Education literature review example

Profession, Student



Learning and creativity are interrelated to each other, if we consider the educational characteristics of an ideal curriculum. Although, problem solving is one of the basics of the subjects like science and mathematics, creative application of mind is expected to reveal, positive results through generative cognitive processes and natural learning processes. From an educational point of view, it is very important to enhance the level of problem solving in children and also to improve the level of creativity so that adequate mental growth can be achieved along with knowledge development. On one hand, where research is being conducted in order to improve the creativity to achieve better problem-solving, analogical, metaphorical and divergent thinking; is there any subsequent use of technology, which is associated to provide fruitful results by improving the pedagogy and curriculum. This paper will initiate a discussion in order to assess the impact of technology to support creative thinking skills taking in scope only first grade students in mathematics and would further move towards studying the chemical and trends in elementary mathematics.

Creativity in Learning Mathematics

Yushau, Miji and Wessels (2005) provide a detailed study on the use of creativity in order to enhance the quality and learning of mathematics. Although, the inter-linkage is being discussed over here between creativity and mathematics however if we start the definition of both of these terms, it will be difficult to define creativity as it is the complex phenomena according to them, however they support the arguments which define creativity as a flash out of the blue and a process of incremental revisions. Hence, the first one provides the background that creativity would enhance the speed of outcome and would support a sudden warm embrace however incremental revisions are more about repetition of an activity keeping in mind multiple perspectives and approaching the subject by following developmental patterns. The problem usually faced, in this aspect is related to the fact that the interest in mathematics increases with age and therefore logical understanding in the initial grades must be lesser than the application of creativity, which should also act as a factor of developing enthusiasm among students. Many researchers, have favored the use of creativity in teaching mathematics at all levels however it can only be possible when despite the subject being rule-based, it must be encouraged to be learned in unprecedented ways.

Role of Technology to support creative thinking skills . . .

There has been a significant increase in the role of technology, in the field of education however on the basis of the discussion above it becomes important to assess whether creativity is also a factor which is enhanced through the use of technology. Technology has been increasingly used in order to create techniques which can help to improve the problem-solving, designing and experimental techniques and also for the realization of artifacts however the enhancement of creativity in education is a factor which, as per our previous discussion is related to unprecedented and open learning processes.

If we consider the discussion keeping in mind the scope related to first grade students, it would be important to consider the fact that technology has introduced various methods in order to educate through artificial problemsolving methods, puzzles, interactive games. There are various cognitive applications of technological creations, which can not only help to develop enthusiasm in students, in first grade would learn more however will also be able to find their own way.

An insight into related empirical studies . . .

Research was conducted in order to study Developmental Variation in Children's Creative Mathematical Thinking and there were a total of 841 participants from first to fifth-grade students from 4 schools. A hierarchical regression was conducted and the results clearly indicated that domain knowledge of mathematics increases with an increase in the age, and so is the learning power, another important conclusion stated that Age is significantly associated with children's OFE development specially in the lower grades.

Another major research would be important for a discussion which is based on Six-Year-Old Children's Creativity and Mathematical Ability. The experiment included 80 randomly chosen six-year-old children in total who were subjected to tests related to mathematical and analytical ability. It will be important to discuss the inferences drawn from the research as they are directly related to the improvement of creativity and its impact in helping the children to learn mathematics.

Child-initiated play and professional creativity are thoroughly studied as a part of the study which was conducted by Craft, McConnon and Matthews (2011) and in this study fifteen children aged four years were regularly observed for their choices and preferences to find out the creativity amongst children specially around the age of first graders. Similarly, Han and Marvin (2002) conducted a study where domain specificity of creativity was investigated with 109 second-grade children and the performance of children on storytelling, Collage making and math word problem, and the relationship between the creativity and the State domains were specifically studied and the results clearly showed that 8% (p = .04) of the variance in storytelling, 5. 1% in collage making, and 1. 4% in math word-problem tasks were observed although Collage making was not significantly related to creativity however storytelling and specially math word problem were found to be directly associated with creativity among children.

