

**PENINGKATAN KEMAMPUAN PEMECAHAN MASALAH GEOMETRI
DAN *SELF-EFFICACY* MATEMATIS SISWA SMA MELALUI
PEMBELAJARAN INVESTIGASI**

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The Enhancement Senior High School Students' Geometry Problem Solving Ability and Mathematical Self-Efficacy through Investigative Learning

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ABSTRAK

Fiki Alghadari (2020). Peningkatan Kemampuan Pemecahan Masalah Geometri dan *Self-Efficacy* Matematis Siswa SMA Melalui Pembelajaran Investigasi.

Pencapaian geometri siswa mendapat poin rendah pada hasil survey dan penilaian dari tahun ke tahun berdampak pada peningkatan kemampuan pemecahan masalah geometri (PMG) dan *self-efficacy* matematis (SEM). Kemampuan PMG adalah kemampuan siswa memecahkan masalah jarak pada bangun ruang yang dirancang menurut level van Hiele. SEM adalah derajat keyakinan siswa terhadap kemampuan dirinya untuk benar memecahkan suatu masalah geometri. Kemampuan PMG dan SEM dapat didorong melalui kegiatan yang melibatkan proses investigasi. Proses investigasi melibatkan tahap *entry*, *attack*, *review*, dan *extension*. Penelitian ini mengkaji peningkatan kemampuan PMG dan SEM melalui pembelajaran investigasi pada siswa kelas XII-IPS tahun pelajaran 2018/2019 di satu SMA Tanjungpandan, Bangka Belitung. Penelitian ini menerapkan kuasi eksperimen dengan desain pretes-postes kelompok kontrol. Data dianalisis berdasarkan perbedaan pembelajaran, gender, dan tingkat kemampuan dasar geometri (KDG). Hasil analisis menyimpulkan bahwa terdapat perbedaan kemampuan PMG siswa signifikan berdasarkan gender dan tingkat KDG, namun tidak berdasarkan pembelajaran. Sedangkan pencapaian SEM siswa, hanya berbeda signifikan berdasarkan tingkat KDG tetapi tidak berdasarkan pembelajaran maupun gender. Pengaruh interaksi pembelajaran dan gender adalah signifikan terhadap kemampuan PMG, tetapi tidak pada pengaruh interaksi pembelajaran dan tingkat KDG. Sementara terhadap SEM siswa, hanya signifikan pada pengaruh interaksi pembelajaran dan tingkat KDG. Secara bersama-sama bahwa KDG dan kedua model SEM, yaitu *mathematics test-taking* dan *mathematics skill*, berpengaruh terhadap kemampuan PMG siswa, baik dimoderasi pembelajaran maupun gender.

Kata kunci: geometri, investigasi, pemecahan masalah, *self-efficacy*.

ABSTRACT

Fiki Alghadari (2020). The Enhancement Senior High School Students' Geometry Problem Solving Ability and Mathematical Self-Efficacy through Investigative Learning.

Students' achievements in geometry were low on surveys and assessments results from year to year have an impact on enhancing geometry problem solving (GPS) ability and mathematical self-efficacy (MSE). GPS ability is the students' ability to solve the problem of the distance in solid that was designed based on van Hiele's level. SEM is the degree of students' confidence in their ability to solve a geometry problem correctly. GPS ability and MSE can be encouraged through activities involving an investigative process. The investigation process involves entry, attack, review, and extension phase. This research is to study an enhancement students' GPS ability and mathematical self-efficacy (MSE) through investigative learning for 12th social program students in the academic year 2018/2019 at the one high school at Tanjungpandan Bangka Belitung. This research applied quasi-experiment by the pretest-posttest control group design. Data were analyzed based on differences in the learning approach, gender, and the geometry ability (BGA) of basic level. The analysis result concluded that there is significant difference of students' GPS ability based on gender and BGA level category, but not for the learning approach. At the same time, a students' MSE achievement just significant different based on the BGA level but it is not for both of learning approach and gender. An interaction effect between learning approach and gender is significant toward GPS ability, but not for interaction between learning approach and BGA level. While the students' MSE, just significantly at the interaction effect between learning approach and BGA level. Parallely that BGA and two MSE models, that is mathematics test-taking and mathematics skill, affected to students' GPS ability, as well moderated by learning approach and gender.

Keywords: geometry, investigation, problem solving, self-efficacy.

