

**IMPLEMENTASI KURIKULUM MERDEKA MENGGUNAKAN *CITIZEN
SCIENCE PROJECT WEATHER-IT* UNTUK MENINGKATKAN
KETERAMPILAN BERPIKIR KRITIS DAN SIKAP ILMIAH SISWA SMP
DALAM PEMBELAJARAN IPA**

TESIS

diajukan untuk memenuhi sebagian syarat memperoleh gelar
Magister Pendidikan Ilmu Pengetahuan Alam



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FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
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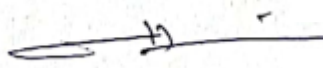
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KATA PENGANTAR

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Tesis ini diajukan untuk memenuhi sebagian syarat untuk memperoleh gelas Magister Pendidikan pada Program Studi Pendidikan Ilmu Pengetahuan Alam, Universitas Pendidikan Indonesia. Penulis dapat menyelesaikan tesis ini atas pertolongan dan kehendak Allah SWT, serta arahan dan bantuan dari berbagai pihak. Semoga Allah SWT membalas setiap kebaikan orang-orang yang membantu penulis dalam menyelesaikan tesis ini.

Penulis menyadari bahwa tesis ini tidaklah sempurna karena masih terdapat kelemahan yang haru dievaluasi dan diperbaiki. Hal tersebut disebabkan keterbatasan pada kemampuan dan wawasan pengetahuan yang penulis miliki. Oleh karena itu, kritik dan saran yang membangun akan diterima guna kemajuan di masa depan. Akhir kata, semoga tesis ini dapat memberi manfaat bagi dunia pendidikan, khususnya pendidikan Ilmu Pengetahuan Alam.

Bandung, Januari 2023

Penulis

IMPLEMENTASI KURIKULUM MERDEKA MENGGUNAKAN *CITIZEN SCIENCE PROJECT WEATHER-IT* UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS DAN SIKAP ILMIAH SISWA SMP DALAM PEMBELAJARAN IPA

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ABSTRAK

Ciri utama dari mata pelajaran IPA kurikulum merdeka adalah pembelajaran berbasis proyek. Salah satu pembelajaran berbasis proyek yang dapat diterapkan adalah *Citizen Science Project (CSP)*, *weather-it*. Terdapat bukti empiris mengenai manfaat CSP, *weather-it*, bagi pembelajaran IPA yang mana salah satu tujuan pembelajaran IPA kurikulum merdeka adalah pengembangan keterampilan berpikir kritis dan sikap ilmiah. Penelitian ini memiliki tujuan untuk melihat karakteristik CSP, *weather-it*, sebagai bagian dari pembelajaran IPA berbasis proyek dalam kurikulum merdeka untuk meningkatkan keterampilan berpikir kritis dan pengembangan sikap ilmiah siswa. Penelitian ini menggunakan *mixed method* dengan desain penelitian *Concurrent Embedded*. Sejumlah 42 siswa kelas 7 di salah satu SMP Bandung mengikuti CSP, *weather-it*. Pengukuran keterampilan berpikir kritis dilakukan sebelum dan setelah perlakuan sedangkan sikap ilmiah hanya diukur setelah perlakuan. Instrumen keterampilan berpikir kritis berupa soal uraian sedangkan untuk sikap ilmiah adalah angket sikap ilmiah. Wawancara semi terstruktur juga dilakukan untuk memperoleh data pendukung. Data keterampilan berpikir kritis dianalisis uji *paired simple t-test*, dan N-Gain. Sementara data angket sikap ilmiah dianalisis dengan melihat persentase dari respon siswa. Hasilnya menunjukkan adanya signifikansi peningkatan keterampilan berpikir kritis siswa dan skor N-Gain menunjukkan 45% siswa berada pada kategori tinggi, 26% sedang, 29% rendah untuk aspek *elementary clarification*; 19% siswa dengan kategori tinggi, 31% sedang, 50% rendah untuk aspek *basic support*; 17% siswa berada di kategori tinggi, 12% sedang, dan 71% rendah untuk aspek *inference*; 7% siswa berada pada kategori tinggi, 40% sedang dan 52% rendah untuk aspek *advance clarification*; 38% siswa berada pada kategori tinggi, 38% sedang dan 23% rendah untuk aspek *strategies and tactics*. Sementara untuk sikap ilmiah siswa diperoleh data 60% siswa berada pada kategori cukup, 40% kategori baik, dan 0% kategori buruk. Demikian pula, hasilnya mencerminkan bagaimana CSP, *weather-it*, terlaksana seluruhnya pada pembelajaran IPA kurikulum merdeka dan siswa pun mengungkap CSP, *weather-it*, memberikan banyak pengetahuan kepada mereka.

Kata kunci: *citizen science project*; keterampilan berpikir kritis; sikap ilmiah; kurikulum merdeka.

