ABSTRAK

Sukadi, Rina Marina Masri, Iskandar Muda Purwaamijaya. **Pengembangan Pembelajaran Mekrek III dengan Model Analisis Struktur Berbantuan Komputer untuk Meningkatkan Pemahaman Mahasiswa JPTS.**

Mata kuliah Mekanika Rekayasa III (TS 317) bagi mahasiswa Jurusan Pendidikan Teknik Sipil Program Studi Teknik Sipil merupakan mata kuliah pilihan dan merupakan lanjutan dari Mekanika Rekayasa II. Karakteristik pembelajaran Mekanika Rekayasa III hanya mengakomodasi domain pembelajaran kognitif. Pengembangan produk pembelajaran dalam bentuk model diagram alir, SOP *(Standard Operational Procedure)* dan audio visual diusulkan untuk menjelaskan materi pembelajaran Analisis Struktur Berbantuan Komputer, sehingga kemampuan mahasiswa untuk memperoleh gaya-gaya dalam pada struktur statis tak tentu semakin baik. Tujuan utama penelitian berdasarkan rumusan masalah pokok penelitian adalah menghasilkan dan melihat implementasi model diagram alir, SOP *(Standard Operational Procedure)* dan audio visual pada materi pembelajaran Analisis Struktur Berbantuan Komputer untuk meningkatkan kemampuan memperoleh gaya-gaya dalam pada struktur statis tak tentu bagi mahasiswa program studi pendidikan teknik sipil. Metode penelitian yang digunakan bagi pengembangan model diagram alir, SOP *(Standard Operation Prosedure)* dan audio visual pada materi pembelajaran Analisis Struktur Berbantuan Komputer pada pembelajaran Mekanika Rekayasa III untuk memperoleh gaya-gaya dalam pada struktur statis tak tentu bagi mahasiswa program studi pendidikan teknik sipil adalah penelitian pengembangan. Lokasi penelitian di kelas pembelajaran mata kuliah Mekanika Rekayasa III (TS 317) Jurusan Pendidikan Teknik Sipil. Waktu penelitian dimulai dari awal Bulan Maret 2009 sampai dengan Agustus 2009. Objek penelitian adalah mahasiswa Jurusan Pendidikan Teknik Sipil yang mengambil mata kuliah Mekanika Rekayasa III (TS 317) pada semester genap tahun akademik 2008/2009. Implementasi model diagram alir, SOP *(Standard Operational Procedure)* dan audio visual yang tepat untuk menjelaskan materi Analisis Struktur Berbantuan Komputer pada tugas laporan Mekanika Rekayasa III (TS 317) dapat meningkatkan kemampuan memperoleh gaya-gaya dalam pada struktur statis tak tentu bagi mahasiswa program studi pendidikan teknik sipil. Penelitian pengembangan perlu dilakukan di masa yang akan datang agar beberapa kriteria keberhasilan penelitian pengembangan kegiatan pembelajaran perhitungan statis tak tentu pada mata kuliah Mekanika Rekayasa III (TS 317) dapat tercapai sepenuhnya sesuai dengan harapan semua pihak yang terkait. Kuantitas perbaikan tingkat kemampuan jumlah mahasiswa dalam mata kuliah Mekanika Rekayasa III (TS 317) selayaknya jangan hanya dijadikan satu-satunya indikator tingkat keberhasilan pengembangan model diagram alir, SOP *(Standard Operational Procedure)* dan audio visual perhitungan statis tak tentu pada mata kuliah Mekanika Rekayasa III (TS 317), tetapi juga harus mempertimbangkan kualitas perbaikan tingkat kemampuan memperoleh gaya-gaya dalam pada struktur statis tak tentu dengan Analisis Struktur Berbantuan Komputer bagi para mahasiswa pendidikan teknik sipil dalam mata kuliah Mekanika Rekayasa III (TS 317).

Kata-kata kunci : Analisis struktur berbantuan komputer, model diagram alir, SOP, audio visual, gaya-gaya dalam struktur statis tak tentu.

Development of Third Engineering Mechanic Learnt with Computer Aided Structure Analysis for Increasing Understanding of Civil Engineering Students [1]

By :
Sukadi[2], R.M.Masri[3] and I.M.Purwaamijaya[4]

ABSTRACT

Course of third engineering mechanic for students of civil engineering education in civil engineering program is minor course that followed and be continuing application from secondary engineering mechanic. Learning characteristic of third engineering mechanic accomodating only cognitive learning domain. Development of learning product in the form of flowchart model, standard operational procedure and audio visual proposed for explaining learning material of computer aided structure analysis on third engineering mechanic, so that capability level of students in computing inner forces be better. Main goal of research based on problems formulation are producing and seeing flow chart model implementation, standard operational procedure description and audio visual presentation in learning material of computer aided structure analysis on third engineering mechanic for increasing capability of civil engineering student. Research method that used for flow chart model development, standar operational procedure and audio visual in learning material of computer aided structure analysis on third engineering mechanic for increasing capability of civil engineering student is developmental research. Location of research is in learning class of course of third engineering mechanic of civil engineering education department. Time of research began from beginning of March 2009 until August 2009. The object of research are students of civil engineering education who taking course of third engineering mechanic in even semester, 2008/2009 academic year. Flow chart model implementation, standard operational procedure and accurate of audio visual for explaining material of computer aided structure analysis on third engineering mechanic of civil engineering students. Developmental research need to be done in the future in order that some criterias of developmental research of learning activities learning computer aided structure analysis on third engineering mechanic can be fully gained appropriate with hope of all parties that participate. Quantities of skill level recovery of students amount in third engineering mechanic course feasible not only been one indicator success level flow chart model development, standard operational procedure and audio visual of computer aided structure analysis on third engineering mechanic, but also must be considering quality of capability level recovery computing inner forces of civil engineering students in third engineering mechanic course.

Key words : Computer aided structure analysis, flow chart model, standard operational procedure, audio visual, computing inner forces

---

[1] This article is a result of grant competitive research of Indonesia Education University funded by People Fund (University saving and work ex Diks) Rector Decision Letter Number: 3976/H.40/HM/2009 Date 03 July 2009.
[2] Lector in Civil Engineering Department Faculty of Vocational and Technology Education
[3] Lector in Civil Engineering Department Faculty of Vocational and Technology Education
[4] Head Lector in Civil Engineering Department Faculty of Vocational and Technology Education