MATHEMATICAL CREATIVITY

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Mathematical creativity, which includes the capacity to think creatively, independently, and flexibly while solving mathematical issues, is an essential component of a student's mathematical development. Understanding and evaluating students' mathematical creativity is crucial for educators to customize training, offer suitable challenges, and encourage a deeper interest in the topic.

For both students and teachers, evaluating mathematical creativity has numerous significant advantages. The capacity required to address varied mathematical issues is known as mathematical creativity. Each student has a unique sense of creativity, one of which is influenced by thinking patterns that affect perceptual quality and organizational skills (Isyrofinnisak et al., 2020). It gives learners a chance to demonstrate their exceptional problem-solving skills and articulate their grasp of mathematical ideas in novel ways. It supports their innovative thinking, builds their self-esteem, and motivates them to investigate mathematics with curiosity and zeal. Mathematical creativity testing provides teachers with knowledge of each student's areas of strength and development, allowing for individualized education that meets the needs of different learners.

To evaluate students' mathematical inventiveness, a variety of assessment techniques can be used. Presenting open-ended issues that allow students to consider many techniques and answers is one efficient method. These issues give students the chance to think outside the box of conventional methods and show that they can look at problems from several perspectives. Divergent thinking assignments that enable learners to come up with multiple ideas or solutions to a problem are another technique. The

volume and creativity of their comments offer priceless windows into their imaginative processes.

Students have the opportunity to exhibit their mathematical creativity in more thorough and expressive ways through creative projects and presentations. These assignments could involve composing mathematical stories or poems, devising mathematical games, or making art using mathematical concepts. Such tasks encourage students to integrate their knowledge of mathematical ideas while demonstrating their creative problem-solving abilities.

Reflective diaries or portfolios are also effective instruments for judging mathematical inventiveness. Students illustrate their metacognitive awareness and the development of their creative thinking through time by documenting their thought processes, ideas, and thoughts on various mathematical themes. Additionally, participating in cooperative problem-solving activities enables teachers to watch how students work together, communicate, and build on one another's ideas, giving them invaluable insight into how they think creatively in groups.

Students gain by encouraging and cultivating their mathematical creativity in a variety of ways. It promotes a development mentality in which students view errors as chances to grow and learn. Resilience and persistence are fostered by this approach, which are necessary traits for solving difficult mathematical puzzles. Additionally, encouraging creativity in the mathematics classroom improves students' problem-solving abilities and gives them a wider range of tools to use in diverse contexts.

References:

Isyrofinnisak, F., Kusmayadi, T.A., and Fitriana, L. (2020). Mathematics creativity skill of student in junior high school based on students thinking style. Retrieved from https://iopscience.iop.org/article/10.1088/1742-6596/1538/1/012068