

**PENGARUH *DISCOVERY LEARNING* (DL) DAN *PROJECT-BASED LEARNING* (PJBL) TERHADAP KEMAMPUAN PENALARAN SPASIAL SISWA PADA MATERI BANGUN RUANG**

**TESIS**

*Diajukan untuk Memenuhi Sebagian dari Persyaratan Memperoleh Gelar  
Magister Pendidikan dalam Program Studi Pendidikan Dasar*



oleh

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**PROGRAM STUDI PENDIDIKAN DASAR  
SEKOLAH PASCASARJANA  
UNIVERSITAS PENDIDIKAN INDONESIA  
2024**

**PENGARUH *DISCOVERY LEARNING (DL)* DAN *PROJECT-BASED LEARNING (PJBL)* TERHADAP KEMAMPUAN PENALARAN SPASIAL SISWA PADA MATERI BANGUN RUANG**

Oleh  
Mega Fathunnisa

S.Pd Universitas Terbuka 2011

Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat untuk memperoleh gelar Magister Pendidikan (M.Pd) pada Fakultas Sekolah Pascasarjana

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Agustus 2024

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*"For min mãne and those who shine among the stars,  
As long as we keep walking, following that bright Polaris,  
We will meet again, as we do in our memories."*

**HALAMAN PENGESAHAN TESIS**

**MEGA FATHUNNISA**

**PENGARUH *DISCOVERY LEARNING (DL)* DAN *PROJECT-BASED LEARNING (PJBL)* TERHADAP KEMAMPUAN PENALARAN SPASIAL SISWA PADA MATERI BANGUN RUANG**

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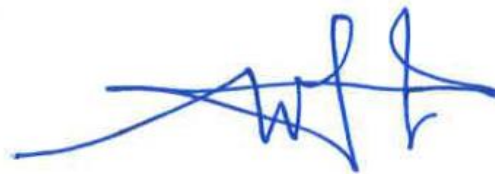


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## HALAMAN PERNYATAAN KEASLIAN KARYA TULIS TESIS

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Dengan ini saya menyatakan bahwa tesis dengan judul “Pengaruh *Discovery Learning* (DL) dan *Project-Based Learning* (PjBL) Terhadap Kemampuan Penalaran Spasial Siswa Pada Materi Bangun Ruang” ini beserta seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung resiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klain dari pihak lain terhadap keaslian karya saya ini.

Bandung, 30 Agustus 2024

Yang membuat pernyataan,



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## ABSTRAK

**Mega Fathunnisa (2024).** Pengaruh *Discovery Learning* (DL) dan *Project-Based Learning* (PjBL) Terhadap Kemampuan Penalaran Spasial Siswa Pada Materi Bangun Ruang.

Penelitian ini bertujuan untuk menganalisis dan mendeskripsikan keefektifan implementasi *Discovery Learning* (DL) dan *Project-Based Learning* (PjBL) terhadap perolehan dan peningkatan penalaran spasial siswa dalam materi bangun ruang. Penelitian ini bertujuan untuk menganalisis dan mendeskripsikan pengaruh *Discovery Learning* dan *Project-Based Learning* terhadap perolehan dan peningkatan penalaran spasial siswa dalam materi bangun ruang. Metode penelitian yang digunakan adalah kuantitatif dengan tipe kuasi eksperimen. Desain penelitian yang digunakan adalah *one group pre-test post-test group design* dan *pre-test post-test control group design*. Kelas kontrol mengimplementasikan pembelajaran penemuan dan kelas eksperimen mengimplementasikan pembelajaran berbasis proyek. Subjek penelitian adalah siswa kelas V SD pada satu SD negeri di Kabupaten Bogor, sebanyak 26 siswa di kelas kontrol dan 27 siswa di kelas eksperimen. Instrumen yang digunakan adalah tes penalaran spasial. Analisis data dalam penelitian ini adalah analisis data kuantitatif berupa uji statistik deskriptif dan uji statistik inferensial. Hasil penelitian menunjukkan (i) rata-rata perolehan siswa yang memperoleh pembelajaran DL lebih tinggi dari pada siswa yang memperoleh pembelajaran PjBL; (ii) DL dan PjBL berpengaruh secara signifikan terhadap kemampuan penalaran spasial dengan besar pengaruh pada kategori tinggi pada DL, dan kategori rendah pada PjBL, dan (iii) peningkatan kemampuan penalaran spasial siswa yang memperoleh pembelajaran DL berada pada kategori sedang, sedangkan pada siswa yang memperoleh pembelajaran PjBL berada pada kategori rendah, dan (iv) tidak terdapat perbedaan pengaruh PjBL dan DL pada perolehan dan peningkatan kemampuan penalaran spasial siswa pada materi bangun ruang.

**Kata kunci:** *Discovery Learning*, *Project-Based Learning*, Kemampuan Penalaran Spasial, Bangun Ruang

## ABSTRACT

**Mega Fathunnisa (2024).** The Effect of Discovery Learning (DL) and Project-Based Learning (PjBL) on Students' Spatial Reasoning Ability in Solid Geometry.

This study aims to analyze and describe the effectiveness of implementing Discovery Learning (DL) and Project-Based Learning (PjBL) on students' acquisition and improvement of spatial reasoning in solid geometry. The research method used is quantitative with a quasi-experimental type. The research design employed is a one-group pre-test post-test design and a pre-test post-test control group design. The control class implemented the discovery learning, while the experimental class implemented the project-based learning. The research subjects were fifth-grade students from an elementary school in Bogor Regency, consisting of 26 students in the control class and 27 students in the experimental class. The instrument used was a spatial reasoning test. The data analysis in this study involved quantitative analysis using descriptive statistics and inferential statistics. The results of the study showed (i) the average acquisition of students who received DL was higher than that of students who received PjBL, (ii) DL and PjBL significantly influenced spatial reasoning ability, with a high effect size for DL and a low effect size for PjBL, (iii) the improvement in spatial reasoning ability of students who received DL was in the medium category, while for students who received PjBL it was in the low category, and (iv) there was no difference in the influence of DL and PjBL on the acquisition and improvement of students' spatial reasoning ability in solid geometry.

**Keywords:** Discovery learning, Project-Based Learning, Spatial Reasoning Ability, Solid Geometry

## KATA PENGANTAR

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Tesis ini memuat implementasi pembelajaran penemuan (*Discovery Learning*) di kelas kontrol dan pembelajaran berbasis proyek (*Project-Based Learning*) di kelas eksperimen dalam pembelajaran matematika. Kedua model sesuai dengan prinsip konstruktivisme, yaitu: (1) pembelajaran bersifat kontekstual, (2) siswa terlibat aktif dalam proses pembelajaran; dan (3) siswa membangun pengetahuannya sendiri, baik secara mandiri maupun sosial. Selaras dengan temuan-temuan penelitian pada tesis ini sebagai bukti pengaruh kedua model terhadap perolehan dan peningkatan kemampuan penalaran spasial siswa.

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Penulis



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