PENERAPAN MODEL PEMBELAJARAN KONSEPTUAL INTERAKTIF BERBANTUAN MULTIMEDIA VISUAL UNTUK MEMPERBAIKI MODEL MENTAL SISWA SD TERKAIT KONSEP-KONSEP PADA MATERI PERUBAHAN WUJUD ZAT

Tesis

Diajukan untuk Memenuhi Sebagian dari Syarat
Memperoleh Gelar Magister Pendidikan pada
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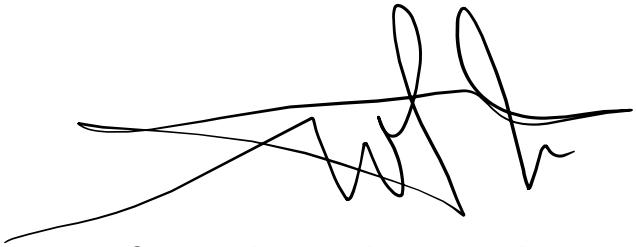

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ABSTRAK

Model mental mewakili ide-ide dalam pikiran seseorang yang digunakan untuk menggambarkan dan menjelaskan fenomena. Proses berpikir seseorang memerlukan bangunan model mental yang baik. Keadaan model mental tersebut sangat erat kaitannya dengan tingkat pemahaman para siswa yang tidak utuh terhadap konsep-konsep sains yang dipelajari. Tujuan dari penelitian ini adalah untuk mendapatkan gambaran tentang jumlah siswa SD pada setiap kategori model mental pada saat sebelum dan sesudah penerapan model pembelajaran, efektivitas dan tanggapan siswa tentang penerapan model pembelajaran konseptual interaktif berbantuan multimedia visual pada materi perubahan wujud zat. Metode penelitian yang digunakan adalah eksperimen awal (*pre-experiment*). Dengan desain yang digunakan dalam penelitian ini adalah *one group pretest-posttest design*. Instrumen yang digunakan berupa tes pemahaman konsep dan tes skala sikap. Pengolahan data dengan menggunakan rubrik tingkat pemahaman yang dikembangkan oleh Abraham, dkk (1992) dan rubrik model mental yang dikembangkan oleh Kurnaz (2015). Hasil penelitian menunjukan jumlah siswa SD yang mencapai model mental *scientific* mengalami peningkatan yang sangat signifikan sebanyak 58% pada hasil *posttest*, sedangkan pada *pretest* tidak ada siswa yang mencapai model mental *scientific*. Jumlah siswa yang mencapai model mental *synthetic* sebanyak 21% pada hasil *posttest*, sedangkan pada *pretest* siswa yang mencapai model mental sebanyak 22%. Jumlah siswa yang mencapai model mental *initial* mengalami penurunan yang sangat signifikan pada hasil *posttest* sebanyak 21%, sedangkan pada *pretest* siswa yang mencapai model mental *initial* sebanyak 78%. Penerapan model pembelajaran konseptual interaktif berbantuan multimedia visual memiliki efektivitas "sedang" dalam memfasilitasi pencapaian model mental kategori *scientific* pada siswa SD. Selanjutnya tanggapan siswa terhadap penerapan model pembelajaran konseptual interaktif berbantuan multimedia visual adalah 87% setuju. Siswa mampu memperbaiki konsep yang keliru setelah pembelajaran dengan melihat video, simulasi virtual, dan percobaan.

Kata kunci: Model pembelajaran konseptual interaktif berbantuan multimedia visual, model mental, perubahan wujud zat.

ABSTRACT

Mental model represent ideas in a person's mind that is used to describe and explain phenomena. One's thought process requires a good mental model building. The condition of the mental model is closely related to the level of students' incomplete understanding of the science concepts that they learn. The purpose of this study was to obtain an overview of the number of elementary school students in each mental model category before and after the implementation of the learning model, the effectiveness and student responses about the implementation of the interactive conceptual learning model assisted by visual multimedia on the material of the substance change. The research method used was an pre-experiment. The design used in this study was a *one group pretest-posttest design*. The instruments used were a concept understanding test and an attitude scale test. Data processing used the rubric of the level of understanding developed by Abraham, et al. (1992) and the rubric of mental model developed by Kurnaz (2015). The results showed that the number of elementary school students who achieved the scientific mental model had a very significant increase of 58% in the posttest results, and none of the students reached the scientific mental model in the pretest results. The number of students who achieved the synthetic mental model was 21% in the posttest results, and the number of students who achieved the mental model in the pretest results was 22%. The number of students who achieved the initial mental model got a very significant decrease in the posttest results was 21%, and the number of students who achieved the initial mental model in the pretest results was 78%. The implementation of the interactive conceptual learning model assisted by visual multimedia had "medium" effectiveness in facilitating the achievement of the scientific category mental model in elementary school student. Furthermore, the students' responses to the implementation of the interactive conceptual learning model assisted by visual multimedia were 87% agreed. Students were able to correct wrong concepts after learning by watching videos, virtual simulations, and experiments.

Keywords: interactive conceptual learning model assisted by visual multimedia, mental model, substance change.

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