

DEVELOPMENT OF ELECTRIC CAR TECHNOLOGY SIMULATOR MEDIA ON CHILDREN'S TOY ASSEMBLY MODELS (TAMIYA) ELECTRICITY AND MAGNETIC LEARNING MATERIALS IN PRIMARY SCHOOL

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ABSTRACT

Efforts are made to encourage learning for elementary school children to develop critical reasoning abilities and creativity. To achieve this, it requires the support of various learning components, such as contextual learning media, in accordance with the latest technological developments. However, so far, there are still various problems with learning media, such as variety, quantity, and up-to-dateness. Therefore, it is necessary to develop learning media that are oriented towards future technology and according to the characteristics of elementary school students. This research aims to: determine the need for electrical and magnetic learning media for elementary school children; design simulator media for elementary school learning on electrical and magnetic material; and develop simulator media to support electricity and magnetism learning for elementary school children. This research is of the research and development type, with a 4D model with define, design, develop, and disseminate stages. Data collection was carried out through interviews, FGDs, and questionnaires. Data analysis was carried out using qualitative and descriptive quantitative analysis methods. The research results show that: 1) The need for media development is based on the characteristics of elementary school students in basic science learning, the desired level of competency, level of experience, concepts developed, types of media, and forms of media developed. 2) Simulator media design in the form of a Tamiya children's toy model that is packaged in the form of an educational display oriented towards electricity and magnetism; 3) The resulting product is a Tamiya car simulator that shows electrical components and displays electrical quantities. The simulator media was declared feasible by experts and received positive responses from elementary school teachers. In future research, it is necessary to test the effectiveness of the media developed in learning in schools.

Kata Kunci: Electricity, learning media, electric cars, elementary schools, simulator