

Problem-Based Learning Materials in Upskilling of Critical Thinking Skills in Mathematics

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ABSTRACT

This study sought to find the effects of problem-based learning (PBL) material to the critical thinking skills of Grade 10 students and determine its quality as to learning experience, learning outcomes, effectiveness and efficiency, user-friendliness, and congruence. The perceived quality was then correlated to the critical thinking skills after the use of the learning material. With the use of experimental research design, thirty-eight (38) Grade 10 students for school year 2021 – 2022 in a public high school from San Pablo City were exposed to problem-based learning materials during the third quarter on the topics permutations and combinations and probability of compound events. The researcher sought their perception on the quality of the problem-based learning material through a survey questionnaire and assessed their critical thinking skills before and after the use of the material using paper and pen test. These instruments were validated by experts. Results revealed that learning experiences relate to inferring, communicating and problem solving. There is also significant relationship between learning outcomes and communicating and problem solving. Both effectiveness and efficiency and user-friendliness significantly relate to communicating. Congruence relates significantly to all critical thinking skills. Thus, if the learners perceived that the material possessed these desired qualities, it is likely that they have high levels of critical thinking skills. T-test results suggested that the critical thinking skills of the students before and after using the PBL materials were significantly different. This implied that the use of such materials is effective in improving students' level of critical thinking skills.

Keywords: Problem-Based Learning Materials, Critical Thinking Skills

About the presenter:

Ideza Carmela Dionglay Magpantay is a Junior High School Teacher of the Department of Education - Division of San Pablo. She finished her Bachelor in Secondary Education Major in Mathematics at Laguna State Polytechnic University San Pablo City Campus (2016) and earned her units on Master of Arts in Education Major in Mathematics at the same University. Currently, she is in the teaching profession for 8 years. She is fond of helping students learn mathematical concepts in ways that they could easily understand. Educational research and innovation is where she currently focuses her career development.

