

PENGARUH INTEGRASI *CHUNKING TECHNIQUE* DAN *CONCEPT MAP* TERHADAP BEBAN KOGNITIF DAN *LEVEL OF THINKING* SISWA SMP PADA MATERI KALOR DAN PERPINDAHANNYA

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Pengaruh Integrasi *Chunking Technique* dan *Concept Map* terhadap Beban Kognitif dan *Level of Thinking* Siswa SMP pada Materi Kalor dan Perpindahannya

Anna Nurul Alfyah

ABSTRAK

Siswa sekolah dapat kembali belajar di sekolah pada masa *post-pandemic*. Siswa telah melaksanakan pembelajaran jarak jauh melalui pembelajaran daring. Pelaksanaan pembelajaran daring dapat membatasi proses pembelajaran karena situasi belajar yang berbeda dengan proses pembelajaran di sekolah. Perbedaan kondisi belajar yang dialami siswa selama pembelajaran jarak jauh dapat memberikan pengaruh pada siswa, terutama pada *Level of Thinking* dan beban kognitif yang dialami siswa. Pada penelitian ini dilakukan analisis mengenai integrasi *concept map* dan *chunking technique* untuk mengatasi beban kognitif dan efeknya terhadap *Level of Thinking*. Penelitian dilakukan dengan metode *quasi experiment* dengan desain *pre-test and post-test control group*. Partisipan dari penelitian ini berjumlah 70 siswa SMP kelas 7 yang terbagi menjadi kelompok kontrol dan eksperimen. *Naïve subjective rating scale* digunakan untuk mengukur beban kognitif dan *Level of Thinking test* untuk mengukur *Level of Thinking* sebelum dan setelah intervensi. Kelompok eksperimen memiliki skor beban kognitif yang lebih rendah dibandingkan kelompok kontrol. Rata-rata skor *Level of Thinking* menunjukkan tidak adanya perbedaan yang signifikan, tetapi siswa kelompok eksperimen memiliki pencapaian level yang lebih baik dibandingkan kelompok kontrol. Hasil menunjukkan bahwa *concept map* dan *chunking technique* dapat digunakan untuk mengatasi beban kognitif dan meningkatkan pencapaian *Level of Thinking*. Selain itu, *concept map* dan *chunking technique* dapat digunakan secara mandiri oleh siswa untuk belajar mandiri.

Kata kunci: beban kognitif, *Level of Thinking*, *chunking technique*, *segmenting principle*, peta konsep, *post-pandemic learning*

The Effect of Chunking Technique and Concept Map Integration on Junior Highschool Students' Cognitive Load and Level of Thinking during Heat Course

Anna Nurul Alfyah

ABSTRACT

Currently, students are allowed to back to school for learning in this post-pandemic. For months, students were forced to do remote learning through online classes. As the social restriction limits the learning process unlike the real classroom situation, it is expected that online learning would impact students' cognitive load and Level of Thinking. This study investigated the effect of junior high school students' cognitive load and Level of Thinking during heat topic. The method of this research was a quasi-experiment with a pre-test and post-test control group design. The participants were 70 students in seventh grade which divided into two groups. The naïve subjective rating scale was used to measure cognitive load which is consist of Intrinsic Cognitive Load (ICL), Extraneous Cognitive Load (ECL), and Germane Cognitive Load (GCL). Level of Thinking test instrument is used to measure students' Level of Thinking before and after the intervention. The experimental group which used concept map and chunking technique during learning scored lower on cognitive load than the control group. The average scores of the experimental group's ICL and ECL were lower than the control group, whereas the average score of GLC was higher than the control group. However, there's no differences of Level of Thinking scores, but experimental group achieved better on mastery level. The findings suggested that the concept map can be used to reduce students' cognitive load and to increase learning achievement and as a learning tool, it can be used in the classroom or during self-learning sessions in remote education.

