

**PENGARUH PEMBELAJARAN PROYEK *GREY WATER RECYCLE*  
BERBASIS STEM TERHADAP KESADARAN BERKELANJUTAN DAN  
AKSI *CLEAN WATER AND SANITATION* PADA SISWA SMP**

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*diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar*

*Sarjana Pendidikan Biologi*

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*PENGARUH PEMBELAJARAN PROYEK GREY WATER RECYCLE BERBASIS STEM TERHADAP KESADARAN BERKELANJUTAN DAN AKSI CLEAN WATER AND SANITATION PADA SISWA SMP*

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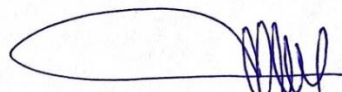
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## ABSTRAK

### **Pengaruh Pembelajaran Proyek *Grey Water Recycle* Berbasis STEM Terhadap Kesadaran Berkelanjutan Dan Aksi *Clean Water And Sanitation* Pada Siswa SMP**

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Semakin hari air di bumi semakin berkurang akibat bertambahnya jumlah penduduk dan kegiatan manusia yang membuang limbah ke saluran air. Adanya kegiatan pembuangan limbah cair langsung ke saluran air disebabkan karena rendahnya kesadaran berkelanjutan aksi nyata untuk menanggulangi permasalahan tersebut. Pembelajaran proyek berbasis STEM merupakan salah satu metode pembelajaran untuk memecahkan masalah dengan menghasilkan produk berupa teknologi. Oleh karena itu, tujuan dari penelitian ini adalah untuk menganalisis pengaruh pembelajaran proyek *grey water recycle* berbasis STEM terhadap kesadaran berkelanjutan dan aksi *clean water and sanitation* siswa SMP. Metode penelitian adalah *Quasi Experimental* menggunakan desain *pretest-posttest nonequivalent control group design*. Sampel yang digunakan dalam penelitian ini adalah siswa kelas VII SMP negeri di Kota Bandung. Sampel dipilih menggunakan teknik *purposive sampling*. Instrumen yang digunakan adalah kuesioner kesadaran berkelanjutan (*Questionnaire sustainability awareness*) dan angket aksi *clean water and sanitation* (*Environmental Citizenship Questionnaire*). Instrumen diisi sebelum pembelajaran (*pre-test*) dan setelah pembelajaran (*post-test*). Hasil penelitian menunjukkan adanya perbedaan signifikan pada kesadaran berkelanjutan dan aksi *clean water and sanitation* siswa antara kelas kontrol dan eksperimen setelah proses pembelajaran.

**Kata Kunci:** Pembelajaran terintegrasi STEM, Proyek *grey water recycle*, Kesadaran berkelanjutan, Aksi *clean water and sanitation*.

## **ABSTRACT**

### **The Effect of STEM-Based Grey Water Recycle Project Learning on Sustainable Awareness and Clean Water and Sanitation Actions in Junior High School Student**

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Increasingly, the water on earth is decreasing due to the increase in population and human activities that dispose of waste into waterways. The existence of liquid waste disposal activities directly into waterways is due to the lack of sustainable awareness of real action to overcome these problems. STEM-based project learning is one of the learning methods to solve problems by producing products in the form of technology. Therefore, the purpose of this study is to analyze the effect of STEM-based greywater recycle project learning on sustainable awareness and clean water and sanitation actions of junior high school students. The research method is Quasi-Experimental using a pretest-posttest nonequivalent control group design. The samples used in this study were seventh grade students of public junior high schools in Bandung City. The sample was selected using a purposive sampling technique. The instruments used were a questionnaire for sustainability awareness and a questionnaire on clean water and sanitation action (Environmental Citizenship Questionnaire). The instrument was filled before learning (pre-test) and after learning (post-test). The results showed a significant difference in sustainability awareness and clean water and sanitation actions between control and experimental classes after the learning process.

**Keywords: STEM integrated learning, grey water recycle project, Sustainable awareness, Clean water and sanitation action.**

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