

**PENGEMBANGAN LKPD IPA *MODIFIED FREE INQUIRY* UNTUK  
MENUMBUHKAN KESADARAN PEDULI LINGKUNGAN AKIBAT  
PENAMBANGAN PASIR DI KAWASAN KECAMATAN MUNTILAN,  
KABUPATEN MAGELANG**

**Oleh  
Agustina Martha Eristya  
13312244027**

**ABSTRAK**

Penelitian ini bertujuan untuk mengetahui kelayakan LKPD IPA dan respon peserta didik serta keefektifan LKPD IPA *Modified Free Inquiry* yang dikembangkan untuk menumbuhkan kesadaran peduli lingkungan akibat penambangan pasir di kawasan Kecamatan Muntilan, Kabupaten Magelang.

Penelitian ini merupakan penelitian *Research and Development (R&D)* yang diadaptasi dari Thiagarajan, et al. yaitu model 4-D (*define, design, develop, disseminate*). Tahap yang diadaptasi hanya tiga yaitu *define* (pendefinisian), *design* (perancangan), dan *develop* (pengembangan). Tahap *disseminate* hanya dilakukan secara terbatas pada guru IPA. Instrumen yang digunakan dalam penelitian berupa angket penilaian LKPD IPA, angket respon peserta didik terhadap LKPD IPA, angket sikap peduli lingkungan, dan lembar observasi sikap peduli lingkungan. Subjek penelitian melibatkan 2 dosen ahli dan 2 guru IPA sebagai validator, serta 24 peserta didik kelas VII C SMP Negeri 1 Muntilan. Teknik analisis data menggunakan analisis deskriptif validasi dan respon peserta didik terhadap LKPD IPA, *gain score* sikap peduli lingkungan dan uji T tipe *one t-test*, serta presentase sikap peduli lingkungan.

Hasil penelitian ini adalah kelayakan LKPD IPA *Modified Free Inquiry* dengan judul “Pencemaran Lingkungan dan Dampak Galian Pasir akibat Erupsi Gunung Merapi” termasuk dalam kategori sangat baik (A) menurut validator. Respon peserta didik terhadap LKPD memperoleh nilai A dengan kategori sangat baik. LKPD IPA dapat menumbuhkan sikap peduli lingkungan dibuktikan dengan hasil perhitungan dengan *gain score* diperoleh nilai 0,32 dengan kategori sedang dan melalui uji t diperoleh nilai signifikan  $0.000 < 0.05$  dengan arti adanya perbedaan pada sebelum dan sesudah menggunakan LKPD IPA. Presentase dari sikap peduli lingkungan berdasarkan observasi pada setiap pertemuan mengalami kenaikan.

Kata kunci: *LKPD IPA, modified free inquiry, sikap peduli lingkungan*

**DEVELOPMENT OF SCIENCE STUDENT WORKSHEETS MODIFIED  
FREE INQUIRY TO RAISE AWARENESS OF THE CONCERNED FOR  
THE ENVIRONMENT AS A RESULT OF SAND MINING IN  
MUNTILAN SUB-DISTRICT, MAGELANG DISTRICT**

By  
**Agustina Martha Eristya**  
**13312244027**

**ABSTRACT**

*The aim of this research are to know the feasibility and the response of the learners and determine effectiveness of science student worksheet Modified Free Inquiry developed to raise the environmental awareness attitudes as a result of sand mining in Muntilan Sub-district, Magelang District.*

*Type of this research is Research and Development (R&D) adapted from Thiagarajan, et all. namely model 4D (define, design, develop, disseminate). Only three adapted steps namely define, design, and develop. Disseminate step conducted in limited to science teachers. The instruments used in this research are questionnaire for evaluation science student worksheet, questionnaires of response learners to the science student worksheet, questionnaires the environmental awareness attitudes and form of observation for the environmental awareness attitudes. Subject of this research involving 2 experts and 2 science teachers as the validator and 24 learners class VII C of Muntilan 1 Junior High School. The data were analized using descriptive analysis for validation and the response of the learners to the science student worksheet, gains score the environmental awareness attitudes and T-test type one-t test, and the precentage of the environmental awareness attitudes.*

*The results of this research are the feasibility of science student worksheet Modified Free Inquiry with the title "Environmental Pollution and The Impact of Quarrying Sand as a result of Eruption of Merapi Mountain" including in the excellent category (A) according to validators. The response learners obtain the value A with the excellent category. Science student worksheet can raise the environmental awareness attitudes by the results of the calculation with the gains score 0,32 in the medium category and the significant of t-test is  $0.000 < 0.05$  means there is a difference in the before and after use science student worksheet. Percentage of the environmental awareness attitudes based on observation increase on every meeting.*

*Key words: Science student worksheet, modified free inquiry, the environmental awareness attitudes*