ANALISIS PENGARUH PELATIHAN TAKSONOMI NUMERIK DAN PEMBELAJARANNYA DALAM MENGEMBANGKAN TPACK (*TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE)* GURU BIOLOGI

TESIS

diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar

Magister Pendidikan Biologi

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PROGRAM STUDI PENDIDIKAN BIOLOGI

SEKOLAH PASCASARJANA

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Analisis Pengaruh Pelatihan Taksonomi Numerik dan Pembelajarannya Dalam Mengembangkan TPACK (*Technological Pedagogical Content Knowledge)* Guru Biologi

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Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Magister Pendidikan (M.Pd.) pada Program Studi Pendidikan Biologi

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Abstrak

TPACK merupakan pengetahuan yang harus dimiliki guru dalam menghadapi era pendidikan di abad 21. Dalam upaya mengembangkan TPACK dapat dilakukan dengan adanya strategi pelatihan. Pada penelitian ini dilakukan pelatihan taksonomi numerik dan pembelajarannya, yaitu program pelatihan yang bertujuan untuk mengembangkan TPACK guru biologi pada konten spesifik taksonomi numerik pada konsep klasifikasi makhluk hidup. Pelatihan ini membekali guru biologi terkait pengetahuan yang dibutuhkan untuk mengintegrasikan TPACK yaitu pengetahuan konten terkait TPACK dan taksonomi numerik, teknologi dalam pembelajaran, serta bagaimana menyusun strategi pembelajaran terkait konsep taksonomi numerik dan mengintegrasikannya ke dalam proses pembelajaran. Metode penelitian yang digunakan adalah *pre-experimental one group pre-post test design*. TPACK guru biologi diperoleh berdasarkan CoRes, RPP yang disusun oleh guru, serta penilaian pelaksanaan pembelajaran. Perspektif guru terhadap TPACK dan taksonomi numerik diperoleh melalui jawaban terhadap kuesioner. Hasil penelitian menunjukkan bahwa setelah pelatihan, 80% guru berada pada kategori *Growing* TPACK, 20% lainya berada pada kategori Pra TPACK. Penilaian keterlaksanaan pembelajaran menunjukan rata-rata 78 dengan kategori baik, hal ini menunjukan bahwa semua guru merasa cukup untuk mengajar taksonomi numerik secara lebih efektif kepada siswa. Selain itu, perspektif guru terhadap TPACK pada pembelajaran menunjukan perubahan, guru mulai bisa menentukan teknologi, strategi, dan memahami konsep terkait taksonomi numerik dengan baik, hal ini menunjukan bahwa pelatihan telah mengembangkan TPACK guru biologi.

Kata kunci: TPACK, *Technological Pedagogical Content Knowledge,* Taksonomi Numerik, Guru Biologi, Program Pelatihan.

THE ANALYSIS OF NUMERICAL TAXONOMY AND ITS LEARNING TRAINING EFFECTS IN IMPROVING TPACK (TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE) OF BIOLOGY TEACHERS

Abstract

TPACK is the kinds of knowledge that must be possessed by teachers in facing the era of education in 21st century. To improve TPACK can be done with training strategies. In this study numerical taxonomy and its learning process training is a training program for biology teachers as a strategy to improve their TPACK for a specific content about numerical taxonomy. This training gives the knowledge needed by teachers to integrate TPACK that are consisting of content related TPACK and numerical taxonomy, technology, and learning strategies. The method used was pre-experimental one group pre-post test design. The data about teachers' TPACK was gained from CoRes and lesson plans prepared by teachers, and teachers' prespective on TPACK was gained from responses toward questionnaires. The result showed after training, analysis of CoRes reveals that 80% of Biology teachers' is on the Growing TPACK, and 20% is on the Pre TPACK category. The result of implementation of learning showed a good category with the avarage value is 78, it means all teachers felt adequate to teach more effectively the numerical taxonomy to their students. Teachers' prespective on TPACK in learning process have a positive changes, teachers starts to be able to determine the technology, strategy, and understanding the content of numerical taxonomy, it showed that training can improve biology teachers' TPACK.

Keywords: TPACK, Technological Pedagogical Content Knowledge, Numerical Taxonomy, Biology Teachers, Training Program.

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