

## OUT OF OUR MINDS: LEARNING TO BE CREATIVE

By Ken Robinson  
Capstone Press, 2001

---

- Septic focus: the tendency to look at a problem in isolation from its context.
- Everyone has creative capacities, but they often do not know what they are.
- Creative capacities are the greatest resources available to an organization.
- Developing and exploiting creative capacities calls for a systemic strategy to generate a culture of innovation across the whole organization including, but not only, the creative departments.
- We are caught up in a social and economic revolution. This revolution is comparable to the Industrial Revolution of the 19<sup>th</sup> century and it has still hardly begun. To survive it we need a new conception of human resources. Current approaches to education and training are hampered by ideas of intelligence and creativity that have wasted untold talent and ability. To develop these resources we need radically new strategies. We won't survive the future simply by doing better what we have done in the past. Raising standards will accomplish nothing if they are the wrong standards.
- Creativity is not purely an individual performance. It arises out of our interactions with ideas and achievements of other people. It is a cultural process. Creativity prospers best under particular conditions, especially where there is a flow of ideas between people who have different sorts of expertise. It requires an atmosphere where risk-taking and experimentation are encouraged rather than stifled.
- All national systems of education are based on two underlying models. There is always an economic model and an intellectual model and there is assumed to be a relationship between the two. In western systems of education, and that now means much of the world, the underlying economic model is industrialism; and the intellectual model that supports it is academicism. The problem we now face is that this economic model is outmoded and the intellectual model is completely inadequate. All attempts to improve education by expanding it or by raising standards will fail if these two sets of assumptions are not completely reconstructed.
- Progress is rarely linear. And yet we are all taught to think in a linear way from the earliest days to the end of university education. This is why creative people often find themselves at odds with education and why many people who succeed in education find themselves in increasing difficulties.
- Employers are complaining that academic programs from schools to universities simply do not teach what people now need to know and be able to do. They want people who can think intuitively, who are imaginative and innovative, who can communicate well, work in teams and are flexible, adaptable and self-confident. The traditional academic curriculum is simply not designed to produce such people. The current assumption is that, by expanding education and raising standards all will be well.
- The dominant ideologies of education are now defeating their most urgent purpose: to develop people who can cope with and contribute to the breathless rate of change in the 21<sup>st</sup> century – people who are flexible, creative and have found their talents.
- Two important features of intelligence are propositional knowledge (facts) and logical analysis (principles underlying a sequence of ideas...logico-deductive reasoning). The problem we face is the extent to which these particular types of intellectual ability are now confused with intelligence as a whole: that is, the extent to which they are seen as intelligence rather than as aspects of it.

- Producing works of art often does not count as appropriate intellectual work in an arts department: yet the equivalent in a science department, doing physics or chemistry does. So why is it that in universities writing about novels is thought to be a higher intellectual calling than writing novels?
- The intellectual horizons of a society or of an historical period are not set simply by events or human desires. They are set by the basic ideas that people use to analyze and describe their lives. Theories develop in response to questions. For this reason, the most important characteristic of an intellectual age is the questions it asks and the problems it identifies. It is this rather than the answers it provides that reveals its underlying view of the world.
- The dominant systems of education planning and organization in the 20<sup>th</sup> century were molded by the economic assumptions of the industrial worldview. The values and priorities of education were shaped by attitudes to intelligence that have evolved within the dominant paradigms of scientific understanding. They have shaped our basic understanding of ourselves, of our own capabilities and of who we are.
- The septic focus is a specific example of a deeper assumption in the Western worldview, the idea of linearity. The rationalist moves through a logical sequence, building one idea on another like bricks in a wall. The empirical method similarly looks for patterns in events, suggesting movements from known causes to known effects. A great deal has happened in the theory and practice of science and philosophy to question these sequences. Chaos theory and complexity theory for example both try to grapple with the apparently chaotic relationships between events. But education continues to be planned on the assumptions of a linear progression from cause to effect.
- We ask how we can raise academic standards. The unasked questions are the most important of all. What are academic standards, and why do we have such faith in them to deliver the future? Like the medieval astronomer we continue to believe, despite all the evidence that the system is failing us and the people in it. We ask how to promote creativity and innovation but stifle the processes and conditions that are most likely to bring it about.
- Mere critical thinking without creative and intuitive insights, without the search for new patterns is sterile and doomed. Carl Sagan
- A good deal of what artists do is not creative at all in any strict sense. It involves a huge amount of practical routine, including refining the control of materials and techniques.
- Creativity can be as much a process of finding problems as solving them.
- Whatever the task, creativity is not just an internal mental process: it involves action. In a sense, it is applied imagination. To call somebody creative suggests they are actively producing something in a deliberate way.
- Definition: Creativity is imaginative processes with outcomes that are original and of value.
- Our perceptions are guided by our interests, values, attitudes, and beliefs. Our perceptions take place within frameworks of conceptions.
- It is not just that we use words to say what we think; the words we use affect how we think.
- Words help us think about some types of experience, they are relatively useless in dealing with others.
- Academic education, important though it is, gives priority to ideas that can be best expressed in words and numbers. But some of our most important ideas cannot be expressed in these ways and some of our creative abilities do not prosper in these modes at all.
- Words and numbers are examples of systematic symbolisms. They have separate elements which are definable in terms of each other; and rules that affect how they can be used and still mean something.

