Creativity and Innovation in Education

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Abstract

World is evolving more rapidly than the capacity of any existing education system. The challenge of learning is getting even harder for the next generations. Many governments adopt the policy of free basic education, a large base of students are privileged by this policy to learn. These policies have very wide range of standards, quality and infrastructure. Therefore, a focus strategy on the essential skills should be implemented. These skills can include to think creatively in order to compete in the market, find innovative solutions for existing and future problems, ability to evaluate current status and find better alternatives. To achieve we need to apply creative and innovative strategies in education like design educational curricula that promote all three components of “successful intelligence, promote the decision to be creative and a meta-cognition of the creative process, foster classroom environments and pedagogical approaches conducive to intrinsic motivation and many more.

Introduction:

Based on the recurring concepts in the existing literature, the paper concludes with some recommendations for how education systems can best foster these attributes in students. Our current world is evolving more rapidly than the capacity of any existing education system. The challenge of learning is getting even harder for the next generations. We do not have a prediction of how tomorrow will look like, but we know that flexible process models are able to face the changes comparing with fixed-style models; we know that the ability to adapt helped our ancestors to survive on this planet for about six million years.

Essential Skills and teaching methods towards more creative thinking:

Many governments adopt the policy of free basic education, a large base of students are privileged by this policy to learn. These policies have very wide range of standards, quality and infrastructure. Therefore, a focus strategy on the essential skills should be implemented. These skills include the following:

- Think creatively in order to compete in the market
- Find innovative solutions for existing and future problems
- The ability to evaluate current status and find better alternatives if Needed

While Durtschi (2003) assert that thinking is a key aspect of the creative process, they address this topic at a high level. Key aspects of creative thinking are:

- Comfort in disagreeing with others and trying solutions that depart from the status quo.
- Combining knowledge from previously disparate fields.
- Ability to persevere through difficult problems and dry spells.
In order to achieve the above, we need to apply creative and innovative strategies in education with a particular focus on the basic kid’s education. While education systems are varying in their capability to implement creative teaching methods and curricula, a teacher can easily adapt their teaching methods towards more creative thinking through the following tips:

- Encourage children to find the answer
- Children learn, teachers observe
- Sit in round tables rather than desks
- Focus on one project instead of multiple projects
- Focus on the concept
- Every idea is a patent
- Use design thinking tools and methods

The students have to identify two directions for innovation;

- Problem-to-Solution
- Solution-to-Problem.

The first model drives the students to find solutions for existing problems. In essence, the student identifies problem that occur, everyday and tries to explore how to solve it. The second method is to find a solution for a problem that does not exist yet or to make life much easier.

The two directions aim to help students to think of the problem with different perspectives. While the first model focuses on existing problem, the second direction focuses on innovating better solutions, which relates to human centered design.

Every innovative idea and discovery should be rewarded during the assessment process, this should be reflected by the rubric of criteria. Educators are encouraged to add a rubric section that allows them to evaluate creative ideas and innovation independently from the rest of the grading criteria. Innovation should reflect on the final grading and the rewarding policy.

Amabile (1992) has provided the field with one of the most simple and yet comprehensive frameworks for the topic. As depicted in the diagram below, creativity arises through the confluence of the following three components:

- **Knowledge**: All the relevant understanding an individual brings to bear on a creative effort.

- **Creative Thinking**: Relates to how people approach problems and depends on personality and thinking/working style.

- **Motivation**: Motivation is generally accepted as key to creative production, and the most important motivators are intrinsic passion and interest in the work itself.
Amabile (1998) describes knowledge as all the relevant information that an individual brings to bear on a problem. Howard Gardner goes deeper into the topic and explains that there are two types of knowledge that may be required for creativity. On one hand, in-depth experience and long-term focus in one specific area allows people to build the technical expertise that can serve as a foundation, or playground for creativity within a domain. At the same time, creativity rests on the ability to combine previously disparate elements in new ways, which implies a need for a broader focus and varied interests.

**Conclusion**

Innovation and creativity are part of the essential skills that enable students to meet with future challenges and market competitions. While current educational systems do not provide the necessary creativity and innovation strategies required to meet with these demands and challenges, educators can implement a number of tips and techniques that can help students to think creatively and find innovative solutions for existing and future problems.

The tips above can be applied either individually or in bulk during the educational process. While educational systems may prevent educators from applying some of the above tips due to administrative and other reasons, educators should select the methods which suits the existing educational system, school level and currently taught curricula.

The three main components of the sources of creativity in individuals it appears that the following are key to individual creativity are Knowledge which can balance between breadth and depth of knowledge , Thinking which can be strong ability to generate novel ideas by combining previously disparate elements. This “synergistic” thinking must be combined with analytical and practical thinking and Personal motivation which can be the appropriate levels of intrinsic motivation and passion for one’s work combined with appropriate synergistic motivators and self-confidence.

**Bibliography**

3. Amabile, Teresa M.(1992) Growing Up Creative; Creative Education Foundation