IMPLEMENTATION OF MERDEKA CURRICULUM USING CITIZEN SCIENCE PROJECT WEATHER-IT TO IMPROVE CRITICAL THINKING SKILLS AND SCIENTIFIC ATTITUDE OF SMP STUDENTS IN LEARNING SCIENCE

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ABSTRACT

The main feature of the science subject in the merdeka curriculum is project-based learning. One of the project-based learning that can be applied is the Citizen Science Project (CSP), weather-it. There is empirical evidence regarding the benefits of CSP, weather-it, for science learning where one of the objectives of learning science in the merdeka curriculum is the development of critical thinking skills and a scientific attitude. This study aims to analyze the characteristics of CSP, weather-it, as part of project-based science learning in the merdeka curriculum to improve critical thinking skills and develop students' scientific attitudes. This study uses a mixed method with a Concurrent Embedded research design. Forty-two grade 7 students at a Bandung junior high school participated in CSP, weather-it. Measurement of critical thinking skills was carried out before and after treatment, while scientific attitudes were only measured after treatment. The instrument for critical thinking skills is in the form of description questions while for scientific attitude is a scientific attitude questionnaire. Semi-structured interviews were also conducted to obtain supporting data. Data on critical thinking skills were analyzed by paired simple t-test and N-Gain. While the scientific attitude questionnaire data was analyzed by looking at the percentage of student responses. The results show that there is a significant increase in students' critical thinking skills and the N-Gain score shows that 45% of students are in the high category, 26% medium, 29% low for the elementary clarification aspect; 19% of students in the high category, 31% medium, 50% low for basic support aspects; 17% of students are in the high category, 12% are medium, and 71% are low for the inference aspect; 7% of students are in the high category, 40% medium and 52% low for the advance clarification aspect; 38% of students are in the high category, 38% medium and 23% low for the aspects of strategies and tactics. Meanwhile, for students' scientific attitude, data obtained by 60% of students were in the sufficient category, 40% in the good category, and 0% in the bad category. Likewise, the results reflect how CSP, weather-it, is fully implemented in science learning in the merdeka curriculum and students also reveal that CSP, weather-it, gives them a lot of knowledge.

Keywords: citizen science project; critical thinking skills; scientific attitude; merdeka curriculum.

DAFTAR ISI

LEMBAR PENGESAHAN TESIS	iii
PERNYATAAN	iv
KATA PENGANTAR	v
UCAPAN TERIMA KASIH	vi
ABSTRAK	viii
DAFTAR ISI	x
DAFTAR TABEL	xii
DAFTAR GAMBAR	xiii
DAFTAR LAMPIRAN	xvi
BAB I PENDAHULUAN	1
A. Latar Belakang Penelitian	1
B. Rumusan Masalah Penelitian	10
C. Tujuan Penelitian	11
D. Manfaat Penelitian	11
BAB II KAJIAN TEORI	13
A. <i>Citizen Science Project</i>	13
1. Definisi dan Manfaat <i>Citizen Science Project</i>	13
2. Tahapan dalam Kegiatan <i>Citizen Science Project</i>	16
3. <i>Citizen Science Project</i> berbasis Kurikulum	17
4. Tantangan pada <i>Citizen Science Project</i>	22
5. <i>Citizen Science Project, Weather-it</i>	23
6. <i>State of the Art</i>	24
B. Keterampilan Berpikir Kritis	29
1. Definisi Berpikir Kritis.....	29
2. Pentingnya Berpikir Kritis bagi Siswa	31
3. Aspek Keterampilan Berpikir Kritis.....	34
4. Ciri Pemikir Kritis	36
C. Sikap Ilmiah	39
D. Perubahan Iklim pada Kurikulum Merdeka	43
1. Capaian Pembelajaran Kurikulum Merdeka	43
2. Iklim dan Cuaca.....	45

3. Perubahan Iklim dan Penyebabnya	48
4. Dampak Perubahan Iklim	52
5. Mitigasi dan Adaptasi Perubahan Iklim	57
6. Manfaat Iklim dan Cuaca Bagi Kehidupan	59
E. Kaitan Pembelajaran <i>Citizen Science Project Weather-it</i> dengan Keterampilan Berpikir Kritis dan Sikap Ilmiah	61
F. Kerangka Pikir Penelitian	63
BAB III METODE PENELITIAN	65
A. Definisi Operasional.....	65
B. Desain Penelitian.....	66
C. Kegiatan dan Partisipan <i>Weather-it</i>	67
D. Populasi dan Sampel	69
E. Instrumen Penelitian.....	69
F. Prosedur Penelitian.....	79
G. Analisis Data	82
BAB IV TEMUAN DAN PEMBAHASAN	85
A. Karakteristik <i>Citizen Science Project, Weather-It</i> dalam Pembelajaran IPA Kurikulum Merdeka	85
B. Peningkatan Keterampilan Berpikir Kritis Siswa	115
C. Capaian Sikap Ilmiah Siswa	124
D. Respon Siswa terhadap Kegiatan <i>Citizen Science Project, Weather-it</i>	129
BAB V SIMPULAN, IMPLIKASI DAN REKOMENDASI	138
A. Simpulan	138
B. Implikasi.....	138
C. Rekomendasi	139
DAFTAR PUSTAKA	140
DAFTAR LAMPIRAN	156

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