

## Pre-service Teachers' Tendencies Between Formal Definition and Procedural Orientation: The Polynomial as an Algebraic Object

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| <p>Polynomial,<br/>concept image,<br/>template<br/>dependency,<br/>pre-service<br/>teachers</p> <p><b>Paper Type:</b><br/>Research</p> | <p>This study aims to examine pre-service mathematics teachers' concept images of the polynomial concept. Conducted as a qualitative case study, the research involved 41 pre-service teachers. Data were collected through a concept test with open-ended questions and analyzed using content analysis. The findings indicate that participants predominantly approached polynomials in a procedural and template-based manner. A considerable number of participants defined polynomials as functions, neglecting their algebraic object nature. In addition, incorrect generalizations were observed in responses related to the zero polynomial and the classification of algebraic expressions. The results reveal a mismatch between concept image and concept definition, as well as an incomplete transition from process to object.</p> |