

22. The role of education in promoting creativity: potential barriers and enabling factors

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Abstract

Formal education has a controversial dual role regarding human creativity: it simultaneously kills and cultivates it. A common view is that as student progresses from year to year in school, the academic orientation to teaching and learning becomes more dominant. It overrides play and personal exploration that characterise early years of schooling. Indeed schools do have a great potential to enhance human ecology by removing barriers and utilising the potentials for more creative learning environments. This essay describes briefly three of the most complicated barriers — competition, standardisation and test-based accountability — that commonly prevent schools focusing more on developing students' creative knowledge, skills and habits of mind. Then three most important enabling factors — collaboration, risk-taking and learning to be wrong — are presented as the general conditions of change. A conclusion is that measuring creativity in schools has to be critically considered, and that further energy and resources should be invested to remove the aforementioned barriers and to make the best out of the available opportunities.

School education and creativity

In his praised talk on *Technology, Entertainment and Design* (TED), Sir Ken Robinson asked a question: Do schools kill creativity? This has been a much argued issue

throughout the history of formal schooling. There are those who maintain that school is actually a place that promotes creativity through arts, music, play and problem-solving in various parts of curriculum and thus advances it rather than extinguishes it. This includes a footnote that many children would never engage in these creative activities unless they were given opportunities to do so in school. Elementary schools have traditionally been places where more creative action and thinking have occurred than in further stages of education.

But then there are those, like Sir Ken Robinson, Seymour Sarason, Shlomo Sharan and Robert Sternberg, who take a more critical stance on that question. Their main argument is that as young people progress through their school education, their genuine interest and innate curiosity in exploring the world around them gradually decline and they seem to be educated out of creativity (Robinson, 2009; Sarason, 1990; Sharan & Chin Tan, 2008; Sternberg, 2006). This happens, they say, because much of what young people do in school is driven by an idea of 'the right answer' and one standard way to get it. The older young people get, the less they have courage to try other ways of thinking and the more they try to avoid being wrong. How much of this is directly due to school and how much it is just a normal course of development remains a disputable issue.

Most people connect creativity in schools to subjects that naturally invite one's creative talent to be utilised. Therefore music, visual arts, drama and design are seen as domains that develop students' creative abilities. Rather interestingly, within arts in schools drawing and music are higher in the hierarchy than drama and dance. Therefore it is common in many countries that as the call for more creativity in school education is responded, it means more lesson time for drawing and music. The notion that many more education policymakers and practitioners need to accept is that there are many of us who need to move to be able to think and to create new ideas. Too much deskwork and listening to a teacher is not good for nurturing creativity. As we have shown elsewhere, a vast majority of students' time in school is spent sitting quietly and receiving information from teachers (Sahlberg & Boce, in print). In our field research we found that in a typical first year upper secondary school lesson there is less than 30 seconds time in total for student-initiated talk. This makes any creative thinking or behaviour in such classrooms practically impossible.

Thinking that developing creative thinking and skills is a business of drawing and music in school is, however, a rather narrow view of creativity. If creativity means having original ideas that are useful, it can relate to any activity in school and any subject in curriculum. And it certainly should. Students can engage in creative learn-

ing in sciences, foreign languages and mathematics, among many others. All teachers can teach almost anything in a creative way so that students need to do things in new ways and come up with novel ideas. But many teachers find this a real challenge for two main reasons: first, many of them think that they are not themselves creative and cannot therefore teach creatively; second, even more teachers think that their own teaching in school should be more creative but they are forced to follow standardised procedures to guarantee that students learn what is included in curricula and textbooks. I will say more about these two points next.

Everyone has some creative talent

If you ask people if they think they are creative persons only very few will answer unconditionally 'yes'. Indeed, most of us think that we do not qualify to be someone who could be named a creative person. I often meet individuals who claim that they are not good at anything. Again, creative people are normally those who paint, sing, dance or invent new things. This is closely linked to a conception that some of have creative talent and most us don't, as Robinson (2009) eloquently describes in his book *The Element*. Without forcefully challenging this conception it is unlikely that there will be more creative teaching and learning in schools.

If we define creativity in terms of people's artistic abilities we could safely confirm the conventional view that not all have creative talent. What seems to be true with many of us is that we rarely find out in school what our real natural talents are. In other words, we go through our initial education in school without realising what we really can do and where we excel. We find our passion elsewhere afterwards: in our hobbies, through work or in family life. Many people can create unbelievable things that they never thought they could do in school. A number of world known scientists, dancers and thinkers discovered their natural talent only after leaving school. Ex-Beatles Paul McCartney, celebrated choreographer Gillian Lynne and Nobel Prize-winning economist Paul Samuelson are examples of those who think that their schools successfully kept them away from what they really are rather than helping them to discover their true talents (Robinson, 2009). Many of them left school with a belief that they, like most of their peers, had no special creative abilities.

