

ABSTRAK

Hafidz Fauzan Muslim Zainuddin. (2025). Peningkatan Kemampuan Koneksi Matematis dan *Self-efficacy* Siswa SMA melalui Model Inkuiri Terbimbing berbantuan GeoGebra.

Kemampuan koneksi matematis merupakan salah satu kemampuan matematika yang penting untuk dimiliki oleh siswa. Namun pada kenyataannya, kemampuan koneksi matematis siswa masih tergolong rendah. Penelitian ini bertujuan untuk: (1) mengetahui apakah peningkatan kemampuan koneksi matematis siswa SMA yang memperoleh model Inkuiri Terbimbing berbantuan GeoGebra lebih tinggi daripada siswa SMA yang memperoleh model pembelajaran biasa; (2) mengetahui apakah peningkatan *self-efficacy* siswa SMA yang memperoleh model Inkuiri Terbimbing berbantuan GeoGebra lebih tinggi daripada siswa SMA yang memperoleh model pembelajaran biasa; (3) mengetahui apakah terdapat korelasi antara kemampuan koneksi matematis dengan *self-efficacy* siswa SMA yang memperoleh model Inkuiri Terbimbing berbantuan GeoGebra; (4) mendeskripsikan efektivitas pembelajaran model Inkuiri Terbimbing berbantuan GeoGebra terhadap peningkatan kemampuan koneksi siswa SMA; (5) mendeskripsikan efektivitas pembelajaran model Inkuiri Terbimbing berbantuan GeoGebra terhadap peningkatan *self-efficacy* SMA. Metode penelitian ini adalah kuasi eksperimen dengan desain penelitian *non-equivalent control group design*. Dalam upaya memastikan kualitas data yang dikumpulkan, instrumen penelitian disusun dan diuji secara cermat agar memenuhi kriteria keandalan. Populasi dalam penelitian ini adalah seluruh peserta didik kelas X SMA Pasundan 8 Bandung. Sampel penelitiannya, kelas X4 sebagai kelas eksperimen yang mendapatkan model Inkuiri Terbimbing berbantuan GeoGebra dan kelas X5 sebagai kelas kontrol yang mendapatkan model pembelajaran biasa. Instrumen yang digunakan dalam penelitian ini berupa soal uraian tes kemampuan koneksi matematis dan skala *self-efficacy*. Hasil penelitian menunjukkan bahwa: (1) peningkatan kemampuan koneksi matematis siswa yang memperoleh model Inkuiri Terbimbing berbantuan GeoGebra lebih tinggi daripada siswa yang memperoleh model pembelajaran biasa; (2) peningkatan *Self-efficacy* peserta didik yang memperoleh model PBL berbantuan kahoot lebih tinggi daripada siswa yang memperoleh model pembelajaran biasa; (3) terdapat korelasi positif antara kemampuan koneksi matematis dan *self-efficacy* siswa yang memperoleh model Inkuiri Terbimbing berbantuan GeoGebra; (4) efektivitas pembelajaran Inkuiri Terbimbing berbantuan GeoGebra terhadap peningkatan kemampuan koneksi matematis siswa tergolong besar; (5) efektivitas pembelajaran Inkuiri Terbimbing berbantuan GeoGebra terhadap peningkatan *self-efficacy* siswa tergolong sedang.

Kata Kunci: Inkuiri Terbimbing, koneksi matematis, *self-efficacy*, GeoGebra

ABSTRACT

Hafidz Fauzan Muslim Zainuddin. (2025). *Enhancing Senior High School Students' Mathematical Connection Ability and Self-Efficacy through the Guided Inquiry Model Assisted by GeoGebra.*

