

**INVESTIGATING ATTITUDES TOWARD SCIENCE BEFORE AND
DURING COVID-19 PANDEMIC OF JUNIOR HIGH SCHOOL
STUDENTS**

RESEARCH PAPER

Submitted as Requirement to Obtain Degree of *Sarjana Pendidikan* in
International Program on Science Education (IPSE) Study Program



Nabila Delyana

1606305

**INTERNATIONAL PROGRAM ON SCIENCE EDUCATION
FACULTY OF MATHEMATICS AND SCIENCE EDUCATION
UNIVERSITAS PENDIDIKAN INDONESIA
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Arranged by
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APROVAL SHEET

INVESTIGATING ATTITUDES TOWARD SCIENCE BEFORE AND DURING COVID-19 PANDEMIC OF JUNIOR HIGH SCHOOL STUDENTS

By:
Nabila Delyana
1606305

Approved and Authorized by,
Supervisor I



Dr. Eka Cahya Prima, S.Pd., M.T.
NIP. 199006262014041001

Supervisor II



Dr. Nanang Winarno, S.Si., S.Pd., M.Pd.
NIP. 198403212014041001

Perceived by,
Head of International Program on Science Education Study Program



Dr. Eka Cahya Prima, S.Pd., M.T.
NIP. 199006262014041001

DECLARATION

I do hereby declare that the research paper titled “Investigating Attitudes toward Science Before and During COVID-19 Pandemic of Junior High School Students” and all of its content is genuinely the mere result of my original ideas, efforts, explorations, and works. This research paper is not copied or plagiarized inappropriate conducts from other papers. The theories, findings of experts, opinions, and others contained in this research paper have been quoted or referenced based on scientific code of conduct from Universitas Pendidikan Indonesia and in accordance with scientific ethics that applies in scholarly society. This declaration is created truthfully and consciously. When an infringement towards scientific ethics is found, or if there is a claim of any others towards the authenticity of this research paper, henceforth I am willing to be responsible and accept academics sanctions correspond to the rules.

Bandung, August 2021

Declarant,



Nabila Delyana

NIM. 1606305

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INVESTIGATING ATTITUDES TOWARD SCIENCE BEFORE AND DURING COVID-19 PANDEMIC OF JUNIOR HIGH SCHOOL STUDENTS

Nabila Delyana
International Program on Science Education
Universitas Pendidikan Indonesia
nabiladelyana@gmail.com

ABSTRACT

The COVID-19 pandemic that strike Indonesia and the whole world back in 2020 forced the education system to be changed and adapted to the situation. Science learning, in particular, affected greatly by the changes, such as the implementation of distance learning and some curriculum alterations. These changes may or may not have changed the students' attitudes toward science. The need to examine how did COVID-19 changed the students' attitudes toward science arise. For that reason, this research is conducted to investigate the differences between students' attitudes toward science before and during COVID-19 pandemic. In this research, 348 junior high school students from 107 junior high schools and 20 provinces across Indonesia participated as a respondent. A questionnaire about Attitudes toward Science, which consists of 32 statements and one open answer question, is distributed online as data collection tool. The result from data analysis showed the total average score between before and during COVID-19 pandemic is 71.81 and 67.81 respectively. Since there is a significant difference, N-Gain score is calculated. The N-Gain score gained from that average is 0.14, which is interpreted as decrease in efficiency. Based on the N-Gain score for each scale of attitudes toward science, the highest improvement is Unfavorable Outlook with 0.12 and interpreted as low improvement. For Attitudes toward Science and Science Learning, Control Beliefs, Behavioral Beliefs, and Intention, the N-Gain scores are -0.32, -0.27, -0.08 and -0.08 respectively. These components are interpreted as decreasing. Therefore, the junior high school students' attitudes toward science before COVID-19 pandemic is better than during COVID-19 pandemic.

Keywords: Attitudes toward Science, COVID-19 Pandemic, Junior High School Students

MENYELIDIKI SIKAP TERHADAP IPA (ILMU PENGETAHUAN ALAM) SISWA SMP (SEKOLAH MENENGAH PERTAMA) SEBELUM DAN SELAMA MASA PANDEMI COVID-19

Nabila Delyana
International Program on Science Education
Universitas Pendidikan Indonesia
nabiladelyana@gmail.com

ABSTRAK

Pandemi COVID-19 yang menimpa Indonesia dan seluruh dunia pada tahun 2020 memaksa sistem edukasi untuk berubah dan beradaptasi dengan situasi tersebut. Pembelajaran IPA (Ilmu Pengetahuan Alam) khususnya terkena dampak yang cukup besar dikarenakan beberapa perubahan seperti pembelajaran jarak jauh dan penyesuaian kurikulum. Perubahan-perubahan ini memungkinkan adanya transformasi pada sikap ilmiah siswa. Kebutuhan untuk memeriksa bagaimana pandemic COVID-19 merubah sikap ilmiah siswa timbul. Maka dari itu, penelitian ini menyelidiki sikap ilmiah siswa/i SMP (Sekolah Menengah Pertama) dan sederajat sebelum dan selama masa pandemic COVID-19. Dalam penelitian ini, 348 siswa/i SMP dan sederajat dari 107 sekolah dan 20 provinsi di Indonesia berpartisipasi sebagai responden. Kuesioner tentang sikap ilmiah yang terdiri dari 32 pernyataan dan satu pertanyaan esai disebarakan secara daring sebagai alat pengumpulan data. Hasil dari analisis data menunjukkan nilai rata-rata total dari sebelum dan selama pandemi COVID-19 adalah 71.81 dan 67.81 secara berurutan. Karena adanya perbedaan signifikan antara hasil tersebut, nilai *N-Gain* kemudian dihitung dan didapatkan sebesar -0.14, yang diinterpretasikan sebagai pengurangan efisiensi. Berdasarkan nilai *N-Gain* yang didapatkan dari masing-masing sub-skala, peningkatan tertinggi ada di Pandangan yang Tidak Menguntungkan sebesar 0.12 dan diinterpretasikan sebagai peningkatan rendah. Untuk Sikap Ilmiah dan Pembelajaran IPA, Keyakinan dalam Penguasaan, Keyakinan dalam Bersikap, dan Intensi, nilai yang diperoleh adalah -0.32, -0.27, -0.08 dan -0.08 secara berurutan. Komponen-komponen tersebut diinterpretasikan mengalami penurunan. Oleh karena itu, sikap ilmiah siswa SMP sebelum masa pandemi COVID-19 lebih baik dari pada selama masa pandemi COVID-19.

Keywords: Sikap Ilmiah, Pandemi COVID-19, Siswa SMP (Sekolah Menengah Pertama) dan Sederajat

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