PROGRAM PELATIHAN GURU DALAM PENGEMBANGAN PEMBELAJARAN IPA BERORIENTASI LITERASI SAINS DAN SEMIOTIK (PPGI-LSS) UNTUK MENINGKATKAN PROFESIONALITAS GURU

DISERTASI

Diajukan untuk Memenuhi Sebagian dari Syarat untuk Memperoleh Gelar Doktor Pendidikan Ilmu Pengetahuan Alam

Oleh

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PROGRAM STUDI DOKTOR PENDIDIKAN ILMU PENGETAHUAN ALAM

FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM

UNIVERSITAS PENDIDIKAN INDONESIA

2023

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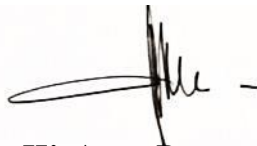
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Dengan ini menyatakan bahwa disertasi dengan judul "Program Pelatihan Guru dalam Pengembangan Pembelajaran IPA Berorientasi Literasi Sains dan Semiotik (PPGI-LSS) untuk Meningkatkan Profesionalitas Guru" ini beserta seluruh isinya adalah benar-benar karya saya 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 resiko/sanksi apabila dikemudian hari ditemukan adanya pelanggaran etika keilmuan atau kalim dari pihak lain terhadap keaslian karya saya ini.

Bandung, 18 Agustus 2023
Yang membuat pernyataan,

Indra Budiman

KATA PENGANTAR

Profesionalitas guru mengacu pada kualitas, sikap, dan perilaku yang harus dimiliki oleh seorang guru dalam melaksanakan tugasnya sebagai pendidik. Guru yang profesional memiliki karakteristik dan komitmen untuk meningkatkan pembelajaran dan perkembangan peserta didik secara efektif dan efisien. Profesionalitas guru bukanlah sesuatu yang instan, tetapi merupakan hasil dari kesungguhan, komitmen, dan usaha yang berkelanjutan untuk meningkatkan diri. Guru yang profesional berperan penting dalam membentuk masa depan generasi muda dan memberikan kontribusi positif bagi masyarakat dan bangsa.

Secara umum tujuan penelitian ini adalah merancang program pelatihan guru dalam pengembangan pembelajaran IPA berorientasi literasi sains dan semiotik untuk peningkatan profesionalitas guru IPA. Penelitian ini juga mengkaji tentang pengembangan program pelatihan guru IPA SMP dalam merancang dan mengimplementasikan pembelajaran getaran, gelombang, dan bunyi berorientasi literasi sains dan semiotik. Program pelatihan ini berhasil mengembangkan profesionalitas guru dalam merancang dan mengimplementasikan pembelajaran berorientasi literasi sains dan semiotik melalui model *lesson study* dengan masing-masing tiga siklus pembelajaran di tiga sekolah berbeda.

Penulis mengapresiasi segala bentuk masukan demi perbaikan disertasi ini. Semoga dengan segala kekurangan disertasi ini dapat menambah khazanah pengetahuan khususnya dalam peningkatan profesionalitas guru IPA di Indonesia.

UCAPAN TERIMA KASIH

Puja dan puji hanya milik Illahi Robbi, Allah SWT yang telah memberikan segala kenikmatan sehingga terselesaikannya disertasi ini. Penulis ucapkan terima kasih yang tulus kepada orang tua Bapa Lili Suherli (alm) dan Mamah Uu Widayati, Dian Nurdiana, S.Kep. Ners. (istri), Anank-anakku MS Fathan F, MS Zhillan H, Haifa NA, Raisya KA yang telah memberikan doa dan dukungan. Tak lupa penulis sampaikan terima kasih kepada:

1. Prof. Dr. Ida Kaniawati, M.Si., selaku promotor sekaligus pembimbing akademik yang telah memberikan arahan dan bimbingan mulai dari sidang proposal hingga selesainya disertasi ini.

2. Prof. Dr. Hj. Anna Permanasari, M.Si., selaku ko-promotor sekaligus yang dengan sabar memberikan bimbingan dalam semua proses studi dan penyelesaian disertasi.

3. Dr. H. Riandi, M.Si., selaku ko-promotor yang banyak memberikan bimbingan dalam penyelesaian disertasi ini.

4. Prof. Andi Suhandi, M.Si dan Dr. Dadi Rusdiana, M.Si., sebagai penguji atas segala masukan dari perspektif yang berbeda.

5. Seluruh dosen dan tendik di Prodi Pendidikan IPA FPMIPA UPI, atas ilmu, arahan, bimbingan, dan bantuan selama kuliah.

6. Rekan-rekan mahasiswa angkatan 2017 yang telah banyak bertukar mulai pikiran hingga makanan.

7. Prof. Dr. H. Moh. Wahyudin Zarkasyi, SE., MS, Ak., CPA., selaku rektor Unsika ketika memberikan ijin studi doktoral kepada penulis.

8. Kemenristekdikti atas bantuan beasiswa yang sangat mendukung selama perkuliahan hingga penyelesaian disertasi.

9. Dr. H. Purwanto, M.Pd., sebagai Kepala Dinas Pendidikan Kabupaten Purwakarta yang sangat mendukung dalam pelaksanaan penelitian dengan memberikan keleluasaan untuk berkomunikasi langsung dengan para guru IPA se Kabupaten Purwakarta yang menjadi subjek penelitian.

10. Guru-guru IPA SMP, Bah Uci, Pak Dindin, Bu Dewi, Pak Enjang, Pak Hendi dan semua guru yang tergabung dalam MGMP IPA SMP Kabupaten

Purwakarta yang telah dan lelah salalu mendukung terselesaikannya penelitian ini.

