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SUMMARY

In 1997, Singapore hosted the 7th International Conference on Thinking (The Straits Times, 1997). This major event helped quicken the pace as new education initiatives were put forth with vigour. A new framework of 'Thinking Schools, Learning Nation' was implemented. The Ministry of Education introduced three major initiatives in the schools, namely National Education, the IT-Masterplan, and the introduction of critical thinking and creativity into the curriculum.

It has been more than ten years since the Thinking Programme was implemented. With the bloom of new initiatives, students are expected to learn to think creatively. So do teachers. It is pertinent to take stock of the course of development of the Thinking Programme in schools and find out the views of teachers on creativity.

This study, using interview method, investigated some science educators' views of creativity and creative thinking, and the importance of creativity to science education. Ten science educators, six teachers from six secondary schools, two teachers from two Junior Colleges and two lecturers from one local university, were involved in the study. Among the science educators, four were females, six were males. It was to ensure that the different perspectives pertaining to the research questions could be captured and analyzed, the schools chosen for the study were of different school types, namely Government, Government-aided, and Independent. The tertiary institution was a statutory board organization. The number of years of teaching science at the time of interview, among the ten science educators, ranged between one and

twenty-eight years. The science educators were interviewed with three questions which were designed, piloted and modified before used.

In the study, ten general views of creativity, seventeen personal qualities or traits contributing to creativity, and three external factors influencing the development of personal traits of creativity were identified. Of the ten general views of creativity, the most common views shared by three or more teachers included: (1) the ability of generating new ideas or doing a task in an alternative way; (2) teaching and learning in an unconventional way; (3) creativity being established upon fundamental knowledge and skills; (4) ability to interpret, reflect and think about the knowledge; (5) ability to look at a situation or problem differently from others; and (6) being innovative. Among the seventeen personal qualities or traits contributing to creativity, the most common views shared by three or more teachers included: (1) being open-minded; (2) being active in thinking; (3) being curious; (4) being daydreaming or imaginative; (5) perseverance; (6) having a wide range of interests; and (7) one not bounded by rules. The three external factors influencing the development of personal traits of creativity were environment, teachers' roles and personalities, and family background.

The study also showed that there was unison among the ten science educators that creativity is important to chemical education. They suggested seven reasons to support the importance of creativity in science education. The most popular reasons shared by three or more teachers included: (1) developing students' creative thinking skills; (2) enhancing students' learning and understanding of chemical concepts; (3) generating new ideas or products to improve lifestyle and for continuous advancement

in science and technology; (4) cultivating and sustaining students' interest in the creative teaching and learning of chemistry; (5) encouraging creative problem solving; and (6) enhancing critical thinking process.

Creativity has become one of the important attributes to a global and competitive environment. It is hoped that this study will help school administrators and teachers better understand the issues involved in the promoting of creativity in science education.