

## ABSTRAK

HENNI RAHAYU SIREGAR. Pengembangan Model Pembelajaran Inkuiri Kontekstual Terhadap Kemampuan Berpikir Tingkat Tinggi, Keterampilan Proses Sains dan Sikap Ilmiah Materi Mikrobiologi Makanan pada Mahasiswa Jurusan Biologi FMIPA Unimed. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, November 2019.

Penelitian ini bertujuan untuk mengembangkan model pembelajaran berbasis inkuiri kontekstual, terhadap kemampuan berpikir tingkat tinggi, keterampilan proses sains, dan sikap ilmiah mahasiswa pada materi Mikrobiologi makanan bagi Mahasiswa Biologi FMIPA Unimed. Jenis penelitian ini adalah penelitian dan pengembangan berdasarkan model pengembangan *Research and Development*. Sampel penelitian ini dipilih secara acak dengan menggunakan dua kelas, satu kelas yang menggunakan RPS berbasis inkuiri kontekstual (eksperimen) dan satu kelas konvensional (kontrol). Proses penelitian dan pengembangan dimulai dengan perancangan RPS, instrument yang digunakan untuk mengumpulkan data yaitu angket yang digunakan untuk validasi RPS oleh tim ahli materi, desain, dosen mikrobiologi, uji coba perorangan, uji kelompok kecil dan uji kelompok terbatas terhadap RPS berbasis inkuiri kontekstual. Uji coba produk yang dikembangkan pada mahasiswa Pendidikan Biologi Universitas Negeri Medan. Instrumen yang digunakan pada setiap proses pembelajaran berupa angket dan soal dalam bentuk essay. Hasil penelitian para ahli yaitu ahli materi terhadap kelayakan isi sebesar (93,75%), terhadap kelayakan penyajian (91,44%), dan kelompok inkuiri kontekstual (87,82%) dengan kriteria sangat baik, ahli desain sebesar (89,06%) dengan kriteria sangat baik, penilaian dosen sebesar 94,44 % dengan kriteria sangat baik, uji perorangan (86,66%) dengan kriteria sangat baik. Pengumpulan data uji coba produk dilakukan dengan posttest. Hasil analisis data menggunakan uji-t. berdasarkan hasil uji t pada berpikir tingkat tinggi diperoleh ( $t_{hitung}= 4,908$  ;  $p =0,000$ ), pada keterampilan proses sains ( $t_{hitung}= 5,86$  ;  $p =0,000$ ) dan sikap ilmiah ( $t_{hitung}= 8,277$ ;  $p =0,000$ ) dari hasil tersebut menyatakan bahwa terdapat perbedaan kemampuan berpikir tingkat tinggi, keterampilan proses sains dan sikap ilmiah materi mikrobiologi makanan. Hasil penelitian dapat disimpulkan bahwa RPS berbasis inkuiri kontekstual terhadap kemampuan berpikir tingkat tinggi, keterampilan proses sains dan sikap ilmiah, materi mikrobiologi makanan layak dan efektif digunakan dalam proses pembelajaran mikrobiologi.

Kata Kunci : Berpikir Tingkat Tinggi, Inkuiri Kontekstual,  
Keterampilan Proses Sains, RPS, Sikap Ilmiah,

## ABSTRACT

HENNI RAHAYU SIREGAR. Development of Inquiry Contextual Learning Model to Student's Higher Order Thinking Skills, Science Process Skills and Scientific Attitude on Food Microbiology Topic in Biology Program of Faculty of Mathematics and Natural Sciences Unimed. Thesis. Medan: Postgraduate School of Universitas Negeri Medan. November 2019.

This research was conducted to develop inquiry contextual learning model to student's higher order thinking skills (HOTS), science process skills and scientific attitude on food microbiology topic in biology program of faculty of mathematics and natural sciences Unimed. This was Research and Development model. Two classes were picked out as sample by random sampling method, one class taught by conventional method (control) and the other one taught by Inquiry contextual method (experiment). The research was begin by designing RPS (study plan), and it was validated by content experts, learning design experts, and microbiology lecture. Individual trial, small group trial and limited group trial also performed on Study Plan based on Inquiry Contextual. The product was tested on Biology Education Program students. Instruments used in every learning process were questionnaire and an essay test. Validation result by content experts for content feasibility was 93.75%, design feasibility was 91.44% and inquiry contextual was 87.82%, with overall criteria was very good. Validation result by learning design experts was 89.06%, with overall criteria was very good. Lecture response on Study Plan developed was 94.44 % with overall criteria was very good. Data of product trial was collected by pretest-posttest. The data then was analyzed by t test. T-test results of student's higher order thinking skills was ( $t_{count}=4,908$  ;  $p =0,000$ ). science process skills was( $t_{count} = 5,86$  ;  $p = 0,000$ ) and Scientific attitude was ( $t_{count} =8,277$ ;  $p =0,000$ ). Overall result showed there was significant difference between control class and experiment class in higher order thinking skills, science process skills and scientific attitude on food microbiology topic. It can be concluded that Study Plan based on Inquiry Contextual was feasible and effective to use in microbiology course.

*Keywords: hots, inquiry contextual, science process skills, scientific attitude, study plan*