

**ABSTRAK**  
**PENGEMBANGAN MEDIA PEMBELAJARAN *SCRATCH***  
**TERINTEGRASI ETNOSAINS KEBUDAYAAN BALI**  
**PADA MATERI PERPINDAHAN KALOR**  
**DI KELAS 5 SD N 7 MANUKAYA**

**Oleh**

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Penelitian ini bertujuan untuk: (1) mengetahui kebutuhan guru terhadap media pembelajaran *Scratch* yang terintegrasi etnosains kebudayaan Bali pada materi perpindahan kalor di kelas 5 SD N 7 Manukaya, (2) mengetahui prototipe media pembelajaran tersebut, dan (3) mengetahui kelayakannya. Penelitian menggunakan metode campuran dengan pendekatan *Research and Development* menurut tahapan Sugiyono: potensi dan masalah, pengumpulan data, desain produk, validasi, dan revisi. Penelitian dilaksanakan di SD N 7 Manukaya, Gianyar, Bali dari Oktober 2024 hingga Mei 2025. Subjek penelitian adalah guru kelas 5, dengan objek berupa media pembelajaran *Scratch* yang terintegrasi etnosains kebudayaan Bali. Data dikumpulkan melalui wawancara dan angket, menggunakan instrumen terstruktur. Analisis data dilakukan secara deskriptif kualitatif dan statistik. Hasil menunjukkan bahwa guru sangat membutuhkan media pembelajaran yang menarik dan bermakna berbasis teknologi dan etnosains karena saat ini hanya mengandalkan buku, gambar, dan video dari YouTube. Media *Scratch* dikembangkan dengan bantuan Canva untuk desain, dan dapat diakses online maupun offline melalui situs <https://scratch.mit.edu>. Media ini interaktif, memuat materi perpindahan kalor yang telah terintegrasi budaya Bali, dan dilengkapi kuis 10 soal. Validasi oleh guru dan dua dosen ahli menunjukkan media ini sangat layak, dengan skor rata-rata 122,67. Revisi mencakup perbaikan audio, visual, font, dan petunjuk kuis. Media dinyatakan layak untuk digunakan dalam pembelajaran IPA kelas 5 SD N 7 Manukaya.

**Kata Kunci : Media Pembelajaran, *Scratch*, Etnosains, Kebudayaan Bali, Perpindahan Kalor**

**ABSTRACT**

**THE DEVELOPMENT OF SCRATCH LEARNING MEDIA  
INTEGRATED WITH BALINESE CULTURAL ETHNOSCIENCE IN  
TEACHING HEAT TRANSFER FOR GRADE 5 AT SD N 7 MANUKAYA**

**By**

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This study aims to: (1) identify teachers' needs for a Scratch-based learning media integrated with Balinese cultural ethnosience on the topic of heat transfer for 5th grade students at SD N 7 Manukaya, (2) determine the prototype of the developed media, and (3) assess its feasibility. The research employs a mixed-method approach using a Research and Development (R&D) model based on Sugiyono's stages: potential and problems, data collection, product design, design validation, and revision. The study was conducted at SD N 7 Manukaya, Gianyar, Bali from October 2024 to May 2025. The research subjects were 5th grade teachers, while the object of development was the Scratch-based learning media integrated with Balinese ethnosience. Data were collected through interviews and questionnaires using structured instruments. Data analysis used both qualitative descriptive and descriptive statistical techniques. The results show that teachers urgently need engaging and meaningful learning media that incorporate technology and ethnosience, as current tools are limited to books, pictures, and YouTube videos, which make students feel bored. The Scratch media was developed with the help of Canva for background and animation design, and is accessible both online and offline via <https://scratch.mit.edu>. The media is interactive, presents content on heat transfer integrated with Balinese culture, and includes a 10-question quiz. Validation by the teacher and two expert lecturers showed that the media is highly feasible, with an average score of 122.67. Revisions included improvements in audio, visuals, font, and quiz instructions. The media is deemed suitable for use in teaching science (IPA) to 5th grade students at SD N 7 Manukaya.

**Keywords** : Learning Media, Scratch, Ethnosience, Balinese Culture, Heat Transfer