PENGEMBANGAN INSTRUMEN ASESMEN KETERAMPILAN *INQUIRY REAL WORLD APPLICATION* PADA PERMASALAHAN BIOLOGI ABAD KE-21

TESIS

Diajukan untuk memenuhi syarat memperoleh gelar Magister Pendidikan Biologi

Oleh

Rifda Tanfiziyah
NIM. 2010418

PROGRAM STUDI MAGISTER PENDIDIKAN BIOLOGI
DEPARTEMEN PENDIDIKAN BIOLOGI
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PENDIDIKAN INDONESIA
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Rifda Tanfiziyah

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Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Magister Pendidikan (M.Pd.) pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam, Departemen Pendidikan Biologi

LEMBAR PENGESAHAN

RIFDA TANFIZIYAH

**PENGEMBANGAN INSTRUMEN ASESMEN
KETERAMPILAN *INQUIRY REAL WORLD APPLICATION*
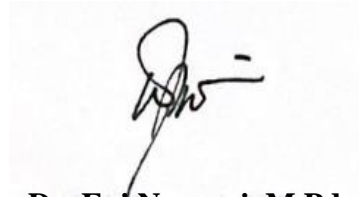PADA PERMASALAHAN BIOLOGI ABAD KE-21**

Disetujui dan disahkan oleh :

Pembimbing I

Dr. Ana Ratna Wulan, M.Pd.

NIP. 197404171999032001

Pembimbing II

Dr. Eni Nuraeni, M.Pd.

NIP. 197606052001122001

Mengetahui,

Ketua Program Studi Pendidikan Biologi

Dr. Bambang Supriatno, M.Si.

NIP. 196305211988031002

DAFTAR ISI

ABSTRAK

Penelitian ini bertujuan untuk mengembangkan instrumen asesmen dalam bentuk tes berupa soal pilihan ganda dan kinerja berupa tes praktik. Metode yang digunakan adalah *mix method* dengan desain *exploratory*. Subjek penelitian terdiri dari 265 siswa yang berasal dari tujuh sekolah. Sekolah sampel merupakan SMA negeri di Provinsi Banten yang dipilih dengan teknik *purposive sampling*. Penelitian ini mengembangkan perangkat asesmen berupa *test blueprint*, instrumen soal tes tertulis dengan 25 soal pilihan ganda dan 5 soal esai, serta *task* dan rubrik untuk asesmen kinerja. Hasil validitas isi, *test blueprint* dan instrumen soal sudah layak digunakan dengan perbaikan. Hasil analisis butir soal menggunakan *Quest* menunjukkan persentase soal yang diterima (86,7%) dan soal yang ditolak (13,3%). Kecocokan butir soal *(item fit)* pada 30, persentase soal sukar (10%), sedang (83,3%) dan mudah (6,7%). Persentase daya pembeda soal dengan kategori baik (66,7%), cukup (20%), kurang (13,3%). Perangkat asesmen kinerja dilihat validitasnya menggunakan Aiken's V dengan skor 0,53. Berdasarkan kriteria, maka perangkat penilaian asesmen kinerja dinyatakan valid. Reliabilitas perangkat asesmen kinerja memiliki nilai *average measures* sebesar 0,715. Artinya asesmen kinerja yang dinilai oleh ketiga penimbang ahli memiliki nilai ICC *(Intraclass Correlation Coeficient)* sedang atau *moderate reliability*. Berdasarkan data *proportion correct* diketahui bahwa keterampilan siswa paling tinggi pada indikator keterampilan proses intelektual mengumpulkan, menilai, dan menafsirkan data dari berbagai sumber (38%). Keterampilan proses intelektual terendah pada indikator membuat dan mempertahankan keputusan berdasarkan bukti (35,94%). Berdasarkan hasil penelitian, maka *test blueprint* dan perangkat instrumen yang dihasilkan siap digunakan secara langsung maupun sebagai *prototype* asesmen bagi pengembangan lebih lanjut.

Kata kunci: tes tertulis, tes kinerja, keterampilan *inkuiri*, konten biologi abad ke-21.

ABSTRACT

This study aimed to develop an assessment model in the form of tests with multiple-choice questions and performance in the form of practice tests. The mixed method was used with an exploratory design. The research subjects were 265 students from seven schools. The sample school was a state high school in Banten Province. However, it was selected by the purposive sampling technique. This study succeeded in developing an assessment tool in the form of a blueprint test, multiple-choice with a total of 25 questions and essay instruments with a total 0f 5 questions, as well as tasks and rubrics for performance assessment. The results of content validity, test blueprints, and instrument questions were suitable to use with improvements. Based on item analysis result used the Rasch model with Quest, it showed the percentage of questions received (86.7%) and questions rejected (13.3%). Thus, the item fit (item fit) on 30 questions result were; the percentage of difficult (10%), moderate (83.3%), and easy (6.7%) items. The questions differentiating power percentage in the good category (66.7%), enough (20%), and less (13.3%). The performance assessment tool validity was seen using Aiken's V with 0.53 score. Based on the criteria, the performance assessment tool was declared valid. The reliability of the performance assessment tool had an average value of 0.715. It means that the performance assessment measured by the three penimbang ahlis had a moderate ICC (Intraclass Correlation Coefficient) value or moderate reliability. Based on the correct proportion of data, it was known that the student's skills were the highest on the indicator intellectual process skills of collecting, assessing, and interpreting data from various sources (38%). The lowest inquiry skill on the indicator intellectual process skills making and defending evidence based decisions and judgements (35,94%). Based on the research results, the resulting test blueprints and instruments were ready to be used directly or as an assessment prototype for further development.

Keywords: written test, performance test, inquiry skills, 21st century biology content.

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