PROGRAM PERKULIAHAN IPBA MATERI IKLIM KELAUTAN BERBASIS PREDIKSI- ARGUMENTASI UNTUK MENINGKATKAN BERPIKIR REFLEKTIF MAHASISWA CALON GURU

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2020

Program Perkuliahan IPBA Materi Iklim Kelautan Berbasis Prediksi-Argumentasi Untuk Meningkatkan Berpikir Reflektif Mahasiswa Calon Guru

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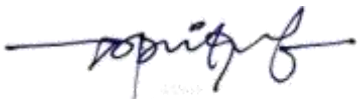

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PERNYATAAN

Dengan ini saya menyatakan bahwa disertasi yang berjudul ”program perkuliahan IPBA materi iklim kelautan berbasis prediksi- argumentasi untuk meningkatkan berpikir reflektif mahasiswa calon guru” ini beserta seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan menjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan tersebut, saya siap menanggung resiko/sanksi apabila dikemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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PROGRAM PERKULIAHAN IPBA MATERI IKLIM KELAUTAN BERBASIS PREDIKSI- ARGUMENTASI UNTUK MENINGKATKAN BERPIKIR REFLEKTIF MAHASISWA CALON GURU

ABSTRAK

Penelitian ini bertujuan untuk menghasilkan program perkuliahan IPBA berbasis prediksi-argumentasi dengan fokus kajian pengaruh iklim kelautan terhadap terjadinya ENSO, IOD dan monsun. Program tersebut difokuskan untuk meningkatkan berpikir reflektif mahasiswa calon guru fisika dalam menyelesaikan isu atau masalah iklim yang berkembang di masyarakat. Penelitian ini menerapkan perkuliahan dengan menggabungkan aktivitas kelas berbantuan sofware *ocean climate* dan modul ARIMA – SARIMA serta pembelajaran online melalui web yaitu NOAA dan Jamstek. yang diarahkan untuk meningkatkan keterampilan prediksi dan argumentasi; sehingga berdampak pada peningkatan keterampilan berpikir reflektif. Metode penelitian yang diterapkan adalah desain *mixed-methods* dengan model *Embedded Experimental*. Instrumen yang digunakan adalah lembar observasi, LKM, tes kemampuan berpikir reflektif dan skala sikap serta tanggapan mahasiswa. Penelitian ini dilakukan pada mahasiswa calon guru fisika salah satu universitas di Propinsi Nusa Tenggara Barat (NTB), dengan jumlah mahasiswa 40 orang. Sintaks perkuliahan berbasis prediksi - argumentasi yang dihasilkan adalah menentukan klaim, prediksi, *warrant* dan *backing*. Berdasarkan hasil uji-t sampel berpasangan bahwa nilai Sig (0,000) < 0,05 dan t_{hitung} (53,092) > t_{table} (0,681) yang artinya terdapat pengaruh perkuliahan iklim kelautan berbasis prediksi - argumentasi terhadap keterampilan berpikir reflektif. Selain itu, berdasarkan hasil perhitungan persentase N-Gain bahwa efektivitas perkuliahan IPBA materi iklim kelautan berbasis prediksi - argumentasi sebesar 81.34% dengan kategori tinggi. Skala sikap berpikir reflektif mahasiswa berada pada kategori *Reflection* dan *Critical Reflection* menunjukkan hal yang positif dan memiliki berpikir reflektif yang tinggi. Mahasiswa memberikan tanggapan positif, hampir semua mahasiswa menyatakan setuju dengan perkuliahan IPBA berbasis prediksi – argumentasi.

Kata-kata kunci : Perkuliahan IPBA, Berpikir reflektif, Keterampilan prediksi - Argumentasi

IPBA LECTURE PROGRAM ABOUT OCEAN CLIMATE BASED ON PREDICTION-ARGUMENTATION TO IMPROVE REFLECTIVE THINKING OF PRE-SERVICE TEACHERS

ABSTRACT

This study aims to produce an Earth and Space Science course program based-on prediction-argumentation with a focus on the study of the effect of ocean climate on the occurrence of ENSO, IOD and monsoons. The program orientation is to improve the reflective thinking of pre-service physics teacher in solving climate issues or problems that develop in society. This research applied lectures by combining classroom activities assisted by ocean climate software and the ARIMA - SARIMA module as well as online learning through satellite web namely NOAA and Jamstek, which are directed to improve predictive and argumentation skills therefore it has an impact on improving reflective thinking skills. The research method applied is a mixed-methods design with the Embedded Experimental model. The instruments used were observation sheets, student worksheets, tests of reflective thinking skills and attitude scale and responses of student. This research was conducted on students of prospective physics teacher at a university in West Nusa Tenggara (NTB) Province, with a total of 40 students. The syntax of the lecture based on predictions - arguments are determining claims, predictions, warrants and backing. Based on the results of the paired sample t-test that the value of Sig (0.000) <0.05 and t_{count} (53.092)> t_{table} (0.681), which means that there is an effect of IPBA lecture model based on predictions - arguments on reflective thinking skills. In addition, based on the results of the percentage of N-Gain that the effectiveness of Earth and Space Science course on ocean climate matter based on predictions - arguments of 81.34% with the high category. The student's reflective thinking attitude scale is in the Reflection and Critical Reflection category, which shows positive things and students have high reflective thinking. Students gave positive responses, almost all students agreed with the IPBA lecture based on prediction – argumentation.

Key words: IPBA lectures, reflective thinking, prediction - argumentation skills

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