

ENHANCING STUDENTS' COMMUNICATION SKILLS THROUGH TREFFINGER TEACHING MODEL

Idrus Alhaddad¹, Yaya S. Kusumah², Jozua Sabandar², Jarnawi A. Dahlan²

¹Khairun University, Jl. Bandara Babullah, Ternate, Maluku Utara

²Indonesia University of Education, Jl. Dr. Setiabudi No. 229 Bandung

e-mail: idrus_ekal@yahoo.co.id

Abstract

This research aims to investigate, compare, and describe the achievement and enhancement of students' mathematical communication skills (MCS). It based on the prior mathematical knowledge (PMK) category (high, medium and low) by using Treffinger models (TM) and conventional learning (CL). This research is an experimental study with the population of all students of Mathematics Education Department who took Discrete Mathematics subject matter of one university in the city of Ternate. The results show that (1) the achievement and enhancement of MCS students that used TM are higher than the students learning using CL; (2) Based on the categories of PMK, the achievement and enhancement of MCS of students using TM are also higher than those learning with CL; and (3) There was no interaction effect between learning (TM and CL) and PMK to the achievement and enhancement of MCS of the students.

Keyword: Communication Skills, Prior Mathematical Knowledge, Treffinger Model

Abstrak

Penelitian ini bertujuan untuk menyelidiki, membandingkan, dan mendiskripsikan secara komprehensif tentang pencapaian dan peningkatan kemampuan komunikasi matematis (KKM). Hal ini ditinjau berdasarkan kategori kemampuan awal matematis (KAM) mahasiswa (tinggi, sedang, dan rendah) menggunakan Model Treffinger (MT) dan Pembelajaran Konvensional (PK). Penelitian ini merupakan penelitian eksperimen dengan populasi seluruh mahasiswa Program Studi Pendidikan Matematika yang mengontrak mata kuliah Matematika Diskrit pada suatu perguruan tinggi di Ternate. Hasil penelitian menunjukkan: (1) Secara keseluruhan, pencapaian dan peningkatan KKM mahasiswa yang mendapatkan pembelajaran MT lebih tinggi daripada mahasiswa yang mendapatkan PK; (2) Berdasarkan kategori KAM, pencapaian dan peningkatan KKM matematis mahasiswa yang mendapatkan pembelajaran MT lebih tinggi daripada mahasiswa yang mendapatkan PK; dan (3) Tidak terdapat pengaruh interaksi antara pembelajaran (MT dan PK) dan KAM terhadap pencapaian dan peningkatan KKM mahasiswa.

Kata Kunci: Kemampuan Komunikasi, Kemampuan Awal Matematis, Model Treffinger

In the field of education, communication skills receive considerable attention. Efforts to improve mathematical communication skills can be done through the learning of mathematics. As a major pillar in the effort to improve the students' communication skills, teachers or lecturers need to innovate introducing new things, ideas, or ways of doing something. According to the National Council of Teachers of Mathematics (NCTM, 2003), the objective of mathematics learning is to develop the ability to: (1) mathematical problem solving, (2) mathematical communication, (3) mathematical reasoning and proof, (4) mathematical connection, and (5) mathematical representation.