

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

**TESIS**

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oleh:

Anna Nurul Alfyah

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oleh  
Anna Nurul Alfyah

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Sebuah tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Magister Pendidikan pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam

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**ANNA NURUL ALFYAH**

**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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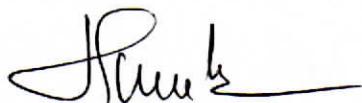
Pembimbing I,



**Dr. rer.nat. Adi Rahmat, M.Si.**

NIP. 19651230 199202 1 001

Pembimbing II,



**Dr. H. Taufik Rahman, M.Pd.**

NIP. 19620115 198703 1 002

Mengetahui,

Ketua Program Studi Pendidikan Ilmu Pengetahuan Alam  
Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam  
Universitas Pendidikan Indonesia,



**Prof. Dr. Ida Kaniawati, M.Si.**

NIP. 19680703 199203 2 001

**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 eksperimen. 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

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