DAFTAR ISI

KATA PENGANTAR	i
ABSTRAK	iv
ABSTRACT	v
DAFTAR ISI	vi
DAFTAR TABEL	viii
DAFTAR GAMBAR	xi
DAFTAR LAMPIRAN	xii
BAB I PENDAHULUAN	
1.1 Latar Belakang Penelitian	1
1.2 Rumusan Masalah	24
1.3 Tujuan Penelitian	25
1.4 Manfaat Penelitian	25
1.5 Definisi Operasional	25
BAB II LANDASAN TEORI	
2.1 Masalah Geometri	27
2.2 Pemecahan Masalah	39
2.3 Berpikir Geometri	44
2.4 Pemecahan Masalah Geometri (PMG)	50
2.5 <i>Self-Efficacy</i> Matematis (SEM)	53
2.6 Pemecahan masalah dan <i>Self-Efficacy</i> Terkait Matematika	57
2.7 Faktor yang Mempengaruhi <i>Self-Efficacy</i> dan Pemecahan masalah	59
2.8 Pembelajaran Investigasi	63
2.9 Pembelajaran Langsung	74
2.10 Perbandingan antara Pembelajaran Investigasi dan Langsung	77
2.11 Penelitian Relevan	79
2.12 Kerangka Berpikir Penelitian	83
2.13 Hipotesis Penelitian	88
BAB III METODOLOGI PENELITIAN	
3.1 Desain Penelitian	90
3.2 Peta Jalan Penelitian	92
3.3 Bagan Alur Penelitian	94
3.4 Populasi dan Sampel Penelitian	95
3.5 Instrumen Penelitian	99
3.5.1 Tes Kemampuan Dasar Geometri	99
3.5.2 Tes Kemampuan PMG	100
3.5.3 Skala SEM	107
3.6 Lembar Kerja Materi Geometri Bangun Ruang	110
3.7 Teknik Analisis Data	111
3.7.1 Statistik Deskriptif	111
3.7.2 Perhitungan <i>n-gain</i>	111
3.7.3 Uji Normalitas	112
3.7.4 Uji Homogenitas	113
3.7.5 Uji Perbedaan Rata-rata	113
3.7.6 Uji Pengaruh Interaksi	115
3.7.7 Uji Pengaruh Langsung dan Tidak Langsung	115

BAB IV HASIL PENELITIAN DAN PEMBAHASAN	
4.1 Hasil Penelitian	117
4.1.1 Kemampuan Geometri Siswa	117
4.1.1.1 Kemampuan Dasar Geometri (KDG).....	117
4.1.1.2 Pencapaian dan Peningkatan Kemampuan PMG	121
4.1.1.3 Pengaruh Interaksi terhadap Kemampuan PMG	138
4.1.1.4 Pengaruh Langsung-Tak langsung terhadap Kemampuan PMG	160
4.1.2 Interpretasi Siswa terhadap Geometri Bangun Ruang.....	167
4.1.3 <i>Self-Efficacy Matematis</i> (SEM).....	171
4.1.4 Pengaruh Interaksi terhadap Skor SEM.....	174
4.2 Pembahasan.....	180
4.2.1 Kemampuan Geometri.....	180
4.2.1.1 Kemampuan Dasar Geometri Siswa.....	170
4.2.1.2 Kemampuan Pemecahan Masalah Geometri.....	183
4.2.1.3 Pengaruh Interaksi terhadap Kemampuan PMG	203
4.2.1.4 Pengaruh Langsung-Tak langsung terhadap Kemampuan PMG	211
4.2.2 Interpretasi Siswa terhadap Geometri Bangun Ruang.....	219
4.2.3 <i>Self-Efficacy Matematis</i>	224
4.2.3.1 Pencapaian SEM.....	224
4.2.3.2 Interaksi Pembelajaran dan Gender terhadap SEM.....	231
4.2.3.3 Interaksi Pembelajaran dan Tingkat KDG terhadap SEM	233
4.3 Keterbatasan Penelitian	235
BAB V KESIMPULAN, IMPLIKASI, DAN REKOMENDASI	
5.1 Kesimpulan	237
5.2 Implikasi.....	239
5.3 Rekomendasi	241
DAFTAR PUSTAKA	244
INDEKS	259
LAMPIRAN.....	264

DAFTAR PUSTAKA

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