

**PENGARUH *PROBLEM-BASED LEARNING* DAN *DIRECT INSTRUCTION* BERBANTUAN *GEOGEBRA* TERHADAP PEROLEHAN DAN PENINGKATAN KEMAMPUAN BERPIKIR KRITIS MATEMATIS
DITINJAU DARI *ADVERSITY QUOTIENT* SISWA**

DISERTASI

Diajukan untuk Memenuhi Sebagian dari
Persyaratan Memperoleh Gelar Doktor Ilmu Pendidikan
dalam Bidang Pendidikan Matematika



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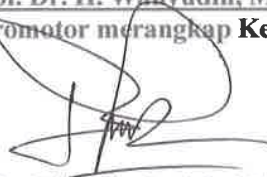
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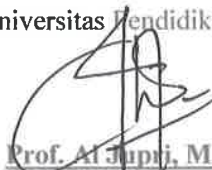


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ABSTRAK

Nurul Rafiqah Nasution (2024). Pengaruh *Problem-Based Learning* dan *Direct Instruction* Berbantuan *Geogebra* Terhadap Perolehan dan Peningkatan Kemampuan Berpikir Kritis Matematis Ditinjau dari *Adversity Quotient* Siswa

Penelitian ini bertujuan untuk menganalisis dan mendeskripsikan tentang pengaruh *Problem-Based Learning* berbantuan *Geogebra* (PBL-Geo) dan *Direct Instruction* berbantuan *Geogebra* (DI-Geo) terhadap perolehan dan peningkatan kemampuan berpikir kritis matematis (KBKM) ditinjau dari *Adversity Quotient* (AQ) siswa, serta diperolehnya konjektur yang mengaitkan tingkat *Adversity Quotient* (AQ) dengan kemampuan berpikir kritis matematis (KBKM) siswa. Sampel dalam penelitian ini adalah siswa kelas XI MAN di Kota Medan yang berjumlah 58 siswa. Metode di dalam penelitian ini adalah *mixed method* dengan desain *explanatory sequential*. Tahap kuantitatif menggunakan desain *one group pretest-posttest design* dan *factorial design* 3×2 . Sedangkan tahap kualitatif menggunakan desain *case study* dengan perspektif *grounded theory*. Hasil penelitian ini menunjukkan bahwa: (1) *Problem-Based Learning* berbantuan *Geogebra* (PBL-Geo) berpengaruh lebih tinggi dari *Direct Instruction* berbantuan *Geogebra* (DI-Geo) terhadap perolehan kemampuan berpikir kritis matematis (KBKM) siswa; (2) siswa yang memiliki *Adversity Quotient Climber* berpengaruh lebih tinggi dari *Adversity Quotient Camper*, siswa yang memiliki *Adversity Quotient Climber* berpengaruh lebih tinggi dari *Adversity Quotient Quitter*, dan siswa yang memiliki *Adversity Quotient Camper* berpengaruh lebih tinggi dari *Adversity Quotient Quitter* terhadap perolehan kemampuan berpikir kritis matematis (KBKM); (3) tidak terdapat efek interaksi antara pembelajaran dan tingkat *Adversity Quotient* (AQ) terhadap perolehan kemampuan berpikir kritis matematis (KBKM) siswa; (4) *Adversity Quotient* (AQ) berpengaruh positif terhadap kemampuan berpikir kritis matematis (KBKM) siswa; (5) kemampuan berpikir kritis matematis (KBKM) siswa yang memiliki tingkat *Adversity Quotient Climber* yang belajar dengan *Problem-Based Learning* berbantuan *Geogebra* (PBL-Geo) tergambarkan oleh kemampuan siswa yang mampu menginterpretasi, menganalisis, mengevaluasi, dan menginferensi.

Kata Kunci: *Adversity Quotient*, *Direct Instruction*, Kemampuan Berpikir Kritis Matematis, *Problem-Based Learning*

ABSTRACT

Nurul Rafiqah Nasution (2024). The Influence of Problem-Based Learning and Direct Instruction Assisted by Geogebra on Acquiring and Improving Mathematical Critical Thinking Ability Reviewed from Students' Adversity Quotient

This research aims to analyze and describe the influence of the Problem-Based Learning assisted by Geogebra (PBL-Geo) and Direct Instruction assisted by Geogebra (DI-Geo) on the acquisition and improvement of mathematical critical thinking ability (MCTA) in terms of students' Adversity Quotient (AQ) and obtained a conjecture that links the Adversity Quotient (AQ) level with students' mathematical critical thinking ability (MCTA). The sample in this research was class XI MAN students in Medan City, totaling 58 students. The method in this research is mixed method with sequential explanatory design. The quantitative stage uses one group pretest-posttest design and 3×2 factorial design. Meanwhile, the qualitative stage uses case study design with a grounded theory perspective. The results of this research show that: (1) PBL-Geo has a higher effect than DI-Geo on students' acquisition of mathematical critical thinking ability (MCTA); (2) students who have AQ Climber have higher influence than AQ Camper, students who have AQ Climber have higher influence than AQ Quitter, and students who have AQ Camper have higher influence than AQ Quitter on the acquisition of mathematical critical thinking ability (MCTA); (3) there is no interaction effect between learning and the AQ level on students' acquisition of mathematical critical thinking ability (MCTA); (4) AQ has a positive effect on students' mathematical critical thinking ability (MCTA); (5) mathematical critical thinking ability (MCTA) of students who have the AQ Climber level who learn with PBL-Geo is illustrated by the ability of students who are able to interpret, analyze, evaluate and infer.

Keywords: Adversity Quotient, Direct Instruction, Mathematical Critical Thinking Ability, Problem-Based Learning

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