

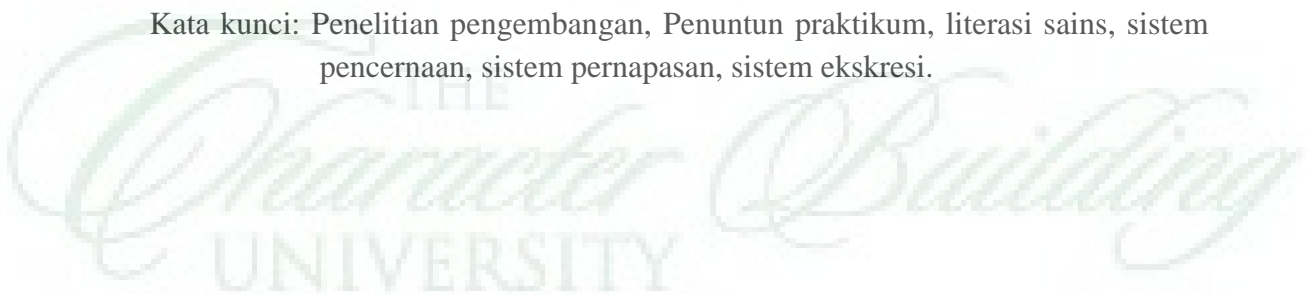
**PENGEMBANGAN BUKU PENUNTUN PRAKTIKUM BIOLOGI SMA
KELAS XI IPA SEMESTER GENAP BERBASIS LITERASI SAINS**

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ABSTRAK

Tujuan penelitian ini adalah mengembangkan buku penuntun praktikum biologi SMA berdasarkan literasi sains pada semester genap dan mengetahui efektivitas buku penuntun praktikum yang dikembangkan terhadap hasil belajar literasi sains siswa di SMA Negeri 1 Tebing Tinggi. Metode penelitian ini adalah penelitian pengembangan (*Research and Development*) yang menggunakan model Borg and Gall (1989). Berdasarkan hasil validasi ahli materi, ahli literasi sains dan ahli desain media didapatkan hasil presentasi nilai secara berturut-turut adalah 91,5% (sangat baik), 86,48% (sangat baik), 89% (sangat baik). Dengan demikian, dapat disimpulkan bahwa buku penuntun praktikum biologi SMA berbasis literasi sains yang dikembangkan terkategori sangat baik dan layak digunakan dalam kegiatan pembelajaran praktikum. Untuk mengetahui efektivitas buku penuntun praktikum biologi berbasis literasi sains yang dikembangkan, dilakukan penelitian eksperimen semu di SMA Negeri 1 Tebing Tinggi. Populasi yang digunakan yaitu seluruh siswa kelas XI IPA dan sampel terdiri atas 6 kelas yaitu kelas XI IPA 1, 2, 3 (eksperimen), 5, 6, dan 7 (kontrol). Materi yang diuji efektivitasnya sebanyak 3 materi yaitu sistem pencernaan, sistem pernapasan, dan sistem ekskresi. Dari hasil penelitian, didapatkan nilai hasil belajar literasi sains siswa ketiga materi secara berturut-turut adalah $t_{hitung} = (3,55) > t_{tabel} (1,662)$, $t_{hitung} = (6,2) > t_{tabel} (1,664)$, $t_{hitung} = (14,92) > t_{tabel} (1,662)$ masing-masing pada level signifikansi 0,05. Kesimpulan yang didapat ialah H_{a1} , H_{a2} , H_{a3} diterima dan H_{01} , H_{02} , H_{03} ditolak, maka hasil belajar literasi sains siswa yang diajarkan dengan menggunakan buku penuntun praktikum biologi berbasis literasi sains lebih baik secara signifikan daripada kelas yang diajarkan dengan menggunakan buku penuntun praktikum konvensional.

Kata kunci: Penelitian pengembangan, Penuntun praktikum, literasi sains, sistem pencernaan, sistem pernapasan, sistem ekskresi.



**THE DEVELOPMENT OF PRACTICUM GUIDED BOOK OF
BIOLOGY FOR SENIOR HIGH SCHOOL IN CLASS 2nd SCIENCE
BASED ON SCIENCE LITERACY**

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ABSTRACT

The purpose of this research is to develop a manual of high school biology practicum based on science literacy in the even semester and to know the effectiveness of practical guidebook developed on the students' science literacy learning outcomes in SMA Negeri 1 Tebing Tinggi. This research method is research development (Research and Development) which use model Borg and Gall (1989). Based on the results of validation of material experts, science literacy experts and media design experts obtained the results of the presentation of the values are 91,5% (very good), 86.48% (very good), 89% (very good). Thus, it can be concluded that the guidebook of science biology practicum based on science literacy developed categorized very well and feasible to be used in practical learning activities. To find out the effectiveness of biology literature guidebook based on science literacy developed, conducted a quasi experimental research in SMA Negeri 1 Tebing Tinggi. The population used is all students of class XI IPA and the sample consists of 6 classes, namely class XI IPA 1, 2, 3 (experiment), 5, 6, dan 7 (control). Material that tested its effectivity as much as 3 material that is digestive system, respiratory system, and excretion system. From the result of the research, the result of learning achievement of students' science literacy learning of the three subjects is $t_{hitung} = (3,55) > t_{table} (1,662)$, $t_{count} = (6,2) > t_{table} (1,664)$, $t_{count} = (14,92) > t_{table} (1,662)$ respectively at the 0.05 level of significance. The conclusion is that H_{a1} , H_{a2} , H_{a3} are accepted and H_{01} , H_{02} , H_{03} are rejected, the result of students' science literacy learning taught by using science literature guidebook based on science literacy is significantly better than the class taught by using conventional manual guide book.

Keywords: Research development, Practicum guide, Science literacy, Digestive system, Respiratory system, Excretory system.