Not the 21st-century education system

Appeal for more creativity and innovation in education comes, not from the education community but from a global economical emergency, technological advancement and the urgent need for change. The main reason is that all national education

systems are based on two underlying models: an economic model and an intellectual model. These two systems models are operationally linked to each other. The economic model of education is industrialism that views education as the production of knowledge and skills for predetermined purposes and markets (Robinson, 2009). Teaching and learning are steered by the principles of efficiency and rationalism and are therefore sequenced into manageable units and programmed by a predetermined schedule. The logic of the economic model of education is based on a belief in competition and information as the key drivers of educational improvement — just like they drive efficiency and productivity in market economies.

The intellectual model, in turn, views intelligence primarily as an academic ability that is dominated by memory and rote academic skills rather than by broader intellectual, interpersonal or creative processes. This model assumes that intelligence can and should be measured to determine individuals' educational progress (Sahlberg, 2010). The problem today is that the economic model is outdated and the intellectual model is inadequate for the needs of the unpredictably changing innovation-driven society.

Education reforms rarely attempt to challenge seriously these two underlying assumptions of school organisation. Instead, education policies today aim at raising standards, extending time for learning or having more computers in schools. These particular efforts will remain an insufficient means of improving the quality of education unless the basic economic and the intellectual models of education are reconsidered. This has been a long-standing claim by Seymour Sarason (1990), for example, who has predicted that most educational reforms will fail unless the culture of the school will become the locus of change.

Barriers: competition, standardisation, test-based accountability

In many countries teachers have autonomy in their own classrooms to decide how teaching and learning is arranged. Curricula, textbooks and educational guidelines normally stipulate the content and schedule for teaching but methodology is, in most cases, up to a teacher to decide. The emergence of the global educational reform movement, or germ, has brought to many education systems new elements that seem also to regulate how teachers design teaching and learning in their classrooms (Hargreaves & Shirley, 2009; Sahlberg, 2010). Some of these global trends are particularly interesting and important when creativity and innovation in schools are concerned. Next I will discuss three barriers to more creativity in schools followed by three enablers that might help to reshape teaching and learning in an innovation society.

Barrier 1: Competition as the main driver of educational improvement

A particular approach to educational change is based on a belief in competition and information as the key drivers of educational improvement. The logic of this market-orientation is rather straightforward. It is built on the belief that competition — as it does in the market economy — drives efficiency and improvement, and can be applied to schools as well, so that competition among schools would lead to better outcomes for students. In order for schools to compete, individual schools would require much more autonomy. Parents would need to be able to choose the schools their children attended. And finally, in order to choose, parents and the public would require measures of student achievement and education quality to compare and guide their choice of schools, based on a single national curriculum. Competition has forced schools and teachers to look for new aspects in their work. But not so much the way that teachers teach and students learn but rather how schools, districts and entire education systems gain an advantage over other schools in the race for the best students, resources and public reputation. Many schools in England, the United States and even in Finland have recreated their educational profiles. However, the main rationale for doing so is not student learning but competition for resources and better human resources.

Barrier 2: Standardisation of teaching and learning

Globalisation has increased competition but also collaboration (Sahlberg, 2006). Both of these lead to coordination and harmonisation of structures and processes. In education this has meant the introduction of standards for teaching, curriculum, expected learning outcomes, school facilities, technologies and so on. Certain compatibility between schools and education systems is required for practical purposes. Standardising teaching and learning through fixed teaching schemes and predetermined learning outcomes is, however, the worst enemy of creativity. There are a number of examples how standardisation negatively affects schools and teaching (Sacks, 2000). When teachers teach by following externally set teaching standards and aim at narrow academic student achievement, they tend not to take risks, try new ways to teach and, thus, be more creative. A good example of an unexpected consequence of standardisation of teaching is diminishing role of collaboration in schools. Individualised testing as an element of standardisation puts personal performance before collective achievement is by definition reducing feeling of interdependency and care in schools. As Sawyer (2007) claims, collaboration is an important condition for creativity and ingenuity.

