



## The Effectiveness 3D Models Online Modules to Practice Mastery of Solar System Conceptual Knowledge

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Dhanang Setyo Ervana<sup>1\*</sup>, Raharjo<sup>2</sup>, Munasir<sup>3</sup>  
<sup>1,2,3</sup> State University of Surabaya, Surabaya, Indonesia

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### ABSTRACT

This study aims to describe the effectiveness of 3D models online modules to practice mastery of solar system conceptual knowledge. The effectiveness of the 3D models online modules was measured using a conceptual knowledge mastery test instrument which was tested on 15 7<sup>th</sup> grade junior high school students in Jombang district, East Java, Indonesia. The test instrument consisted of 30 questions with the addition of the Certainty of Response Index (CRI) which was divided into 3 meetings and each meeting tested 10 questions. The results showed that 48.67% of students had been able to master conceptual knowledge when given the 3D models online modules. However, 31.11% of students experienced misconceptions, 8.44% answered correctly because of luck and 11.78% had not been able to master conceptual knowledge. Because the resulting misconceptions fall into the moderate criteria, it can be concluded that the 3D models online modules in general has not been effective in practicing mastery of solar system conceptual knowledge. When examined further, this ineffectiveness is found in the cognitive dimensions of C4, learning indicators (LI) 1, 3 and 4, as well as conceptual knowledge sub-types (CKST) 1 and 3. While the effective 3D models online modules in cognitive dimensions C2 and C5, learning indicators (LI) 2 and 5, and conceptual knowledge sub-types (CKST) 2.

### INTRODUCTION

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The Coronavirus Disease (Covid-19) pandemic which has spread to various countries including Indonesia requires various sectors to immediately take a stand in preventing wider transmission, including the education sector. In this regard, the Ministry of Education and Culture of the Republic of Indonesia takes a stance to organize a distance learning process. The application of distance learning from the perspective of teachers and students is considered less than optimal. Even though the whole world is going through difficult times, that doesn't mean we can't do anything about it. In this condition of uncertainty, we really need adaptive capacity. This adaptability will appear in every teacher who cares for students along with the power of innovation. Therefore, in a difficult situation like this, this is no longer the time to maintain cynicism and pessimism. This is the time to cultivate optimism to keep moving, adapting, and innovating to meet the ever-changing world (Kasali, 2021).

The dynamics of learning during the Covid-19 pandemic is a challenge to present solutions for teaching solar system material, especially for junior high school students. The dynamics faced make researchers try to innovate with a module that has the ability

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