

## ABSTRAK

NANDA PRATIWI. Pengembangan Buku Ajar Mikrobiologi Terapan Berbasis Masalah. Program Pascasarjana Universitas Negeri Medan. 2014.

Penelitian ini bertujuan untuk mengembangkan buku ajar mikrobiologi terapan berbasis masalah pada materi mikrobiologi industri berdasarkan standar BNSP. Bahan ajar berupa buku yang menjadi pedoman mahasiswa dalam melaksanakan kegiatan pembelajaran matakuliah mikrobiologi terapan. Penelitian ini dilakukan di Program Pascasarjana (PPs) UNIMED pada bulan Januari-Mei 2014, dengan model pengembangan Thiagarajan (4-D) yang telah dimodifikasi terdiri dari 3 tahap yaitu tahap pertama pendefinisian yang meliputi: analisis awal akhir, analisis mahasiswa, analisis materi, analisis tugas, dan spesifikasi tujuan pembelajaran. Tahap kedua perancangan, yang terdiri dari: pemilihan media, pemilihan format, dan perencanaan awal. Tahap ketiga adalah pengembangan, terdiri dari penilaian dosen pembimbing, validasi oleh ahli materi, dan rancangan pembelajaran, uji terbatas, dan perangkat final. Produk yang dihasilkan berupa buku ajar yang digunakan mahasiswa semester III Pendidikan Biologi PPs UNIMED. Bahan ajar disusun menjadi sebuah buku Mikrobiologi Industri Berbasis Masalah yang dinilai layak oleh tim validasi. Hasil penilaian tim ahli materi menunjukkan rata-rata 90,30% kategori sangat layak, dan ahli rancangan pembelajaran 83,4% kategori layak. Uji kelompok terbatas oleh dosen mikrobiologi mendapat hasil 91,30% kategori sangat sesuai dan 40 mahasiswa semester IV Pendidikan Biologi PPs UNIMED menilai 83,39% buku ajar mikrobiologi terapan berbasis masalah materi mikrobiologi industri yang disusun menarik.

Kata Kunci: Pengembangan bahan ajar, mikrobiologi terapan, berbasis masalah.



## ABSTRACT

NANDA PRATIWI. The Development of A Textbook of Problem-Based Applied Microbiology. Graduate Program, State University of Medan. 2014.

This study is aimed to develop a textbook of applied microbiology problem based in material industrial microbiology by standard BNSP. Teaching materials in the form of textbook will be to guide students in carrying out learning activities applied microbiology course. The research was conducted in the Graduate Program of UNIMED in January-May 2014, with the development model Thiagarajan (4-D), that has been modified which consists of three stages: the first stage of defining which includes: initial preliminary final analysis, analysis of student, material analysis, task analysis and specification of learning objectives. The second stage of the design, which consists of: the selection of media, format selection, and initial planning. The third stage is the development, consisting of a lecturer assessment, validation by experts and the design of instructional materials, limited testing, and the final device. The resulting product is a textbook that will be used by third semester student of Biology Education Graduate Program of UNIMED. Teaching materials compiled into a book Industrial Microbiology problem based considered feasible by the validation team. Results matter expert team showed an average of 90.30 % very viable category, and instructional design experts categorized 83.4%. limited test group by microbiology lecturer gets by 91.30% results very appropriate category and 40 students of fourth semester of Biology Education Graduate Program of UNIMED assessed at 83.39 % of applied microbiology textbook problem-based in material industrial microbiology compiled interesting .

Keyword: Development of teaching materials, applied microbiology, problem-based

