Abstract

The purpose of this study is to develop and evaluate creativity education materials using “Concepts” for upper elementary school students.

Creativity here is defined as skills to generate novel, appropriate and valuable ideas. The criterion is “mini-c” that is the ability to make new interpretations that are personally meaningful. Creativity education is for that. It has been required to be implemented and deepened. But the education has not been enough, especially in primary schools. There are some reasons as to why. Firstly, the definition of creativity is not sufficiently developed. Secondly, it is difficult to define the teaching and to develop the evaluation methods. Thirdly, there are little classes which are focused on enhancing the idea generation skills. it is normal that we have subject classes in schools. There are some previous studies that are pragmatic and educational approaches using creative tools, and that are the cognitive approaches that attempt to understand the process of creative activities. However, when creative tools are used, the quality of the outcomes are varied. When current cognitive approaches are implemented, it is artificial and too simple such as combining shapes and words.

In order to solve them, a clue was taken from the cognitive approach that enables educational support, especially in dealing with the mental representations that underlie the creative thinking. “Concept-Based Curriculum and Instruction” was used at the International Baccalaureate (IB). Using the Concept which is abstraction of fact is an attempt to transfer what students have learned to other learning situations. It is showed that Concept is efficient not only for subject learning, but for creativity education. However, specific methods for creativity education are not well practiced. Therefore, it is expected to apply this Concept to creativity education. We have variety of “Concepts” other than abstract concept. Development of the educational materials for practicing to deal with the concrete and ordinal concept as well as abstract concept which is also used in the IB.

The first of the proposed materials is the “Pump Chart”. It deals with abstract and concrete concept. It was designed to practice concrete and abstract thinking style. Brainstorming was used as a comparison to the “Pump Chart” As a result, it was confirmed that there were no problems in terms of understandability and usability, and availability (fluency, flexibility, and originality). This showed how significant for the students. In addition, the intention to use the “Pump Chart” is also confirmed. These effect sizes were also large. These results confirm that the “Pump Chart” can be used as teaching materials for practice.

The second proposed material is “Look Like Chart.” It is an educational tool that deals with abstract and concrete concept. It was designed to practice abstract and concrete thinking style. “Mind Map” was used as a comparison to the “Pump Chart.” As a result, it was confirmed that there were no problems in terms of understandability and usability. It was also confirmed that availability (fluency, flexibility, and originality) has the almost the same effect as “Mind Map.” In addition, the intention to use the “Look Like Chart” was significant. The effect size was also significant. These results confirm that “Look Like Chart” can be used as teaching materials for practice in the classroom.

The third proposed material is the “And Then Map.” It deals with ordering concept. It was designed to practice to how to add on one phrase by asking “And Then” multiple times to future. Brainstorming was used as a comparison to the “Look Like Chart.” As a result, it was confirmed that there were no problems in terms of understandability and usability, and availability (fluency, flexibility, and originality). And the significancy was showed. In addition, the intention to use “And Then Map” is also significant. These effect sizes were also significant. These results confirm that “And Then Map” can be used as a teaching material for practice.

Key Words: Creativity education, mini-c, Concepts, Pump Chart, Look Like Chart, And Then Map