

**PENERAPAN *CHALLENGE BASED LEARNING* (CBL) MELALUI
PENDEKATAN STEM (*SCIENCE TECHNOLOGY ENGINEERING AND
MATHEMATICS*) DALAM PEMBELAJARAN LISTRIK DINAMIS
UNTUK MENINGKATKAN KETERAMPILAN
BERPIKIR KREATIF SISWA**

TESIS

Diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar
Magister Pendidikan Fisika



Oleh

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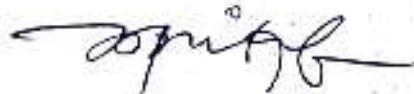
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ABSTRAK

Penelitian ini bertujuan untuk mengetahui efektifitas penerapan *Challenge Based Learning* (CBL) melalui pendekatan STEM dalam meningkatkan keterampilan berpikir kreatif siswa. Metode penelitian yang digunakan dalam penelitian ini adalah metode kuantitatif dengan bentuk *quasi-eksperimen research*. Desain penelitian yang digunakan berupa *pretest-posttest control group design*. Subjek penelitian ini terdiri dari 45 siswa kelas X di salah satu sekolah menengah kejuruan. Instrumen yang digunakan dalam penelitian ini adalah tes esai yang terdiri dari 4 pertanyaan keterampilan berpikir kreatif yang dikembangkan dari indikator Torrance. Peningkatan keterampilan berpikir kreatif siswa diketahui dengan analisis *normalized gain* (<g>) kelompok eksperimen dan kelompok kontrol. Untuk mengetahui perbedaan peningkatan keterampilan berpikir kreatif digunakan analisis statistik non-parametrik *Mann-Whitney U Test* dan uji Effect Size. Hasil penelitian menunjukkan bahwa peningkatan keterampilan berpikir kreatif siswa pada kelas CBL melalui pendekatan STEM lebih tinggi dibanding kelas CBL tanpa pendekatan STEM. Penerapan CBL melalui pendekatan STEM efektif dalam meningkatkan keterampilan berpikir kreatif siswa.

Kata Kunci : Keterampilan Berpikir Kreatif, Pendekatan STEM, Model CBL.

**APPLICATION OF CHALLENGE BASED LEARNING (CBL) THROUGH
APPROACH STEM (SCIENCE TECHNOLOGY ENGINEERING AND
MATHEMATICS) IN DYNAMIC ELECTRICITY LEARNING TO
IMPROVING STUDENTS' CREATIVE THINKING SKILL**

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ABSTRACT

This study aims to determine the effectiveness of the application of Challenge Based Learning (CBL) through the STEM approach in improving students' creative thinking skills. The research method used in this study is a quantitative method in the form of quasi-experimental research. The research design used was a pretest-posttest control group design. The subjects of this study consisted of 45 students of class X in one of the vocational high schools. The instrument used in this study was an essay test consisting of 4 questions of creative thinking skills developed from the Torrance indicator. Increased students' creative thinking skills are known by normalized gain analysis ($\langle g \rangle$) of the experimental group and the control group. To find out the difference in the improvement of creative thinking skills used non-parametric statistical analysis Mann-Whitney U Test and Effect Size test. The results showed that the increase in students' creative thinking skills in the CBL class through the STEM approach was higher than in the CBL class without the STEM approach. The application of CBL through the STEM approach is effective in improving students' creative thinking skills.

Keywords: Creative Thinking Skills, STEM Approach, CBL Model.

DAFTAR ISI

	Halaman
LEMBAR HAK CIPTA.....	i
LEMBAR PENGESAHAN	ii
PERNYATAAN.....	iii
KATA PENGANTAR.....	iv
UCAPAN TERIMAKASIH.....	v
ABSTRAK	vi
ABSTRACT	vii
DAFTAR ISI	viii
DAFTAR TABEL	x
DAFTAR GAMBAR	xii
DAFTAR LAMPIRAN	xiii
BAB I PENDAHULUAN	1
1.1. Latar Belakang Penelitian	1
1.2. Rumusan Masalah Penelitian	7
1.3. Tujuan Penelitian	8
1.4. Manfaat Penelitian	8
1.5. Struktur Organisasi Tesis	8
BAB II KAJIAN PUSTAKA	11
2.1. <i>Challenge Based Learning (CBL)</i>	11
2.1.1 Definisi Model CBL	11
2.1.2 Sintak Pembelajaran CBL	13
2.2. <i>STEM (Science, Technology, Engineering, and Mathematics)</i>	16
2.2.1 Definisi STEM	16
2.2.2 Perspektif Pendidikan STEM	18
2.2.3 Dimensi Pendidikan STEM.....	19
2.3. <i>Worksheet</i> (Lembar Kerja Siswa)	21
2.3.1 Definisi <i>Worksheet</i> (Lembar Kerja Siswa).....	21
2.3.2 Jenis <i>Worksheet</i> (Lembar Kerja Siswa)	21
2.3.3 Struktur <i>Worksheet Problem Solving Laboratory (PSL)</i>	22
2.4. Keterampilan Berpikir Kreatif	23
2.5. Hubungan CBL melalui Pendekatan STEM dan CBL berbantuan <i>Worksheet</i> dalam Meningkatkan Keterampilan Berpikir Kreatif.....	29
2.6. Penelitian Relevan	30
BAB III METODE PENELITIAN	35
3.1. Desain Penelitian	35