Keywords: cognitive load, Level of Thinking, chunking technique, segmenting principle, concept map, post-pandemic learning

DAFTAR ISI

UCAPAN TERIMA KASIH.....	i
ABSTRAK	iii
DAFTAR ISI.....	v
DAFTAR TABEL	viii
DAFTAR GAMBAR.....	x
DAFTAR LAMPIRAN	xii
BAB I PENDAHULUAN.....	1
A. LATAR BELAKANG	1
B. RUMUSAN MASALAH	9
C. PERTANYAAN PENELITIAN	9
D. BATASAN MASALAH.....	9
E. DEFINISI OPERASIONAL.....	10
1. <i>Cognitive Load</i> (Beban Kognitif)	10
2. <i>Level of Thinking</i>	11
3. Integrasi <i>Chunking Technique</i> dan <i>Concept Map</i>	11
F. TUJUAN PENELITIAN	12
G. ASUMSI PENELITIAN	13
H. HIPOTESIS PENELITIAN	13
I. MANFAAT PENELITIAN	13
BAB II KAJIAN PUSTAKA	14
A. <i>COGNITIVE LOAD</i> (BEBAN KOGNITIF).....	14
1. <i>Intrinsic Cognitive Load</i> (ICL)	15
2. <i>Extraneous Cognitive Load</i> (ECL)	15
3. <i>Germane Cognitive Load</i> (GCL)	16
B. LEVEL OF THINKING	17
1. Domain Informasi (<i>Information</i>)	18
2. Domain Prosedur Mental (<i>Mental Procedures</i>).....	19
3. Domain Prosedur Psikomotor (<i>Psychomotor Procedures</i>).....	20
C. CHUNKING TECHNIQUE	28
D. CONCEPT MAP (PETA KONSEP)	30
E. MATERI KALOR DAN PERPINDAHANNYA.....	33

F. PENELITIAN YANG RELEVAN DAN SINTESIS PELUANG PENELITIAN	38
G. KERANGKA PIKIR PENELITIAN	47
BAB III METODE PENELITIAN	49
A. METODE DAN DESAIN PENELITIAN	49
B. SUBJEK PENELITIAN	49
C. TEKNIK PENGUMPULAN DATA	50
D. INSTRUMEN PENELITIAN.....	50
1. Subjective Rating Scale untuk Mengukur Cognitive Load.....	51
2. <i>Level of Thinking Test</i>	53
E. PROSEDUR PENELITIAN	55
1. Tahap Persiapan Penelitian	55
2. Tahap Pelaksanaan Penelitian.....	55
3. Tahap Pengolahan Data Penelitian	58
F. ANALISIS UJI INSTRUMEN DATA.....	58
1. Validitas Instrumen	59
2. Reliabilitas Instrumen	59
3. Daya Pembeda Soal	60
4. Tingkat Kesukaran / Index Kesukaran.....	60
G. ANALISIS PENGOLAHAN DATA.....	61
1. Pengolahan Data Beban Kognitif (<i>Cognitive Load</i>)	62
2. Pengolahan Data <i>Level of Thinking</i>	63
3. Analisis Hubungan Beban Kognitif dan <i>Level of Thinking</i>	66
BAB IV TEMUAN DAN PEMBAHASAN	67
A. HASIL PENELITIAN	67
1. Beban Kognitif (<i>Cognitive Load</i>)	67
2. <i>Level of Thinking</i>	80
3. Hubungan Beban Kognitif dan <i>Level of Thinking</i>	89
B. PEMBAHASAN.....	93
1. Beban Kognitif (<i>Cognitive Load</i>)	93
2. <i>Level of Thinking</i>	101
3. Hubungan Beban Kognitif dan <i>Level of Thinking</i>	106

BAB V SIMPULAN, IMPLIKASI, DAN REKOMENDASI	109
A. SIMPULAN.....	109
B. IMPLIKASI.....	110
C. REKOMENDASI	110
DAFTAR PUSTAKA	113
LAMPIRAN.....	121

