

Development of Science Student Woksheet with i-STEAM (Inquiry-Science Technology Engineering Arts & Mathematics) to improve 21st Century Skills in the Era of Society 5.0

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ABSTRACT

The application of STEAM can help develop knowledge, help answer questions based on investigation, and can help students to create new knowledge. The application of the STEAM learning approach is an alternative to meaningful learning that can be applied to develop critical thinking skills. The purpose of this research is to produce a valid Science student worksheet with i-STEAM content to realize 21st century skills.

This research and development (R&D) uses the development steps proposed by Borg & Gall with which consists of ten stages, which are divided into two stages (research year). The purpose of this research is to produce a needs analysis of mapping material in science learning and strategies used in i-STEAM-fueled learning and learning outputs that appear and produce valid products (stage I), and obtain the results of the Science student worksheet product trial with i-STEAM based on a feasible needs analysis (stage II). This research was conducted for stage I first. The resulting product is Science student worksheet with i-STEAM content to train critical thinking skills and environmental literacy. The developed product was validated to determine its feasibility by two expert lecturers. The results of validation from experts obtained valid results to realize the ability to think critically and environmental literacy with the product category is very good and feasible to use in ecological material and biodiversity in ledok sambi tourist village and minggir school forest.

Kata Kunci: *inquiry, STEAM, critical thinking skills, environmental literacy*