Barrier 3: Tougher test-based accountability

The incentive-based educational reform movement has stimulated enormous debates between and within education and policymaking communities during the last two decades. Holding schools and teachers accountable for students' learning has become a fashionable global movement. Testing and measuring the performance of individuals (both students and teachers), schools, districts and nations have been boosted by the emergence of the educational accountability movement and international student assessments, such as the OECD PISA (Hargreaves & Shirley, 2009; Sahlberg, 2010). The key criterion in this accountability process is the test results determined by external standardised and often multiple-choice tests. According to the emerging evidence, this is leading to narrower curricula, more teacher-centred instruction, rote learning among students and even malpractice and corruption. Each of these, even alone, is damaging for trust, risk-taking and creativity in schools. A critical reviews of these can be found from Wayne Au (2008), Sharon Nichols and David Berliner (2007) and Peter Sacks (2000). School accountability is linked to consequences in the form of rewards such as higher teacher pay or promotion, or in the form of sanctions such as losing one's job or closing down a school. Interestingly, Barack Obama's administration is one of the strong advocates of merit-based pay in the United States. Private tutoring to improve student test scores and thus schools' performance is very common in Egypt, Japan, Korea, and many parts of eastern Europe, just to mention a few examples. Such consequences are certainly not the ways to promote creativity in classrooms.

Should creativity be measured in schools? Based on how measurement in general affects teaching and learning the immediate response would be: 'Probably not.' Or at least this needs to be approached with caution. The process of human learning seems to follow much of the similar principles of measurement than measuring simultaneously momentum and place of a moving particle. Heisenberg's uncertainty principle (1927) says that *the measurement of position necessarily disturbs a particle's momentum, and vice versa*. Application: the measurement of creativity necessarily disturbs a student's learning, and vice versa. At least we can conclude that the current culture of measuring students' academic achievements is greatly disturbing both teaching and learning.

Enablers: Collaboration, risk-taking and learn to be wrong

It is difficult to imagine teaching that promotes creativity without the teaching methods themselves being creative. It is also not desirable to leave creative learning for arts and music classes as already discussed earlier. There are a number of things that can

be done across the whole school to raise creativity to a similar status to that which literacy has always enjoyed in formal schooling.

Enabler 1: Collaboration in school and cooperative learning in classrooms

Collaboration is commonly seen as a condition for creativity and innovation (Sawyer, 2007). Only rarely is one individual able to come up with original ideas that have value without interacting and influence from other people. Therefore, one of the key conditions for more creative schools is more collaborative cultures that include professional collegiality between teachers and cooperative learning among students. Collaboration and cooperation in school build stronger social community that can strengthen trust, enable enriching interaction between teachers and students and lead to enriching communities as Himanen (2007) calls them, or environments where each individual through interaction with others will be create more novelty than they would do alone.

Enabler 2: Risk-taking in schools

The logic of innovation is simple. Creativity requires risk-taking and there is no innovation without creativity. Hence risk-taking is important in schools. Sensitivity towards trying new things or alternative ways of doing old things should start from teacher communities. Unless teachers feel free and safe to take risks in their work, they will not be able to take risks when they teach their students. This, in turn, is only possible in an environment that is based on mutual trust, respect and honesty. When trust disappears fear becomes the dominant feature of schools. Therefore, 're-culturing' becomes an important part of school improvement for more creative teaching and learning.

Enabler 3: Learn to be wrong

Being right is a goal of education but it is not enough for success in an unpredictable and complex world. Creativity is often blocked by the fear of appearing to be strange or wrong (Sahlberg, 2009). Being prepared to be wrong is an important part of being creative and having original ideas that have value. Providing learning environments free from the fear of being wrong establishes the trust that is a critical condition for creativity to flourish. Communication, cooperation and respecting others are the most effective means of building trust in a community. Rewarding effort and ideas, not only rewarding correct answers, is also essential for promoting creativity and innovation in teams and organisations.

Schools around the world are a result of a long cultural evolution. Through an increased globalisation, all educational systems in the world are similar. Lack of creativity in a typical school is therefore a universal phenomenon. Before it makes sense to measure creativity in schools, we need to be sure that (i) there is something

related to schools in creativity that could be measured, and (ii) policies and practices for enhance creativity are in place. There are many barriers that lock creativity in schools. There are also many ways to inhibit creativity. Making risk-taking more common, increasing cooperative learning and making being wrong an acceptable norm in schools are the enablers that I consider to be most important ones. Trying to do more or less of something in schools is not likely to lead to change in behavioural regularities in schools unless we give up some fixed assumptions what are the most important purposes of schooling.

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