Mathematical connection ability is one of the essential mathematical skills that students need to possess. However, in reality, students' mathematical connection ability is still relatively low. This study aims to: (1) determine whether the improvement in mathematical connection ability of high school students who receive the Guided Inquiry model assisted by GeoGebra is higher than that of students who receive conventional learning models; (2) determine whether the improvement in self-efficacy of high school students who receive the Guided Inquiry model assisted by GeoGebra is higher than that of students who receive conventional learning models; (3) determine whether there is a correlation between mathematical connection ability and self-efficacy of high school students who receive the Guided Inquiry model assisted by GeoGebra; (4) describe the effectiveness of the Guided Inquiry model assisted by GeoGebra on improving students' mathematical connection ability; (5) describe the effectiveness of the Guided Inquiry model assisted by GeoGebra on improving students' self-efficacy. The research method used is quasi-experimental with a non-equivalent control group design. To ensure the quality of the collected data, the research instruments were carefully developed and tested to meet reliability criteria. The population in this study consists of all grade X students of SMA Pasundan 8 Bandung. The research samples were class X4 as the experimental class, which received the Guided Inquiry model assisted by GeoGebra, and class X5 as the control class, which received the conventional learning model. The instruments used in this study include essay-type test questions for mathematical connection ability and a self-efficacy scale. The results show that: (1) the improvement in mathematical connection ability of students who received the Guided Inquiry model assisted by GeoGebra is higher than that of students who received the conventional model; (2) the improvement in students' self-efficacy who received the PBL model assisted by Kahoot is higher than that of students who received the conventional model; (3) there is a positive correlation between mathematical connection ability and self-efficacy in students who received the Guided Inquiry model assisted by GeoGebra; (4) the effectiveness of the Guided Inquiry model assisted by GeoGebra on improving students' mathematical connection ability is categorized as high; (5) the effectiveness of the Guided Inquiry model assisted by GeoGebra on improving students' self-efficacy is categorized as moderate.

Keywords: *Guided Inquiry, mathematical connection, self-efficacy, GeoGebra*

RINGKESAN

Hafidz Fauzan Muslim Zainuddin. (2025). *Ningkatkeun Kamampuhan Koneksitas Matematis jeung Self-efficacy Siswa SMA ngaliwatan Modél Inkuiri Terbimbing kalayan Bantuan GeoGebra.*

Kamampuh koneksi matematis mangrupikeun salah sahiji kamampuh matematika anu penting pikeun dipiboga ku siswa. Tapi dina kanyataanna, kamampuh koneksi matematis siswa téh masih kaasup handap. Panalungtikan ieu boga tujuan pikeun: (1) nyaho naha aya paningkatan kamampuh koneksi matematis siswa SMA nu narima modél Inkuiri Tarubing dibarengan ku bantuan GeoGebra leuwih luhur batan siswa nu narima modél pangajaran biasa; (2) nyaho naha aya paningkatan self-efficacy siswa SMA nu narima modél Inkuiri Tarubing dibarengan ku GeoGebra leuwih luhur batan siswa nu narima modél biasa; (3) nyaho naha aya hubungan (korelasi) antara kamampuh koneksi matematis jeung self-efficacy siswa SMA nu narima modél Inkuiri Tarubing dibarengan ku GeoGebra; (4) ngajelaskeun efektivitas modél Inkuiri Tarubing dibarengan ku GeoGebra kana paningkatan kamampuh koneksi matematis siswa SMA; (5) ngajelaskeun efektivitas modél Inkuiri Tarubing dibarengan ku GeoGebra kana paningkatan self-efficacy siswa SMA. Méthode panalungtikan nu dipaké nyaéta kuasi-ékspérimén kalayan desain panalungtikan non-equivalent control group design. Pikeun mastikeun kualitas data nu dikumpulkeun, instrumén panalungtikan dirancang jeung diuji sacara taliti supaya nyumponan kriteria kaandalan. Populasi dina panalungtikan ieu nyaéta sakabéh siswa kelas X di SMA Pasundan 8 Bandung. Sampel panalungtikan nyaéta kelas X4 minangka kelas ékspérimén nu narima modél Inkuiri Tarubing dibarengan ku GeoGebra, jeung kelas X5 salaku kelas kontrol nu narima modél pangajaran biasa. Instrumén nu dipaké dina panalungtikan ieu nyaéta soal éssay pikeun nguji kamampuh koneksi matematis jeung skala self-efficacy. Hasil panalungtikan nunjukkeun yén: (1) paningkatan kamampuh koneksi matematis siswa nu narima modél Inkuiri Tarubing dibarengan ku GeoGebra leuwih luhur batan siswa nu narima modél biasa; (2) paningkatan self-efficacy siswa nu narima modél PBL dibarengan ku Kahoot leuwih luhur batan siswa nu narima modél biasa; (3) aya korelasi positif antara kamampuh koneksi matematis jeung self-efficacy siswa nu narima modél Inkuiri Tarubing dibarengan ku GeoGebra; (4) efektivitas modél Inkuiri Tarubing dibarengan ku GeoGebra kana paningkatan kamampuh koneksi matematis kaasup kana kategori luhur; (5) efektivitas modél Inkuiri Tarubing dibarengan ku GeoGebra kana paningkatan self-efficacy kaasup kana kategori sedeng.

Kecap Konci: Inkuiri Terbimbing, koneksi matematis, self-efficacy, GeoGebra