

## ABSTRAK

**IVAWANI HASIBUAN.** Pengembangan Lembar Kerja Siswa (LKS) berbasis Keterampilan Proses Sains pada Pembelajaran Biologi Kelas VIII SMP Semester I. Tesis. Program Pascasarjana Universitas Negeri Medan. Maret 2015.

Pembelajaran Biologi harus memberikan pengalaman belajar bagi siswa melalui keterampilan praktikum. Berdasarkan hasil observasi terhadap pembelajaran Biologi yang dilaksanakan di SMP Swasta Tarbiyah Islamiyah Hampan Perak didapat hasil bahwa, pembelajaran berbasis proses sains jarang dilakukan oleh guru karena ketidak mampuan guru dalam menguasai cara kerja di laboratorium dan menyusun atau merancang bahan ajar berupa lembar kerja siswa untuk kegiatan praktikum. Selain itu, LKS yang digunakan dalam pembelajaran hanya berisi rangkuman materi dan soal-soal kognitif yang berorientasi pada kemampuan mengetahui, memahami dan mengaplikasikan saja. Penelitian ini bertujuan untuk mengembangkan LKS berbasis keterampilan proses sains yang layak dan efektif digunakan dalam pembelajaran Biologi pada delapan materi (Pertumbuhan Dan Perkembangan Tumbuhan, Sistem Gerak Pada Manusia, Sistem Pencernaan Pada Manusia, Sistem Pernapasan Pada Manusia, Sistem Peredaran Darah Manusia, Struktur Dan Fungsi Jaringan Tumbuhan, Fotosintesis, Gerak Pada Tumbuhan). Peneliti berasumsi LKS yang dikembangkan dengan basis keterampilan proses sains, efektif dalam meningkatkan keterampilan proses sains. Proses penelitian dan pengembangan dimulai dengan perancangan desain LKS, proses validasi ahli media, dan ahli materi, dan uji coba siswa terhadap LKS. Hasil penilaian para ahli yaitu ahli materi dengan kriteria sangat baik (94%) dan ahli media dengan kriteria sangat baik (89%), serta uji coba lapangan terbatas terhadap siswa juga sangat baik (92%). Uji coba produk yang dikembangkan dilaksanakan di SMP Swasta Tarbiyah Islamiyah Hampan Perak. Teknik pengambilan sampel dilakukan secara *purposive sampling* menghasilkan kelas VIIIA. Hasil nilai rata-rata postes siswa yaitu  $83,38 \pm 10,90$  ( $\bar{X} \pm SB$ ), secara signifikan lebih tinggi dibanding hasil belajar siswa yang menggunakan LKS Biologi ( $38,88 \pm 9,28$ ) pada kedelapan materi. Sedangkan hasil nilai rata-rata pretes siswa pada kelas kontrol tidak mempengaruhi nilai postes. Hasil penelitian dapat disimpulkan bahwa pengembangan LKS berbasis keterampilan proses sains layak dan efektif digunakan dalam pembelajaran Biologi untuk meningkatkan keterampilan proses sains.

Kata Kunci : Pengembangan LKS, Keterampilan Proses Sains.

## ABSTRACT

**IVAWANI HASIBUAN.** The Development of Students Worksheet (LKS) Based on the Competence of Scientific Process in Learning Biology for Second Year Students of Junior High School in the first term. A Thesis. Postgraduate Program State University of Medan. March 2015.

Learning Biology is supposed to facilitate the students the experience of learning through practicing competence. The observation which focuses on Biology learning process is conducted in SMP Tarbiyah Islamiyah Hamparan Perak. The result of observation shows that scientific process based learning is sporadically applied by the teachers due to the lack of competence in mastering laboratory mechanism and in arranging teaching material for experiment activity in form of students worksheet (LKS). Furthermore, students worksheet (LKS) employed in learning activity contains material summary and cognitive questions. These cognitive questions are oriented on the competence of knowing, understanding, and applying the material. The objective of the study is to develop appropriate and effective students worksheet (LKS) which is based on the competence of scientific process. The student worksheet (LKS) is used in learning eight items of Biology learning material, they are Growth and Development of Plants, Motion System of Humans, Blood Circulation of Humans, Structure and Function of Plant Tissue, Photosynthesis, and Motion of Plants. The researcher assumes that the use of student worksheet (LKS) which is developed based on scientific process is able to effectively improve student competence of scientific process. Research and development process is started by arranging the student worksheet design, validation by experts of learning media and learning material, and worksheet test on students. The evaluation result by experts of learning media is very good (94%) and experts of learning material is also very good (89%), and the result of field testing on limited students is also very good (92%). Student worksheet (LKS) testing is done in SMP Tarbiyah Islamiyah Hamparan Perak. Sampling technique uses Purposive Sampling Technique which results on VIIIA students. Average point obtained in posttest is  $83,38 \pm 10,90$  (mean is very good). This is significantly higher than the average point by students using ordinary Biology worksheet (LKS) ( $38,88 \pm 9,28$ ) in learning the eight items of Biology learning material. In addition, the average point obtained in pretest does not significantly influence control group posttest. The result of the research can be concluded that the development of student worksheet (LKS) which is based on the scientific process competence is appropriate and effective to be used in learning Biology to improve the student scientific process competence.

Keywords: Student Worksheet (LKS) Development, Competence of Scientific Process