

**UJI EFEKTIVITAS BUKU EKOLOGI DAN LINGKUNGAN BERBASIS
LITERASI SAINS DAN POTENSI LOKAL SUMATERA UTARA
UNTUK MENINGKATKAN LITERASI SAINS SISWA SMA**

Ivandi Sitompul¹⁾, Binari Manurung²⁾, Rahmad Mulyana³⁾

¹⁾Pendidikan Biologi, Mahasiswa Pascasarjana, Universitas Negeri Medan
Van_tompul@yahoo.com

²⁾Dosen Pendidikan Biologi, Pascasarjana, Universitas Negeri Medan

³⁾Dosen Pascasarjana, Universitas Negeri Medan

ABSTRAK: Penelitian ini bertujuan untuk mengetahui : (1)Efektivitas pembelajaran dengan menggunakan buku Ekologi dan lingkungan berbasis literasi sains dan potensi lokal Sumatera Utara di kelas X SMA Markus dan SMA Free Methodist. (2)Hasil belajar literasi sains siswa yang menggunakan buku ekologi dan lingkungan berbasis literasi sains dan potensi lokal Sumatera Utara dan siswa yang menggunakan buku paket di kelas X SMA Markus dan SMA Free Methodist. Model penelitian menggunakan kuasi eksperimen dengan sampel penelitian sebanyak 2 kelas yang ditentukan secara *cluster random sampling*. Kelas X-1 dibelajarkan dengan media pembelajaran Buku Paket Siswa, dan kelas X-2 dibelajarkan dengan media pembelajaran Buku Ekologi dan Lingkungan Berbasis Literasi Sains dan Potensi Lokal Sumatera Utara. Instrumen penelitian menggunakan instrumen tes kemampuan literasi sains siswa dengan menggunakan essay test, pilihan berganda dan lembar observasi. Teknik analisis data menggunakan uji t pada taraf signifikan $\alpha = 0,05$ dengan bantuan *SPSS 22.0*. Hasil penelitian di SMA Markus dan SMA Free Methodist menunjukkan ada perbedaan yang signifikan Efektivitas buku dan hasil belajar literasi sains siswa yang dibelajarkan dengan media pembelajaran Buku Ekologi dan Lingkungan Berbasis Literasi Sains dan Potensi Lokal Sumatera Utara ($N\text{-gain} = 0,65$) dan ($\bar{X} \pm SD = 79,86 \pm 4,21$) dengan Buku Paket Siswa ($N\text{-gain} = 0,4$) dan ($\bar{X} \pm SD = 68,01 \pm 5,71$), hasil uji t diperoleh ($t_{hit} = 10,456$; $P = 0,00$). Sebagai tindak lanjut dari hasil penelitian ini diharapkan kepada guru untuk menggunakan Buku Ekologi dan Lingkungan Berbasis Literasi Sains dan Potensi Lokal Sumatera utara dalam upaya meningkatkan literasi sains siswa.

Kata kunci: Buku Ekologi dan Lingkungan Berbasis Literasi Sains dan Potensi Lokal Sumatera Utara, Buku Paket Siswa, Efektivitas, Hasil Belajar Literasi Sains.

**EFFECTIVENESS OF ECOLOGY AND ENVIRONMENT TEXTBOOK
BASED ON SCIENCE LITERACY AND NORTH SUMATRA'S LOCAL POTENCY
TO IMPROVE HIGH SCHOOL STUDENT SCIENCE LITERACY**

Ivandi Sitompul¹⁾, Binari Manurung²⁾, Rahmad Mulyana³⁾

¹⁾Biology Education, Postgraduate student, State University of Medan
Van_tompul@yahoo.com

²⁾Lecture of Biology Education, Postgraduate student, State University of Medan

³⁾Postgraduate lecture, State University of Medan

ABSTRACT: This study was held to determine: 1) Effectiveness of learning by using Ecology and environment textbook based on science literacy and local potency of North Sumatra in ten grade of Markus High School and Free Methodist High School. (2) Ten grader student's science literacy after using ecology and environment textbook based on science literacy and North Sumatra's local potency and students using textbooks in Markus High School and Free Methodist High School. This research was quasi experiment with two class served as sample which taken by *cluster random sampling*. The first class (X-1) was taught by using student biology handbook and the other class (X-1) was taught by using ecology and environment textbook based on science literacy and North Sumatra's local potency. The instrument used was science literacy test which contain an essay test, multiple choices test and observation sheet. Data analysis technique was by t test at significant level of $\alpha = 0,05$, using *SPSS 22.0*. The result showed there was a significant effectiveness differences in class taught by using ecology and environment textbook based on science literacy and North Sumatra's local potency (N-gain = 0,65, and $\bar{X} \pm SD = 79,86 \pm 4,21$) with the class taught by using student's original biology handbook (N-gain = 0,4, and $(\bar{X} \pm SD = 68,01 \pm 5,71)$ and t test result obtained was $t_{count} = 10,456$; $P = 0,00$. As a follow up this result, it is suggested that teacher used this ecology and environment textbook based on science literacy and North Sumatra's local potency as an effort in improving student's science literacy

Keywords: *Ecology and environment textbook based on science literacy and North Sumatra's local potency, Student's biology textbook, effectiveness, student's science literacy*