

Development of SPARE Method by Integrating the Project-Based Learning and Realistic Mathematics Education for Mathematics Learning.

- **Author(s):** Mariati Bakait ,Rohaidah Masri ,Nor'ain Mohd Tajudin ,Mazlan Awi
- **Abstract:** Project-Based Learning (PBL) is a teaching method in which pupil gains knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge. Realistic Mathematics Education (RME) is a learning approach that emphasizes experiences, events, or something related to the real situation imaginable by pupils as a mean of providing insight into mathematics problems. However, most teachers faced difficulties to relate project activities with subject matter, in particular mathematics. Thus, there is a need to design and develop a teaching method by integrating both PBL and RME approach. In this article, part of the design and development process will be discussed. The objective of this study is to determine the principles of a mathematics teaching method that integrates the PBL method and RME approach. This study used a qualitative approach with document analysis as a research method. A comprehensive review from the existing literature of PBL, RME and teaching methods were done. The data were analysed using the iterative process that combines elements of content analysis and thematic analysis. The findings revealed that there are six themes emerged, such as using real life situation problem related to mathematical learning content, intertwinement of mathematical content, interaction and communication, learning development from concrete to abstract, assessment practices and community connections. In addition, a SPARE teaching method was developed based on the six themes obtained. As the implication, it is hope that this new teaching method can be used as a guide in implementing teaching that emphasizes the aspects of PBL and RME so that mathematics becomes an integral part of our lives.
- **Keywords:** Project-Based Learning, RME approach, PBL approach, SPARE teaching method