

**PROFIL MODEL MENTAL SISWA MENGGUNAKAN TES DIAGNOSTIK
MODEL MENTAL *PREDICT-OBSERVE-EXPLAIN* (TDM-POE) PADA
SUBMATERI PENGARUH KONSENTRASI, SUHU, DAN KATALIS
TERHADAP LAJU REAKSI**

SKRIPSI

diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar Sarjana
Pendidikan Program Studi Pendidikan kimia



oleh

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Sarjana Pendidikan Program Studi Pendidikan Kimia Fakultas Pendidikan
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ABSTRAK

Penelitian ini bertujuan untuk memperoleh profil model mental siswa pada submateri pengaruh konsentrasi, suhu, dan katalis terhadap laju reaksi. Subjek penelitian terdiri dari 31 orang siswa kelas XII di salah satu SMA Negeri di Kota Bandung yang telah mempelajari submateri pengaruh konsentrasi, suhu, dan katalis terhadap laju reaksi. Desain penelitian yang digunakan adalah deskriptif kualitatif dengan instrumen Tes Diagnostik Model *Predict-Observe-Explain* (TDM-POE). Terdapat tiga konsep yang menjadi fokus penelitian ini, yaitu: (a) pengaruh konsentrasi terhadap laju reaksi; (b) pengaruh suhu terhadap laju reaksi; dan (c) pengaruh katalis terhadap laju reaksi. Data hasil penelitian dikelompokkan pada lima tipe model mental yaitu model mental paham (P), sebagian paham (SP), sebagian paham dengan miskonsepsi spesifik (SPM), miskonsepsi spesifik (MS), dan tidak paham (TP). Secara umum pada submateri pengaruh konsentrasi, suhu, dan katalis terhadap laju reaksi, siswa mengungkapkan pengetahuannya pada level makroskopik lebih baik daripada level submikroskopik dan simbolik. Hasil penelitian menunjukkan bahwa profil model mental siswa pada konsep pengaruh konsentrasi terhadap laju reaksi didominasi oleh model mental sebagian paham dengan persentase 52%. Konsep pengaruh suhu terhadap laju reaksi didominasi oleh model mental sebagian paham dengan persentase 49%. Konsep pengaruh katalis terhadap laju reaksi mengenai pengaruh katalis homogen terhadap laju reaksi didominasi oleh model mental miskonsepsi spesifik dengan persentase 68%, dan terdapat 78% siswa miskonsepsi spesifik mengenai pengaruh katalis heterogen terhadap laju reaksi.

Kata kunci: Model Mental, TDM-POE, Miskonsepsi, Pengaruh Konsentrasi, Suhu, dan Katalis terhadap Laju Reaksi.

ABSTRACT

This aim of study was to investigate the students' mental model profile on the effect of concentration, temperature, and catalyst on the reaction rate. The research was conducted in Public High School in Bandung with total of 31 students of class XII who had studied the effect of concentration, temperature, and catalyst on the reaction rate. A qualitative descriptive research design was used in this study with Diagnostic Test of Mental Model by Predict-Observe-Explain (DToM-POE) instruments. There are three concepts that became a focus on this research, namely: (a) the effect of concentration on the reaction rate; (b) the effect of temperature on the rate of reaction; and (c) the effect of the catalyst on the reaction rate. The results of the research data were grouped into five types of mental models namely sound no understanding (NU), specific misconception (SM), partial understanding with a specific misconception (PUSM), partial understanding (PU), and sound understanding (SU). In general on effect of concentration, temperature, and catalyst on the reaction rate, students express their knowledge at the macroscopic level better than the submicroscopic and symbolic levels. The results showed that the profile of students' mental model on the concept of the effect of concentration on the reaction rate was dominated by mental models partial understanding by a percentage of 52%. The concept of the effect of temperature on the rate of reaction is dominated by partial understanding mental models by the percentage of 49%. The concept of the effect of a catalyst on the reaction rate regarding the effect of a homogeneous catalyst on the reaction rate is dominated by specific misconception with a percentage of 55%, and there are 78% of students a specific misconception about the effect of heterogeneous catalysts on reaction rates.

Keywords: Mental models, DToM-POE, Misconception, Effect of Concentration, Temperature, and Catalyst on the Rate of Reaction

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