

ABSTRAK
PROFIL BEBAN KOGNITIF SISWA SMA WILAYAH BANDUNG
PADA PEMBELAJARAN KONSEP SYARAF

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Penelitian ini bertujuan untuk mendeskripsikan hubungan antara komponen beban kognitif siswa SMA selama proses pembelajaran sistem syaraf. Penelitian dilakukan di lima SMA wilayah Bandung, yang ditentukan dengan teknik *random sampling*, dan melibatkan 154 siswa kelas XI MIA sebagai objek penelitian. Pembelajaran dilakukan di kelas XI pada materi sistem syaraf, dengan menggunakan kurikulum 2013. Beban kognitif diukur pada tiga komponen, yaitu ICL diukur berdasarkan kemampuan menerima dan mengolah informasi (MMI) yang dijamin dengan instrumen *task complexity* yang disusun dalam bentuk pertanyaan pada lembar kerja, ECL diukur berdasarkan usaha mental siswa (UM) yang dijamin melalui kuisioner berbentuk *subjective rating scale* menggunakan skala Likert, serta GCL diukur berdasarkan hasil belajar (HB) yang dijamin dengan soal tes berdasarkan indikator standar pengolahan informasi dari Marzano (1993). Hasil analisis menunjukkan bahwa selama proses pembelajaran, ICL siswa di setiap sekolah bervariasi, ECL siswa tergolong tinggi dan GCL siswa tergolong rendah. Korelasi antar tiga komponen beban kognitif menggambarkan umumnya siswa di setiap sekolah masih memiliki beban kognitif yang tinggi selama proses pembelajaran.

Kata Kunci: beban kognitif, berpikir kompleks, pembelajaran biologi, sistem syaraf.

ABSTRACT

COGNITIVE LOAD PROFILE OF SENIOR HIGH SCHOOL STUDENTS IN BANDUNG ON THE NERVE CONCEPT LEARNING

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This research purpose to describe the relationship between the components of the cognitive load of high school students during the learning process of the nerve system. The research was doing in five senior high school in Bandung, which is determined by random sampling technique, and involves 154 students of XI MIA as an object of research. Learning in class XI doing on nerve system with using the 2013 curriculum. Cognitive load were measured with three components, ICL is measured based on ability to receive and process the information (MMI) from task complexity instrument that arranged by questions on a worksheet, ECL is measured based on mental effort (UM) of students from subjective rating scale questionnaire with using the Likert scale, and GCL is measured based on learning outcomes (HB) from the test questions by information processing standard indicator from Marzano (1993). The analysis showed that during the learning process, student ICL in each school are varies, students ECL is high and student GCL is low. In general, correlation between the three components of cognitive load describe the students in each school still has a high cognitive load during the learning process.

Keywords: cognitive load, complex thinking, learning biology, nerve system.