DAFTAR TABEL

Tabel 2.1. Pengelompokan Domain Informasi (Marzano & Kendall, 2007).....	18
Tabel 2.2. Pengelompokan Domain Prosedur Mental	19
Tabel 2.3 Pengelompokan Domain Prosedur Mental (Marzano & Kendall, 2007).	20
Tabel 2.4. Interaksi Level 1: <i>Retrieval</i> dengan Tiga Domain Pengetahuan.....	21
Tabel 2.5. Interaksi Level 2: <i>Comprehension</i> dengan Tiga Domain Pengetahuan	23
Tabel 2.6. Interaksi Level 3: <i>Analysis</i> dengan Tiga Domain Pengetahuan.....	25
Tabel 2.7. Penelitian relevan dan peluang untuk penelitian mengenai <i>cognitive load, Level of Thinking, chunking technique</i> dan <i>concept map</i>	39
Tabel 3.1. Desain penelitian.....	49
Tabel 3.2. Instrumen Pengumpulan Data.....	50
Tabel 3.3. Rentang Respon <i>Naïve Subjective Cognitive Load</i>	51
Tabel 3.4. Contoh Kisi-Kisi Pertanyaan <i>Subjective Rating Scale</i> untuk Mengukur ICL setelah mempelajari materi suhu dan kalor.	52
Tabel 3.5. Kisi-Kisi <i>Subjective Rating Scale</i> untuk Mengukur ECL.....	52
Tabel 3.6. Kisi-Kisi <i>Subjective Rating Scale</i> untuk mengukur GCL.....	53
Tabel 3.7. Indikator <i>Level of Thinking</i> dari <i>The New Taxonomy</i> yang digunakan untuk mengukur <i>Level of Thinking</i>	54
Tabel 3.8. Perbandingan proses pembelajaran.....	56
Tabel 3.9. Interpretasi Validitas Nilai r_{xy}	59
Tabel 3.10. Interpretasi Reliabilitas Instrument.	59
Tabel 3.11. Interpretasi Daya Pembeda	60
Tabel 3.12. Interpretasi Kesukaran Soal	60
Tabel 3.13. Rekapitulasi Hasil Uji Coba Instrumen <i>Level of Thinking</i>	61
Tabel 3.14. Perhitungan Kategorisasi Beban Kognitif.....	62
Tabel 3.15. Kategorisasi Beban Kognitif.....	62
Tabel 3.16. Kategorisasi n-gain (Hake, 1999).	65
Tabel 4.1. Rangkuman uji statistika hasil penelitian beban kognitif pada kelompok kontrol dan eksperimen.	69
Tabel 4.2. Rangkuman Data Komponen Beban Kognitif dan Keseluruhan.	70

Tabel 4.3. Rekapitulasi Hasil Uji Statistika Data <i>Intrinsic Cognitive Load</i>	74
Tabel 4.4. Rekapitulasi Uji Statistika Data <i>Extraneous Cognitive Load</i>	77
Tabel 4.5. Rekapitulasi Uji Statistika Data <i>Germane Cognitive Load</i>	80
Tabel 4.8. Rekapitulasi Hasil Uji Statistik Skor <i>Pretest Level of Thinking</i>	81
Tabel 4.9. Rekapitulasi Hasil <i>n-gain</i> Tes <i>Level of Thinking</i>	82
Tabel 4.10. Rekapitulasi Hasil Uji Beda Rata-Rata <i>n-gain Level of Thinking</i>	83
Tabel 4.11. Rekapitulasi Hasil Uji Statistik Pencapaian <i>pretest Level of Thinking</i>	84
Tabel 4.12. Rekapitulasi Uji Statistik Pencapaian <i>Post-test Level of Thinking</i>	87
Tabel 4.13. Analisis Hubungan Skor ICL dan <i>Level of Thinking</i>	89
Tabel 4.14. Analisis Hubungan Skor ECL dan <i>Level of Thinking</i>	91
Tabel 4.15. Analisis Hubungan Skor GCL dan <i>Level of Thinking</i>	92

DAFTAR GAMBAR

Gambar 2.1. Contoh peta konsep berdasarkan Novak (1990).	31
Gambar 2.2. Perubahan Wujud Benda.	35
Gambar 2.3. Rumus Kalor Laten.	36
Gambar 2.4. Kerangka Pemikiran Penelitian.	48
Gambar 3.1. Tahap penelitian.	58
Gambar 4.1. Rerata beban kognitif pada kelompok kontrol dan eksperimen.	68
Gambar 4.2 Grafik Rata-Rata Hasil Komponen Beban Kognitif.	71
Gambar 4.3. Rerata Skor <i>Intrinsic Cognitive Load</i> (ICL) pada Kedua Kelompok.	72
Gambar 4.4. Histrogram persebaran data ICL pada kelompok kontrol.	73
Gambar 4.5. Histrogram persebaran data ICL pada kelompok eksperimen.	74
Gambar 4.6. Grafik Rata-Rata Skor <i>Extraneous Cognitive Load</i>	75
Gambar 4.7. Histrogram Persebaran Skor <i>Extraneous Cognitive Load</i> pada kelompok kontrol.	76
Gambar 4.8. Histrogram Persebaran Skor <i>Extraneous Cognitive Load</i> pada kelompok eksperimen.	76
Gambar 4.9. Grafik Rata-Rata Skor <i>Germane Cognitive Load</i>	78
Gambar 4.10. Histrogram Persebaran Skor <i>Germane Cognitive Load</i> pada kelompok kontrol.	79
Gambar 4.11. Histrogram Persebaran Skor <i>Germane Cognitive Load</i> pada kelompok kontrol.	79
Gambar 4.12. Grafik <i>Level of Thinking</i> Kelompok Kontrol dan Eksperimen.	81
Gambar 4.13. Grafik Pencapaian <i>Level of Thinking</i> Siswa berdasarkan Hasil <i>Pretest</i>	83
Gambar 4.14. Histrogram Penyebaran Level Berpikir pada <i>Pretest</i> pada Kelompok Kontrol.	85
Gambar 4.15. Histrogram Penyebaran Level Berpikir pada <i>Pretest</i> pada Kelompok Eksperimen.	85
Gambar 4.16. Grafik Pencapaian <i>Level of Thinking</i> Siswa berdasarkan Hasil <i>Post- test</i>	86