3.2. Partisipan	36
3.3. Populasi dan Sampel	36
3.4. Instrumen Penelitian	37
3.4.1 Jenis Instrumen Penelitian	37
3.4.2 Teknik Analisis Instrumen	37
3.4.3 Hasil Uji Coba Instrumen.....	42
3.5. Prosedur Penelitian	43
3.5.1 Tahap Perencanaan.....	43
3.5.2 Tahap Pelaksanaan	44
3.5.3 Tahap Pengolan Data dan Pelaporan.....	44
3.6. Hipotesis Penelitian	45
3.7. Teknik Analisis Data	46
3.7.1 Peningkatan Keterampilan Berpikir Kreatif.....	46
3.7.2 Uji Pembeda Peningkatan Keterampilan Berpikir Kreatif.....	51
3.7.3 Uji Efektifitas Pembelajaran CBL melalui Pendekatan STEM	53
3.7.4 Kualitas Keterlaksanaan Pembelajaran	54
BAB IV TEMUAN DAN PEMBAHASAN	56
4.1. Perbedaan peningkatan Penerapan CBL melalui Pendekatan STEM dengan Penerapan CBL berbantuan <i>Worksheet</i>	56
4.1.1 Perbedaan Peningkatan Keterampilan Berpikir Kreatif secara Keseluruhan	56
4.1.2 Perbedaan Peningkatan Keterampilan Berpikir Kreatif tiap Aspek	63
4.1.2.1 Perbedaan Peningkatan Aspek <i>Fluency</i>	65
4.1.2.2 Perbedaan Peningkatan Aspek <i>Flexibility</i>	71
4.1.2.3 Perbedaan Peningkatan Aspek <i>Originality</i>	78
4.2. Efektivitas Penerapan CBL melalui Pendekatan STEM	84
4.2.1 Uji Statistik.....	85
4.2.1.1 Uji Normalitas	85
4.2.1.2 Uji Non Parametrik Mann-Whitney U	85
4.2.2 Uji Dampak	87
BAB V SIMPULAN, IMPLIKASI DAN REKOMENDASI	91
5.1. Simpulan	91
5.2. Implikasi	92
5.3. Rekomendasi	92
DAFTAR PUSTAKA	93
LAMPIRAN-LAMPIRAN	103