11. Semua pihak yang telah memberikan bantuan baik langsung maupun tidak langsung kepada penulis yang tidak dapat dituliskan satu persatu.

Tentu penulis tidak mampu untuk membalas semua kebaikan kepada semua pihak yang telah membantu dalam penyelesaian disertasi ini, hanya doa yang bisa penulis panjatkan kepada Allah SWT agar semuanya diberikan kemuliaan dan kebahagiaan baik di dunia maupun di akhirat kelak.

Bandung, 18 Agustus 2023

Penulis

PROGRAM PELATIHAN GURU DALAM PENGEMBANGAN PEMBELAJARAN IPA BERORIENTASI LITERASI SAINS DAN SEMIOTIK (PPGI-LSS) UNTUK MENINGKATKAN PROFESIONALITAS GURU

ABSTRAK

Literasi sains merupakan kemampuan yang melibatkan analisis, evaluasi, dan pemahaman eksplanasi ilmiah yang mendasari fenomena alam dan proses-proses kompleks didalamnya. Eksplanasi ilmiah yang berkaitan dengan sains memiliki karakteristik linguistik yang memungkinkan penafsiran tentang pengetahuan, nilai, dan hakikat IPA. Penelitian ini bertujuan untuk menghasilkan program pelatihan guru dalam pengembangan pembelajaran IPA berorientasi literasi sains dan semiotik (PPGI-LSS) dalam peningkatan profesionalitas guru. Metodologi *exploratory sequential mixed method,* dengan instrumen wawancara, angket, rubrik penilaian kinerja, rubrik penilaian dokumen RPP, dan rubrik penilaian implementasi rancangan pembelajaran, digunakan untuk pengambilan data, yang akan dianalisis dengan pendekatan kualitatif berupa analisis tematik, dan pendekatan kuantitatif dengan uji statistik. Partisipan diambil dengan metode *sampling convenience* melibatkan 30 guru IPA SMP di Kabupaten Purwakarta, Jawa Barat. Hasil penelitian menunjukkan PPGI-LSS memiliki karakteristik berupa pendekatan eksplanasi ilmiah, berorientasi *blended training* dan *lesson study*, dapat meningkatkan kompetensi profesional guru. Hasil uji *Wilcoxon Signed-Rank Test* untuk satu sampel RPP menyatakan P-Value sebesar 0,028 < α = 0,05 artinya dokumen rancangan pembelajaran berorientasi literasi sains dan semiotik hasil pelatihan memiliki predikat baik, sedangkan sampel kinerja menyatakan P-Value sebesar 0,038 < α =0,05 artinya kinerja peserta pelatihan dalam mengikuti PPGI-LSS memiliki predikat baik. Penguasaan literasi sains peserta didik meningkat tanpa terpengaruh oleh banyak siklus pembelajaran dan letak geografis sekolah yang didukung hasil uji Friedman dengan P-Value sebesar 0,150 > α =0,05 artinya tidak terdapat perbedaan penguasaan literasi sains dalam tiga siklus pembelajaran baik di sekolah kota, tengah, dan terluar. Peserta didik belum mampu membuat eksplanasi ilmiah dengan lengkap. PPGI-LSS ini memiliki keunggulan dalam peningkatan profesionalitas guru, peguasaan literasi sains, dan pemanfaatan semiotik serta keterbatasannya adalah waktu dan sumber biaya, kesinambungan program dan dukungan *stakeholder*, serta motivasi dan keyakinan guru.

Kata-kata kunci: Literasi sains, semiotik, pelatihan guru, profesionalitas guru.

TEACHER TRAINING PROGRAMME IN DEVELOPING SCIENCE LITERACY AND SEMIOTIC-BASED SCIENCE LEARNING (PPGI-LSS) TO IMPROVE TEACHER PROFESSIONALISM

ABSTRACT

Scientific literacy is an ability that involves the analysis, evaluation, and understanding of the scientific explanations underlying natural phenomena and complex processes in them. Science-related scientific interpretation has linguistic characteristics that allow interpretation of knowledge, values, and truths of IPA. This research aims to produce teacher training programmes in the development of learning IPA oriented scientific literacy and semiotics (PPGI-LSS) in the improvement of teacher professionalism. The methodology of exploratory sequential mixed methods, with interviews instruments, lifts, performance assessment sections, evaluation sections of RPP documents, and evaluation of implementation of learning plans, is used for data collection, which will be analyzed with a qualitative approach of thematic analysis, and a quantitative approach with statistical testing. The participants were taken using the convenience sampling method involving 30 junior high school science teachers in Purwakarta district, West Java. Research results show PPGI-LSS has characteristics of a scientific explanatory approach, based on blended training and lesson study, can improve the professional competence of teachers. The results of the Wilcoxon Signed-Rank Test for one sample of RPP indicated P-Value of $0.028 < \alpha = 0.05$ meaning that the documentation of the learning plan oriented to science literacy and semiotics the training results had good predicates, while the performance sample indicated a P-value of $0.038 < \alpha = 0.05$ means that the performance of the training participants in following PPGI-LSS had a good prediction. Students' science literacy increases without being affected by many learning cycles and geographical locations supported by the Friedman test results with a P-Value of $0.150 > \alpha = 0.05$, meaning that there is no difference in science literature in the three learning cycle both in the city, middle, and outer schools. This PPGI-LSS has advantages in improving teacher professionalism, science literacy, and semiotic utilization and its limitations are time and cost resources, program continuity and stakeholder support, as well as teacher motivation and confidence.

Key words: Scientific literacy, semiotics, teacher training, teacher professionalism.

DAFTAR ISI

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