DESAIN PEMBELAJARAN GEOMORFOLOGI BERBASIS KERANGKA KERJA *TECHNOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE* (TPACK)

(Perspektif Pendidikan Geografi di Era *Education* 4.0)

DISERTASI

Diajukan untuk Memenuhi Sebagian dari Syarat
Memperoleh Gelar Doktor Pendidikan
Program Studi Pendidikan Geografi

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2024

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Sebuah Disertasi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar Doktor Pendidikan (Dr.) pada Fakultas Pendidikan Ilmu Pengetahuan Sosial

Halaman Pengesahan

Judul

Desain Pembelajaran Geomorfologi Berbasis Kerangka Kerja *Technological Pedagogical Content Knowledge* (TPACK) (Perspektif Pendidikan Geografi di *Era Education* 4.0)

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ABSTRAK

Erwin Hilman Hakim (2024), Desain Pembelajaran Geomorfologi Berbasis Kerangka Kerja *Technological Pedagogical Content Knowledge* (TPACK) Perspektif Pendidikan Geografi di *Era Education* 4.0. Disertasi. Bandung. Program Studi Pendidikan Geografi Universitas Pendidikan Indonesia. Promotor: Prof. Dr. Ahmad Yani, M.Si., Ko-promotor: Dr. rer.nat. Nandi, S.Pd., MT., M.Sc.

Pembelajaran geomofologi di Program Studi Pendidikan Geografi terindikasi belum didesain pembelajarannya sesuai kebutuhan pembelajaran perspektif pendidikan geografi di *era education* 4.0 yang mengintegrasikan antara konten materi ajar, pedagogi kedalam teknologi pada pembelajaran untuk mengembangkan kompetensi mahasiswa secara mandiri dan berkelanjutan. Tujuan penelitian untuk menemukan suatu formulasi desain pembelajaran yang memudahkan dosen mengembangkan kompetensi mahasiswa yang sesuai pembelajaran geomorfologi di Program Studi Pendidikan Geografi di *era education* 4.0. Metode dalam penelitian ini menggunakan metode *mix method* dengan model *research and development* (R&D) dari Plomp yang membagi tiga tahapan yaitu: *preliminary research, development or prototyping phase*, dan *assesment phase*. Penelitian ini menganalisis dan mengintegrasikan komponen TPACK dalam bentuk desain pembelajaran geomorfologi di Program Studi Pendidikan Geografi perspektif pendidikan geografi, yang mampu mengembangkan kompetensi mahasiswa di *era education* 4.0. Subjek penelitian adalah dosen dan mahasiswa pada pembelajaran geomorfologi Program Studi Pendidikan Geografi di Jawa Barat. Teknik pengambilan data untuk menganalisis pembelajaran faktual menggunakan observasi, wawancara, kuesioner, dan studi dokumentasi. Data hasil wawancara dianalisis menggunakan *software Atlas Ti*, data lainnya dianalisis menggunakan statistik deskriptif melalui perhitungan persentase disetiap indikator. Teknik pengambilan data untuk menguji desain dinilai pada ketercapaian hasil pembelajaran menggunakan *pre-post test*, dan penilaian autentik yang dianalisis menggunakan SPSS. Hasil analisis menunjukkan bahwa dosen geomorfologi pada Program Studi Pendidikan Geogafi di Jawa Barat memiliki karakteristik yang kompeten dibidang geomorfologi, dan memiliki pengetahuan yang tinggi disetiap komponen kerangka kerja TPACK. Karakteristik serta tingkat pengetahuan dosen mengenai kerangka TPACK memiliki hubungan dalam mendesain serta implementasi pembelajaran geomorfologi yang dibutuhkan di Program Studi Pendidikan Geografi di *era education* 4.0. Desain pembelajaran geomorfologi dengan mangadaptasi model pembelajaran Dick & Carey yang setiap tahapannya mengintegrasikan kerangka kerja TPACK, dan menggunakan konsep UbD serta menginternalisasi karakteristik pembelajaran abad 21 di *era education* 4.0. Hasil desain pembelajaran berbasis kerangka kerja TPACK menunjukkan bahwa pembelajaran geomorfologi di Program Studi Pendidikan Geografi terbukti efektif dan memiliki efek yang besar terhadap peningkatan kompetensi mahasiswa dalam perspektif pendidikan geografi di *era education* 4.0.

Kata Kunci: Desain Pembelajaran, TPACK, Geomorfologi, Pendidikan 4.0

ABSTRACT

Erwin Hilman Hakim (2024), Geomorphological Learning Design Based on the Technological Pedagogical Content Knowledge (TPACK) Framework from a Geography Education Perspective in the Education 4.0 Era. Dissertation. Bandung. Geography Education Study Program, Indonesian Education University. Promoter: Prof. Dr. Ahmad Yani, M.Si., Co-promoter: Dr. rer. nat. Nandi, S.Pd., MT., M.Sc.

It is indicated that geomorphology learning in the Geography Education Study Program has not been designed according to the learning needs of a geography education perspective in the education 4.0 era, which integrates teaching material content and pedagogy into technology in learning to develop student competencies independently and sustainably. The research aims to find a learning design formulation that makes it easier for lecturers to build student competencies appropriate for geomorphology learning in the Geography Education Study Program in the Education 4.0 era. This research uses a mixed method with the research and development (R&D) model from Plomp, which divides into three stages: preliminary research, development or prototyping phase, and assessment phase. This research analyzes and integrates TPACK components in geomorphology learning design in the Geography Education Study Program from a geography education perspective, which can develop student competencies in the education 4.0 era. The research subjects were lecturers and students studying geomorphology at the Geography Education Study Program in West Java. Data collection techniques for analyzing factual learning use observation, interviews, questionnaires and documentation studies. Interview data was analyzed using Atlas Ti software, and other data was analyzed using descriptive statistics by calculating percentages for each indicator. Data collection techniques for testing designs are assessed on the achievement of learning outcomes using pre-post tests, and authentic assessments are analyzed using SPSS. The analysis results show that geomorphology lecturers in the Geophysical Education Study Program in West Java are competent in geomorphology and have high knowledge of each component of the TPACK framework. The lecturers' characteristics and level of knowledge regarding the TPACK framework are related to the design and implementation of geomorphology learning needed in the Geography Education Study Program in the education 4.0 era. Geomorphological learning design by adapting the Dick & Carey learning model, which at each stage integrates the TPACK framework, uses the UbD concept and internalizes the characteristics of 21st-century learning in the education 4.0 era. The results of the learning design based on the TPACK framework show that geomorphology teaching in the Geography Education Study Program has proven to be effective and significantly increases student competence from the perspective of geography education in the Education 4.0 era.

Keywords: Learning Design, TPACK, Geomorphology, Education 4.0

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