

ABSTRAK

NANDA TIA LOSI. Perbedaan Kemampuan Komunikasi Matematis Siswa yang diajar Menggunakan Model *Problem Based Learning* dan *Guided Discovery Learning* ditinjau dari *Gender* di MTs PAB 1 Helvetia. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, 2021.

Penelitian ini bertujuan untuk mengetahui: (1) perbedaan kemampuan komunikasi matematis antara siswa yang diajar menggunakan model *problem based learning* dengan siswa yang diajar menggunakan model *guided discovery learning* berbantuan *GeoGebra*; (2) perbedaan kemampuan komunikasi matematis antara siswa laki-laki dan perempuan; (3) interaksi antara model pembelajaran (PBL dan GDL) berbantuan *GeoGebra* dengan *gender* terhadap kemampuan komunikasi matematis siswa. Penelitian ini merupakan penelitian quasi eksperimen. Populasi dalam penelitian ini terdiri dari seluruh siswa kelas VIII MTs PAB 1 Helvetia yang berjumlah 190 siswa Tahun Pelajaran 2020/2021, dengan mengambil sampel dua kelas berjumlah 64 siswa. Analisis data dilakukan dengan analisis varians (ANOVA) dua jalur. Hasil penelitian ini menunjukkan bahwa: (1) nilai $F_{hitung(A)}$ lebih besar daripada nilai F_{tabel} pada $\alpha = 0,05$ yaitu $5,249 > 4,001$ maka H_0 ditolak, artinya terdapat perbedaan kemampuan komunikasi matematis siswa yang diajar menggunakan model pembelajaran *problem based learning* berbantuan *GeoGebra* dengan siswa yang diajar menggunakan model pembelajaran *guided discovery learning* berbantuan *GeoGebra*; (2) nilai $F_{hitung(B)}$ sebesar 4,750 lebih besar daripada nilai F_{tabel} pada $\alpha = 0,05$ yaitu $4,750 > 4,001$ maka H_0 ditolak, artinya terdapat perbedaan kemampuan komunikasi matematis antara siswa laki-laki dan perempuan; (3) nilai $F_{hitung(AB)}$ sebesar 2,277 lebih kecil daripada nilai F_{tabel} pada $\alpha = 0,05$ yaitu $2,277 < 4,001$, maka H_0 diterima yang artinya tidak terdapat interaksi antara model pembelajaran (PBL dan GDL) berbantuan *GeoGebra* dengan *gender* terhadap kemampuan komunikasi matematis siswa.

Keywords: *Komunikasi Matematis, Model Problem Based Learning, Model Guided Discovery Learning, Gender, GeoGebra*

ABSTRACT

NANDA TIA LOSI. The Differences in Mathematical Communication Abilities of Students Taught by Using Problem-Based Learning and Guided Discovery Learning in Terms of *Gender* at MTs PAB 1 Helvetia. A Thesis. Medan: Postgraduate Program, State University of Medan, 2021.

This study aims to determine: (1) differences in mathematical communication skills between students who are taught using a problem-based learning model and students who are taught using a guided discovery learning model assisted by GeoGebra; (2) differences in mathematical communication skills between male and female students; (3) the interaction between learning models (PBL and GDL) assisted by GeoGebra and gender on students' mathematical communication skills. This research is quasi-experimental. The population in this study consisted of all students of class VIII MTs PAB 1 Helvetia, totalling 190 students for the 2020/2021 academic year, by taking a sample of two classes totalling 64 students. Data analysis was performed by using a two-way analysis of variance (ANOVA). The results of this study indicate that: (1) the value of $F_{\text{score}} (A)$ is greater than the value of F_{table} at $\alpha = 0.05$ which is $5.249 > 4.01$ then H_0 is rejected, meaning that there are differences in the mathematical communication skills of students who are taught using the GeoGebra-assisted problem-based learning model. with students who are taught using the guided discovery learning model assisted by GeoGebra; (2) the value of $F_{\text{score}} (B)$ of 4.750 is greater than the value of F_{table} at $\alpha = 0.05$, namely $4.750 > 4.01$ then H_0 is rejected, meaning that there are differences in mathematical communication skills between male and female students; (3) the value of $F_{\text{score}} (AB)$ is 2.277 smaller than the value of F_{table} at $\alpha = 0.05$, which is $2.277 < 4.01$, then H_0 is accepted which means there is no interaction between learning models (PBL and GDL) assisted by GeoGebra and gender on mathematical communication skills student.

Keywords: *Mathematical Communication, Problem-Based Learning Model, Guided Discovery Learning Model, Gender, GeoGebra*