DAFTAR TABEL

	Halaman
Tabel 2.1 Sintak Pembelajaran <i>Challenge Based Learning</i>	13
Tabel 2.2 Dimensi <i>Scientific Practice</i> dan <i>Engineering Practice</i> dalam Pendekatan STEM	19
Tabel 2.3 Struktur <i>Worksheet Problem Solving Laboratory</i>	22
Tabel 2.4 Pengembangan Aspek <i>Fluency</i> , <i>Flexibility</i> dan <i>Originality</i>	25
Tabel 2.5 Hubungan Penerapan Model CBL melalui Pendekatan STEM dan CBL berbantuan <i>Worksheet</i> dalam Keterampilan Berpikir Kreatif.....	26
Tabel 3.1 Desain Penelitian	35
Tabel 3.2 Instrumen Penelitian	37
Tabel 3.3 Hasil <i>Expert Judgement</i>	38
Tabel 3.4 Kriteria Koefisien Korelasi Validitas Instrumen.....	39
Tabel 3.5 Hasil Uji Validitas Item Tes Keterampilan Berpikir Kreatif	39
Tabel 3.6 Kategori Koefisien Reliabilitas	40
Tabel 3.7 Kategori Tingkat Kesukaran	41
Tabel 3.8 Hasil Uji Indeks Kesukaran (IP) Soal Test	41
Tabel 3.9 Kategori Indeks Daya Pembeda	42
Tabel 3.10 Hasil Uji Daya Pembeda	42
Tabel 3.11 Rekapitulasi Hasil Analisis Soal Tes	43
Tabel 3.12 Pedoman Penskoran Tes Keterampilan Berpikir Kreatif	46
Tabel 3.13 Kategorisasi Skor <i>N-Gain</i>	51
Tabel 3.14 Interpretasi Ukuran Dampak	54
Tabel 3.15 Kualitas Pembelajaran.....	55
Tabel 3.16 Perhitungan Tanggapan Respon Kualitas Pembelajaran.....	55
Tabel 4.1 Skor Rata-rata <i>Pretest</i> , <i>Posttest</i> dan <i>N-Gain</i>	57
Tabel 4.2 Kualitas Pembelajaran Kelas Eksperimen.....	60
Tabel 4.3 Kualitas Pembelajaran Kelas Kontrol	60
Tabel 4.4 Evaluasi Hasil Pembelajaran tiap Pertemuan.....	61
Tabel 4.5 Rata-rata <i>Pretest</i> , <i>Posttest</i> dan <i>N-Gain</i> Setiap Aspek	63
Tabel 4.6 Rata-rata <i>N-Gain</i> Aspek <i>Fluency</i> tiap Konteks Soal.....	68
Tabel 4.7 Rata-rata <i>N-Gain</i> Aspek <i>Flexibility</i> tiap Konteks Soal	74
Tabel 4.8 Rata-Rata <i>N-Gain</i> Aspek <i>Originality</i> tiap Konteks Soal	81
Tabel 4.9 Hasil Uji Normalitas Keterampilan Berpikir Kreatif	85
Tabel 4.10 Hasil Uji Mann-Whitney	86
Tabel 4.11 Hasil Analisis Ukuran Dampak Berpikir Kreatif	87
Tabel 4.12 Hasil Analisis Ukuran Dampak tiap Aspek Berpikir Kreatif	88

DAFTAR GAMBAR

	Halaman
Gambar 2.1 <i>Famework Challenge Based Learning</i>	13
Gambar 2.2 Perspektif Pendekatan STEM	18
Gambar 3.1 Alur Pelaksanaan Penelitian	45
Gambar 3.2 Alur Uji Hipotesis	53
Gambar 4.1 Sampel Jawaban Siswa Kelas Kontrol dan Eksperimen.....	63
Gambar 4.2 Diagram Peningkatan <i>N-Gain</i> Setiap Aspek	64
Gambar 4.3 Diagram Perkembangan Keterampilan <i>Fluency</i>	67
Gambar 4.4 Diagram Peningkatan Aspek <i>Fluency</i> tiap Konteks soal.....	68
Gambar 4.5 Sampel Jawaban <i>Posttest</i> Siswa Kelas Eksperimen	70
Gambar 4.6 Sampel Jawaban <i>Posttest</i> Siswa Kelas Kontrol.....	70
Gambar 4.7 Diagram Perkembangan Keterampilan <i>Flexibility</i>	74
Gambar 4.8 Diagram Peningkatan Aspek <i>Flexibility</i> tiap Konteks Soal	75
Gambar 4.9 Sampel Jawaban <i>Posttest</i> Siswa Kelas Eksperimen	77
Gambar 4.10 Sampel Jawaban <i>Posttest</i> Siswa Kelas Kontrol.....	77
Gambar 4.11 Diagram Perkembangan Keterampilan <i>Originality</i>	81
Gambar 4.12 Diagram Peningkatan Aspek <i>Originality</i> tiap Konteks Soal ...	82
Gambar 4.13 Sampel Jawaban <i>Posttest</i> Siswa Kelas Eksperimen	83
Gambar 4.14 Sampel Jawaban <i>Posttest</i> Siswa Kelas Kontrol	83

DAFTAR LAMPIRAN

Lampiran		Halaman
Lampiran A.1	Perangkat Pembelajaran Kelas Eksperimen.....	103
Lampiran A.2	Perangkat Pembelajaran Kelas Kontrol	163
Lampiran B.1	Lembar <i>Judgment</i> Instrumen Tes.....	204
Lampiran B.2	Kisi-kisi Instrumen Test.....	206
Lampiran B.3	Instrumen Soal Pretest dan Posttest	213
Lampiran C.1	Rekapitulasi Hasil Uji Instrumen Test	215
Lampiran C.2	Rekapitulasi Hasil Peningkatan Kemampuan Berpikir Kreatif	217
Lampiran C.3	Analisis Normalitas dan Efektifitas	227
Lampiran D.1	Surat Permohonan Izin Penelitian.....	230
Lampiran D.2	Surat Keterangan Telah Melaksanakan Penelitian.....	231
Lampiran D.3	Dokumentasi Penelitian	232

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