Gambar 4.17. Histogram Penyebaran Level Berpikir pada <i>Post-test</i> pada Kelompok Kontrol.	88
Gambar 4.18. Histogram Penyebaran Level Berpikir pada <i>Post-test</i> pada Kelompok Eksperimen.....	88

DAFTAR LAMPIRAN

Lampiran 1. Surat Pengantar Observasi.....	121
Lampiran 2. Surat Keterangan Penelitian.	122
Lampiran 3. Rancangan Proses Pembelajaran Kelompok Kontrol.....	123
Lampiran 4. Rancangan Proses Pembelajaran Kelompok Eksperimen.	130
Lampiran 5. LKPD <i>Concept Map</i>	137
Lampiran 6. Instrumen <i>Cognitive Load (Naïve Subjective Rating Scale)</i>	141
Lampiran 7. Instrumen <i>Level of Thinking</i>	153
Lampiran 8. Rubrik Penilaian Instrumen <i>Cognitive Load</i>	165
Lampiran 9. Hasil Uji Coba Instrumen.	177
Lampiran 10. Hasil Analisis Data Uji Coba Instrumen.	181
Lampiran 11. Hasil Riset: Respon <i>Cognitive Load</i> Pertemuan 1 Kelompok Kontrol.	194
Lampiran 12. Hasil Riset: Respon <i>Cognitive Load</i> Pertemuan 2 Kelompok Kontrol.	196
Lampiran 13. Hasil Riset: Respon <i>Cognitive Load</i> Pertemuan 3 Kelompok Kontrol.	198
Lampiran 14. Hasil Riset: Rekapitulasi Respon <i>Cognitive Load</i> Kelompok Kontrol.	200
Lampiran 15. Hasil Riset: Respon <i>Cognitive Load</i> Pertemuan 1 Kelompok Eksperimen.....	202
Lampiran 16. Hasil Riset: Respon <i>Cognitive Load</i> Pertemuan 2 Kelompok Eksperimen.....	204
Lampiran 17. Hasil Riset: Respon <i>Cognitive Load</i> Pertemuan 3 Kelompok Eksperimen.....	206
Lampiran 18. Hasil Riset: Rekapitulasi Respon <i>Cognitive Load</i> Kelompok Eksperimen.....	208
Lampiran 19. Hasil Riset: <i>Pre-test Level of Thinking Test</i> Kelompok Kontrol...	210
Lampiran 20. Hasil Riset: <i>Pre-test Level of Thinking Test</i> Kelompok Eksperimen.	212
Lampiran 21. Hasil Riset: <i>Post-test Level of Thinking Test</i> Kelompok Kontrol.	214

Lampiran 22. Hasil Riset: <i>Post-test Level of Thinking Test</i> Kelompok Eksperimen.	216
Lampiran 23. Rekapitulasi Skor <i>Pre-test</i> dan <i>Post-test Level of Thinking</i>	218
Lampiran 24. <i>Output</i> Analisis Statistik dengan IBM SPSS Statistics 26.	220
Lampiran 25. <i>Scan Respon Naïve Subjective Rating Scale, Level of Thinking</i> dan LKS <i>Concept Map</i> Kelompok Kontrol.	224
Lampiran 26. Dokumentasi Pelaksanaan Observasi.	239

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