

# PRE-SERVICE TEACHERS' SELF-EFFICACY AND ABILITY IN CONSTRUCTING CONTEXT-BASED CHEMISTRY CONTENT REPRESENTATION (CoRe)

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## ABSTRACT

Self-efficacy and specific abilities in teaching content needed by prospective chemistry teachers as the most important factor in realizing quality learning. This study aims to analyze the ability of CoRe as a representation of teacher-specific abilities called Pedagogical Content Knowledge (PCK) in context-based chemistry learning, analyze the knowledge of prospective teacher PCK, analyze self-efficacy as a substitute for prospective teacher beliefs in their ability to teach context-based chemistry, analyze relationships between self-efficacy and the ability to compile CoRe and explore the factors that influence it. Descriptive-explorative research designs are used to answer research questions. The research sample was all 2017 students of the Chemical Education Study Program of the UNY Postgraduate class of 2017 who took 41 Chemistry Curriculum Design and Implementation courses. The instruments used included the Knowledge Curriculum (PK) test and the Context-Based Learning Knowledge (PPBK) test, the ability assessment sheet to prepare the CoRe-CBC, and the Self-Efficacy (ED) questionnaire. The analysis was carried out using quantitative techniques which included quantitative descriptive to determine the categories of PK, PPBK, CoRe-KBK, and ED prospective chemistry teachers. The Pearson correlation was used to determine the relationship between the three predictors of CoRe-KBK. Furthermore, regression analysis is used to determine the number of contributions of each predictor to the ability of prospective chemistry teachers in preparing CoRe-KBK. The results showed that there was a high positive correlation between PPBK and the ability to design CoRe-KBK. However, prospective chemistry teachers only have a sufficient understanding of PPBK. Therefore, PPBK candidates for chemistry teachers must be improved. This will be useful to support the application of context-based chemical learning.

Kata Kunci: *content representation, chemistry, context-based, pre-service*