

## ABSTRAK

**NOVA HELIANA HASIBUAN:** Pengaruh Model Pembelajaran *Discovery Learning* Terhadap Kemampuan Komunikasi Matematis dan Kemandirian Belajar Siswa. **Program Studi Pendidikan Matematika FKIP Universitas Malikussaleh, 2025.**

Kemampuan komunikasi matematis siswa di Indonesia berada pada tingkat yang rendah, dan hal tersebut berkaitan erat dengan kemandirian belajar siswa. Diperlukan model pembelajaran yang dapat mengembangkan kemampuan komunikasi matematis siswa dan kemandirian belajar siswa, salah satunya yaitu model pembelajaran *discovery learning*. Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran *discovery learning* terhadap kemampuan komunikasi matematis dan kemandirian belajar siswa.

Penelitian ini menggunakan jenis *Quasi Experiment* dengan desain *The Nonequivalent Pretest-Posttest Control Group Design*. Populasi pada penelitian ini yaitu seluruh siswa kelas XI SMA Negeri 3 Lhokseumawe. Pengambilan sampel dilakukan dengan teknik *purposive sampling*, di mana kelas XI-1 terpilih sebagai kelas kontrol dan kelas XI-2 sebagai kelas eksperimen. Setiap kelas sampel terdiri dari 20 siswa. Pengumpulan data pada penelitian ini adalah tes dan non-tes. Pengujian hipotesis pada penelitian ini menggunakan uji normalitas yaitu uji *Shapiro-Wilk*, uji homogenitas menggunakan uji *Levene Statistic*, uji *Mann-Whitney*, uji-t dan uji linieritas dengan berbantuan SPSS versi 25.

Berdasarkan hasil pengujian hipotesis menggunakan uji *Mann-Whitney* didapatkan nilai signifikan sebesar  $0,002 < \alpha$  ( $\alpha = 0,05$ ), yang menunjukkan terdapat pengaruh model pembelajaran *discovery learning* terhadap kemampuan komunikasi matematis siswa. Hasil pengujian hipotesis menggunakan uji-t diperoleh signifikan  $0,826 \geq \alpha$  ( $\alpha = 0,05$ ),  $H_0$  diterima atau  $H_1$  ditolak dengan artian tidak terdapat pengaruh model pembelajaran *discovery learning* terhadap kemandirian belajar siswa. Hasil pengujian uji linieritas diperoleh signifikan  $0,278 \geq \alpha$  ( $\alpha = 0,05$ ),  $H_0$  ditolak atau  $H_1$  diterima yang menyimpulkan bahwa terdapat hubungan antara kemampuan komunikasi matematis dengan kemandirian belajar siswa.

**Kata Kunci:** Model pembelajaran *discovery learning*, Kemampuan komunikasi matematis, Kemandirian belajar siswa,

## ABSTRACT

**Nova Heliana Hasibuan:** *The Influence of the Discovery Learning Learning Model on Students' Mathematical Communication Ability and Learning Independence. University Malikussaleh FKIP Mathematics Education Study Program, 2025.*

*The mathematical communication skills of students in Indonesia are at a low level, and this is closely related to student learning independence. A learning model is needed that can develop students' mathematical communication skills and students' learning independence, one of which is the discovery learning model. This research aims to determine the effect of the discovery learning model on students' mathematical communication skills and learning independence.*

*This research uses a Quasi Experiment type with the Nonequivalent Pretest-Posttest Control Group Design. The population in this study were all class XI students of SMA Negeri 3 Lhokseumawe. Sampling was carried out using a purposive sampling technique, where class XI-1 was selected as the control class and class XI-2 as the experimental class. Each sample class consists of 20 students. Data collection in this research was test and non-test. Hypothesis testing in this research uses the normality test, namely the Shapiro-Wilk test, homogeneity test using the Levene Statistics test, Mann-Whitney test, t-test and linearity test with the help of SPSS version 25.*

*Based on the results of hypothesis testing using the Mann-Whitney test, a significant value of  $0.002 < \alpha$  ( $\alpha = 0,05$ ) was obtained, which shows that there is an influence of the discovery learning model on students' mathematical communication skills. The results of hypothesis testing using the t-test obtained a significant  $0.826 \geq \alpha$  ( $\alpha = 0,05$ ),  $H_0$  was accepted or  $H_1$  was rejected, meaning that there was no influence of the discovery learning model on student learning independence. The results of the linearity test obtained a significant  $0.278 \geq \alpha$  ( $\alpha = 0,05$ ),  $H_0$  was rejected or  $H_1$  was accepted which concluded that there was a relationship between mathematical communication skills and student learning independence.*

**Keywords:** *discovery learning model, mathematical communication skills, student learning independence.*