Lewis (2006) discusses about the role of technology in adding value to education while he talks about Solving Discourse in Technology Education. The theoretical research provides a strong support of improved pedagogy with the use of technology and that is related to the enhancement of creativity in education. Generative cognitive processes such as analogical and metaphorical thinking can easily be enhanced with the use of technology, by creating an interesting combination of education and science.

Discussion

It is clear on the basis of the research by Sak & Maker (2006) that there is a co-relation between the age of student and related application of mathematical concepts, therefore based on our discussion above, it is necessary to understand that while first grade students may not be very competent with math however by increasing the level of creativity the teachers can help to enhance the output . Also, pertaining to the previous discussion of results by Baran (2011), it can be inferred that the use of technology may be helpful in supporting the enhancement of creativity which has direct relationship with the mathematical learning outcomes. The curriculums designed for students in this age group must involve a genuine application of the creative instinct as it will further polish the mathematical ability of the students. Craft, McConnon and Matthews (2011) defined it as an exploratory transition and are supposed to provide an inference which comes in the form of play, immersion, innovation, risk-taking, being imaginative, self-determination and intentionality. The teachers can definitely benefit from the outcomes derived from this research by implementing the above choices as a part of the learning curriculum in order to make the tests more creative and to achieve better outcomes.

The policy makers or curriculum designers can take this as a good learning from the study conducted by Han and Marvin (2002) and adding creativity related features like practical math problems, puzzles and interesting math games can be an alternative to the traditional problem solving approach and therefore will once again enhance the interest in students and will also make the learning part easier. Lewis (2006) highlights that the use of technology can be very beneficial for the teachers as they can create virtual practical situations to increase the creative as aspects of learning as discussed above, which are very important for the improvement of learning outcomes.

Summary

Based on the discussion, from various researches and empirical studies, it is very clear that technology can help to induce creativity and interest by creating the problem-solving as an exercise the unprecedented learning can be used and first graders can get freedom was there unique thinking process in order to solve issues rather than following a rule-based learning methodology. On the other hand, there is a direct interrelationship between level of creativity with respect to the ability to solve math problems and therefore the contribution of technology do and has creativity is definitely helpful in improving math skills in the students. From a pedagogical point of view, technology can help to add features which may and therefore the natural learning process and improve the practical approach.

Works Cited

Archer, R. (2012, March 5). education. com. Retrieved March 6, 2012, from http://www. education. com/blog/

Baran, G. (2011). A Study on the Relationship between Six-Year-Old

Children's Creativity and Mathematical Ability. International Education

Studies Vol. 4, No. 1 , 105-117.

Charles, C. (2005). Building Classroom Discipline 8th Discipline. Boston: Allyn & Bacon.

Dunn, L. (2002). Learning and Teaching Briefing Papers Series. London: Oxford Centre for Staff and Learning Development.

Lewis, T. (2008). Creativity in technology education: providing children with glimpses of their inventive potential. Int J Technol Des Education Vol. 19, 255-268.

Lewis, T. (2008). Creativity—A Framework for the Design/Problem.

Marvin, C., & Han, K.-S. (2002). Multiple Creativities? Investigating Domain-

Specificity of Creativity in Young Children. Gifted Child Quarterly, 46-98.

Matthews, A., McConnon, L., & Craft, A. (2011). Child-initiated play and

professional creativity: Enabling four-year-olds' possibility thinking. Thinking

Skills and Creativity vol. 7, 48-61.

Sak, U., & Maker, J. C. (2006). Developmental Variation in Children's Creative

Mathematical Thinking as a Function of Schooling, Age, and Knowledge.

Creativity Research Journal Vol. 18, No. 3, 279–291, 279–291.

Yushaua, B., Mji, A., & Wessels, D. C. (2005). The role of technology in fostering creativity in the teaching and learning of mathematics. Pythagoras

Vol. 62 , 12-22.