselves the questions, teachers can evaluate how far they have moved towards becoming 'creativity-fostering' teachers. In each case the answer that indicates creativity-fostering practice should be obvious from the material presented above. The section is based on the work of Urban (1996; see, too, Cropley and Urban, 2000).

Component 1: divergent thinking
- Is asking questions allowed and appreciated?
- Is the teacher open and sensitive to problems raised by students?
- Does the teacher try to make children aware of open questions, sensitive to their environment and willing to use all their senses?
- Are problems simply presented, or (to the maximum degree possible) discovered?
- Are pre-existing answers simply presented?
- Do time and organization allow more than one attempt at finding a solution?
- Are objects and topics considered from different aspects?
- Are phases or ways and/or goals/products kept open or shaped openly?
- Are students encouraged not always to be satisfied with the first correct solution?
- Is a 'deviant' method or solution – originality – expected and appreciated?
- In general, does anything happen (in school) that could be called 'divergent thinking', or is learning nothing more than regurgitation of accumulated knowledge that has been obtained from textbooks or teachers?

Component 2: general knowledge and thinking base
- Do learning tasks require and promote broad and differentiated perception or do they restrict focus?

- Does learning use different sensory channels and varying methods so that experiences and knowledge may be anchored and accessible in memory storage in various ways?
- Is the structure of learning objects/subjects analysed?
- Is there a focus on the learning process not simply on the result?
- Are solution methods questioned or optimized?
- Are 'why?' questions asked and answered so that cause–effect relations can be studied?
- Is there instruction on systematic analysing and synthesizing of problems, topics, facts, situations, etc?
- Are there challenges requiring both inductive and deductive reasoning?
- Is evaluation asked for and desired?
- Is the learning process made explicit and reflected upon with students so that metacognitive thinking is initiated and furthered?

Component 3: specific knowledge base and specific skills
- Is the development of special interests encouraged, for example by additive or extra-curricular provision, mentor systems, competitions, etc?
- Are individual interests brought into or built into schoolwork?
- Are there opportunities/possibilities for students to obtain experience via in-depth studies?
- Is both experts' and children's expertise appreciated?

Component 4: focusing and task commitment
- Is sustained occupation with a special activity allowed or supported (for example research work on a project carried on for the entire school year)?
- Do the timetable and school organization support such activities?
- Is task commitment rewarded?
- Is there an expectation that tasks have to be fulfilled and brought to an end?
- Are children supported in recognizing and avoiding distractions?
- What is the role of self-evaluation and external reward?

Component 5: motives and motivation
- Are children's questions accepted and expanded upon?
- Is the curiosity of the children stimulated and supported?
- Are there opportunities for self-directed learning and discovery learning in order to support and promote intrinsic motivation?
- Are individual interests appreciated and supported?
- Is unnecessary repetition avoided?
- Can children identify with their work?

Component 6: openness and tolerance of ambiguity
- Is school not only a place for traditional instruction, but a place of living, of fun, of (mental) adventure?
- Does instruction bring the real world into school? Does instruction reach out into reality?
- Is school a place for fantasy and imagination?
- Is school a place for eu-stress (good stress) and relaxation?
- Is there a place for laughter (not at the expense of others) and appreciation of humour?
- Is the teacher able to accept an open result for an instructional unit?
- Are there opportunities to explore and investigate objects in a playful and experimental way?
- Are errors allowed or are quick and correct results demanded?
- Is the individuality and uniqueness of each person appreciated or is conformist behaviour demanded?

It is hoped that by repeatedly asking themselves the questions above teachers will be able to evaluate their own teaching practice and modify it in order to become more supportive and facilitative of creativity. Appropriately modified, the guidelines for self-evaluation can be applied to all levels of education and even to management practices. Finally, they can also be applied by parents to their behaviour in raising their own children.

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Creativity in higher education

Creativity is not something for the family and school-level education alone, but is also an urgent need in post-school education. This chapter looks at the following questions:

1. Why is creativity important in higher education?
2. To what extent is higher education fostering creativity?
3. What factors in higher education inhibit creativity?
4. How can things be done differently?

The pressure for reform

Dealing with a changing world

Economic change
Globalization and competition have produced new challenges for business. One of the reactions is that many corporations have 'discovered' creativity. According to Munroe (1995) 70 per cent of the cost of a product is determined by its design, so that creative design can lead to substantial savings. As a result, creativity training for employees is becoming widespread (Clapham, 1997; Thakray, 1995). According to the 1995 US Industry Report, corporations are now budgeting billions of US dollars for creativity training programmes. Demand for training is said to be outstripping the supply of trainers (Hequet,

creativity
in education & learning

A chemist, working before Alexander Fleming, searching for an antibiotic, fails to recognize penicillin, even though its effects were literally all over his laboratory..

A school football team, encouraged to make unexpected plays, was top of its league within two seasons...

This fascinating book looks at creativity in the context of education, an issue of great importance to teachers, students and their parents. It considers and answers the following questions:

- What is creativity?
- How does it 'work'?
- Just how can it be fostered?

Creativity in human nature has been debated since Plato's Ion and remains an evergreen topic in education, crossing curricula in schools at primary and secondary levels, colleges and universities. Furthermore, in addition to the personal satisfaction and well-being that can be derived from creativity, creative individuals are fundamental to a successful economy and environment.

Authoritative and engaging, yet concise and accessible, Creativity is a book for many readers, packed with debate and wonderful examples. Avoiding a specialist and overly psychological approach, Professor Cropley argues that creativity is something for people at all levels and in many settings. In the book he shows how creativity is conceived in both children and adults, and goes on to develop general principles for encouraging creativity in schools, higher education and in the family. He also looks in detail at the roles of thinking, personality, motivation and social factors, and at the study of creativity.

Creativity is not something that can be offered up as a swiftly prepared convenience product. Instead, this book provides readers at all levels with the guidelines for fostering home-baked creativity, With its international and historical sweep, it will be powerful reading for many.
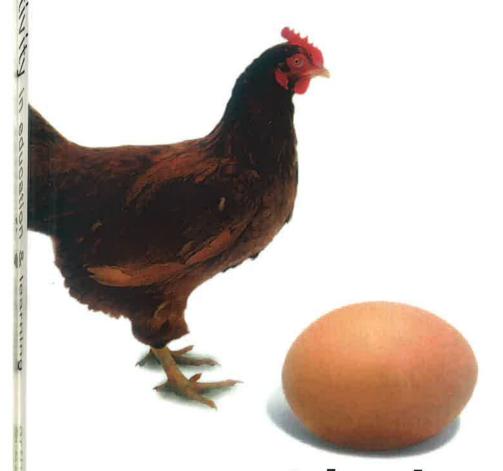
About the author

Arthur J Cropley is Emeritus Professor of Psychology at the University of Hamburg and is a well-known researcher and writer on creativity. An Australian national, he has spent much of his working life teaching and researching outside of Australia, notably in Canada and Germany. He is the author of 19 other books on creativity, lifelong learning and adaptation of immigrants. He was editor of the European Journal for High Ability between 1989 and 1996, and in 1997 he received the Creativity Award of the World Council for Gifted and Talented Children.

arthur j cropley

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