PERANAN PELATIHAN JARAK JAUH DALAM JARINGAN (*ON LINE*) DALAM MEMBANGUN KETERAMPILAN GURU MENGANALISIS DAN MENGEMBANGKAN SOAL PILIHAN GANDA IPA BERBASIS KOMPETENSI ILMIAH

DISERTASI

diajukan untuk memenuhi sebagian syarat untuk memperoleh
gelar Doktor Pendidikan IPA

Oleh:

EKA DANTI AGUSTIANI
1503160

PROGRAM STUDI
PENDIDIKAN ILMU PENGETAHUAN ALAM
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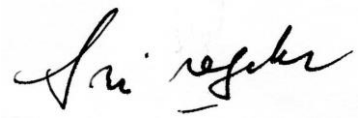

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PERNYATAAN KEASLIAN DISERTASI DAN BEBAS PLAGIARISME

Dengan ini saya menyatakan bahwa disertasi dengan judul "*Peranan Pelatihan Jarak Jauh dalam Jaringan* (OnLine) *dalam Membangun Keterampilan Guru Menganalisis dan Mengembangkan Soal Pilihan Ganda IPA Berbasis Kompetensi Ilmiah*" ini beserta seluruh isinya adalah benar-benar karya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini saya siap menanggung risiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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ABSTRAK

Terkait dengan tuntutan pembelajaran sains yang harus bermakna dan mengembangkan literasi ilmiah, maka guru juga harus diberikan pembinaan literasi penilaian yang sesuai. Literasi ilmiah memiliki tiga indikator kompetensi ilmiah yaitu (1) menjelaskan fenomena secara ilmiah, (2) mengevaluasi dan merancang penyelidikan secara ilmiah, dan (3) menginterpretasi data dan bukti secara ilmiah. Jika kompetensi ilmiah yang akan dijadikan indikator, maka soal-soal yang dibuat harus menguji peserta didik untuk ketiga indikator kompetensi ilmiah tersebut. Salah satu praktik penilaian guru tes yang populer diterapkan adalah memberikan soal-soal berbentuk pilihan ganda pada para siswa. Penelitian ini bertujuan untuk mengetahui peranan pelatihan jarak jauh dalam jaringan (*on line*) dalam membangun keterampilan analisis dan pembuatan soal-soal berbasis kompetensi ilmiah bagi guru IPA. Metode yang digunakan dalam penelitian ini adalah campuran penelitian kuantitatif dan kualitatif dengan tipe *embedded*. Subyek penelitian adalah 59 orang guru yang mengajar mata pelajaran atau bidang-bidang studi IPA jenjang SD hingga SMA yang menjadi peserta dalam tiga angkatan pelatihan. Pelatihan jarak jauh dalam jaringan dilaksanakan dengan memanfaatkan jaringan komunikasi Whatsapp, surat elektronik dan sistem manajemen belajar berbasis Moodle. Data penelitian dijaring melalui instrumen format identifikasi indikator kompetensi ilmiah 20 contoh soal pilihan ganda IPA, lembar penilaian kisi-kisi dan contoh soal berbasis kompetensi ilmiah, lembar observasi, dan format evaluasi pelatihan. Data yang diperoleh menunjukkan bahwa ternyata pelatihan jarak jauh dalam jaringan Analisis dan Pembuatan Soal Pilihan Ganda Berbasis Kompetensi Ilmiah ternyata berperan positif dalam (1) memberikan pengalaman guru IPA mengenal dan mengidentifikasi kompetensi ilmiah dalam soal pilihan ganda, (2) meningkatkan kemampuan guru IPA dalam membuat soal-soal pilihan ganda berbasis kompetensi ilmiah, (3) meningkatkan kemampuan guru IPA mengembangkan variasi indikator kompetensi ilmiah dan keterampilan ilmiah dalam membuat soal-soal pilihan ganda. Penelitian ini sangat potensial untuk dilanjutkan hingga ke tahap pendampingan implementasi soal pilihan ganda berbasis kompetensi ilmiah dan pembinaan berkelanjutannya.

Kata-kata Kunci: pelatihan jarak jauh, guru IPA, soal pilihan ganda, kompetensi ilmiah

ABSTRACT

Related to the demands of science learning that must be meaningful and develop scientific literacy, teachers must also be given appropriate assessment literacy guidance. Scientific literacy has three indicators of scientific competence, namely (1) explaining phenomena scientifically, (2) evaluating and designing scientific investigations, and (3) interpreting data and evidence scientifically. If scientific competence is to be used as an indicator, then the questions made must test students for the three indicators of scientific competence. One of the popular test teacher assessment practices applied is giving students multiple choice questions. This study aims to determine the role of distance training in the network (online) in building analytical skills and making questions based on scientific competence for science teachers. The method used in this research is a mixture of quantitative and qualitative research with embedded type. The subjects of the study were 59 teachers who teach subjects or fields of science at the elementary to high school levels who were participants in the three training batches. Remote online training is carried out by utilizing the Whatsapp communication network, electronic mail and a Moodle-based learning management system. The research data was collected through the instrument of identification of scientific competency indicators, 20 examples of science multiple choice questions, grating assessment sheets and examples of scientific competency-based questions, observation sheets, and training evaluation formats. The data obtained show that distance training in the Scientific Competency-Based Multiple Choice Question Analysis and Development network has a positive role in (1) providing science teachers with experience in recognizing and identifying scientific competencies in multiple choice questions, (2) increasing the ability of science teachers in making multiple choice questions based on scientific competence, (3) increasing the ability of science teachers to develop a variety of scientific competence indicators and scientific skills in making multiple choice questions. This research has the potential to be continued up to the stage of mentoring the implementation of multiple-choice questions based on scientific competence and continuous development.

Key Words: distance learning, science teacher, multiple choice, scientific competence

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