- Paintings, poems, music and dance are examples of schematic symbols. Their meanings are uniquely expressed in the forms they take. If you want to understand the meaning of a painting you cannot turn to a dictionary of colors to see what blue and green usually mean when they are put together.
- Creativity is a process, not an event. To call something a process indicates a relationship between its various elements: that each aspect and phase of what happens is related to every other.
- Three crucial factors that influence the development of creativity:
  - Importance of finding the right medium for your own creative strengths.
  - The necessity of being able to control the medium
  - The need for freedom to experiment and take risks
- Creativity can be suppressed by the wrong medium. Too often people conclude that they are not creative, when in truth they may not have found how they are creative. Not finding their medium, they have not found themselves.
- Creative achievement is related to control of the medium. Technical control is necessary for creative work, but it is not enough.
- Creativity involves a dynamic interplay between generating ideas and making judgments about them.
- As Carl Jung puts it, the creation of something new is not accomplished by the intellect alone, but by the play instinct. The creative mind plays with the objects it loves.
- Creative activity involves playing with ideas and trying out possibilities. But creative achievement does not always require freedom from constraints or a blank page. Great work often comes from working within formal constraints. The creative achievement and the aesthetic pleasure lie in using standard forms to achieve unique effects and original insights.
- Sometimes a new idea comes to mind fully formed and needs no further work. Often the process is more complex. First ideas give way to more refined versions or even completely different ones. Creativity is often a dialogue between concept and material. The process of artistic creative in particular is not just a question of thinking of an idea and then finding a way to express it. Often it is only in developing the dance, image or music that the idea emerges at all.
- Creative thinking is a break with habitual patterns of thought. Creative insights often occur by making unusual connections, seeing analogies between ideas that have not previously been related.
- Creative insights occur when they are combined in unexpected ways or applied to question or issues with which they are not normally associated.
- Although there are always points where criticism is necessary, generative thinking has to be given time to flower. At the right time and in the right way, critical appraisal is essential. At the wrong point, it can kill an emerging idea. Similarly, creativity can be inhibited by trying to do too much too soon or at the same time. The final phases are often to do with refining the detail of the expression: with producing the neat copy so to speak. But asking people to write a poem right away in their best handwriting can inhibit the spontaneity they need in the initial phase of generating ideas. In most situations, trying to produce a finished version in one move is impossible. Not understanding this can make people think that they are not creative.
- Creativity is not a single power that people simply have or do not have, but multidimensional. It involves many different mental functions, combinations of skills and personality attributes. They involve special purposes for familiar mental operations and more efficient use of our ordinary abilities, not something profoundly different. Creativity is not a separate faculty so much as an attitude: a willingness to reconsider what we take for granted.