

**PENGEMBANGAN MODEL PELATIHAN PEMROGRAMAN BERBASIS RADEC
UNTUK MENINGKATKAN KEMAMPUAN BERPIKIR KOMPUTASIONAL
MAHASISWA PGSD**

DISERTASI

Disusun untuk Memenuhi Sebagian Syarat Memperoleh Gelar Doktor Pendidikan
pada Program Studi Pendidikan Dasar



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**PROGRAM STUDI PENDIDIKAN DASAR
SEKOLAH PASCASARJANA
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2024**

Pengembangan Model Pelatihan Pemrograman Berbasis RADEC Untuk Meningkatkan Kemampuan Berpikir Komputasional Mahasiswa PGSD

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Sebuah Disertasi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Doktor
Pendidikan (Dr.) pada Program Pendidikan Dasar

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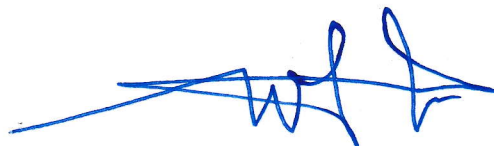
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LEMBAR PERNYATAAN KEASLIAN

Dengan ini saya menyatakan bahwa disertasi yang berjudul “Pengembangan Model Pelatihan Pemrograman Berbasis RADEC Untuk Meningkatkan Kemampuan Berpikir Komputasional Mahasiswa PGSD” adalah hasil karya saya sendiri. Saya tidak melakukan penjiplakan dan pengutipan dengan cara-cara yang tidak sesuai dengan etika keilmuan yang berlaku. Atas pengertian ini, saya siap menanggung sanksi apabila dikemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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PENGEMBANGAN MODEL PELATIHAN PEMROGRAMAN BERBASIS RADEC UNTUK MENINGKATKAN KEMAMPUAN BERPIKIR KOMPUTASIONAL MAHASISWA PGSD

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ABSTRAK

Penelitian ini dilatarbelakangi akan kebutuhan pendidikan abad 21 akan perlunya penggunaan pemrograman komputer dan penguasaan keterampilan berpikir komputasional dari pendidikan dasar. Program Studi Pendidikan Guru Sekolah Dasar merupakan jenjang yang tepat untuk pembentukan kemampuan dan keterampilan berpikir komputasional calon guru ini. Model pelatihan berpikir komputasional berbasis RADEC dapat memfasilitasi mahasiswa untuk mengembangkan tidak hanya pemahaman konseptual tentang berpikir komputasional tetapi juga praktek, dan perspektif terhadap berpikir komputasional melalui pemrograman. Tujuan dalam penelitian untuk merancang dan mengembangkan desain pelatihan pemrograman berpikir komputasional berbasis RADEC dengan aplikasi Scratch. Pendekatan yang digunakan dalam penelitian ini adalah design and development, yang melibatkan 39 mahasiswa program studi PGSD FKIP di kota Padang. Pengumpulan data dilakukan dengan kuesioner dengan menggunakan skala rating, wawancara, observasi, tes, artefak dan dokumentasi. Instrumen penilaian kemampuan berpikir komputasional menggunakan CT-test dari Román-González dan artifact proyek pemrograman dianalisis dengan aplikasi otomatis Dr. Scratch. Data yang didapatkan kemudian dianalisis menggunakan analisis data kuantitatif dan kualitatif yang dilakukan secara terpisah. Hasil penelitian menunjukkan produk model pelatihan pemrograman berpikir komputasional berbasis RADEC dan buku yang dikembangkan dapat mengembangkan kemampuan dan keterampilan berpikir komputasional dan penguasaan konsep berpikir komputasional mahasiswa.

Kata kunci: Pelatihan, Berpikir Komputasional, Pemrograman, Scratch, Media Pembelajaran Interaktif, RADEC Model, Mahasiswa PGSD

DEVELOPMENT OF A RADEC-BASED PROGRAMMING TRAINING MODEL TO IMPROVE COMPUTATIONAL THINKING ABILITY PGSD STUDENTS

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ABSTRACT

This research is motivated by the needs of 21st century education for the need for the use of computer programming and mastery of computational thinking skills from elementary education. The Elementary School Teacher Education Study Program is the right level for the formation of computational thinking abilities and skills of prospective teachers. The RADEC-based computational thinking training model can facilitate students to develop not only a conceptual understanding of computational thinking but also practice, and perspectives on computational thinking through programming. The purpose of the study is to design and develop a RADEC-based computational thinking programming training design with the Scratch application. The approach used in this study is design and development, which involved 39 students of the PGSD study program, FKIP in Padang City. Data collection was carried out using a questionnaire using a rating scale, interviews, observations, tests, artifacts and documentation. The computational thinking ability assessment instrument used the CT-test from Román-González and programming project artifacts were analyzed with the Dr. Scratch automatic application. The data obtained were then analyzed using quantitative and qualitative data analysis which were carried out separately. The results of the study show that the RADEC-based computational thinking programming training model product and the developed book can develop students' computational thinking abilities and skills and mastery of computational thinking concepts.

Keywords: *Training, Computational Thinking, Programming, Scratch, Interactive Learning Media, RADEC Model, PGSD Students*

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