

**PENGEMBANGAN BAHAN AJAR GAMBAR TEKNIK PADA
PROGRAM KEAHLIAN TEKNIK INSTALASI TENAGA LISTRIK DI
SMK MUHAMMADIYAH 3 YOGYAKARTA**

Oleh:

Maulana Danuri

NIM. 15501241023

ABSTRAK

Penelitian Tugas Akhir Skripsi ini bertujuan untuk: (1) Mengembangkan Bahan Ajar Gambar Teknik yang mempunyai karakteristik *self instruction, self contained, stand alone, user friendly, clarity of message*, representasi isi dan klasikal atau individual. (2) mengetahui tingkat kelayakan modul pembelajaran Gambar Teknik untuk kelas X pada program Keahlian Teknik Instalasi Tenaga Listrik di SMK Muhammadiyah 3 Yogyakarta.

Penelitian ini merupakan penelitian *Reseach and Depeloment (R&D)* dengan model pengembangan dari Sugiyono (2014) yang meliputi beberapa tahapan yaitu: (1) Identifikasi masalah; (2) pengumpulan informasi; (3) desain produk; (4) validasi desain; (5) perbaikan desain; (6) uji coba produk terbatas; (7) perbaikan produk 1; (8) uji coba pemakaian; (9) perbaikan produk 2; (10) produksi masal. Subjek dari penelitian ini adalah siswa kelas X dengan jumlah 21 orang. Teknik pengumpulan data menggunakan instrumen angket dengan skala *likert* empat pilihan untuk memperoleh data kelayakan modul pembelajaran. Validitas dan reliabilitas instrumen diuji menggunakan aplikasi SPSS. Analisis data menggunakan Teknik analisis deskriptif kuantitatif.

Penelitian pengembangan ini menghasilkan produk berupa modul pembelajaran Gambar Teknik untuk siswa kelas X program keahlian Teknik Instalasi Tenaga Listrik di SMK Muhammadiyah 3 Yogyakarta yang terdiri dari 9 Kegiatan Belajar. Penilaian tingkat kelayakan modul meliputi aspek materi, media, uji coba produk terbatas, dan uji coba pemakaian yang diikuti oleh 21 peserta didik. Hasil penelitian dapat diketahui bahwa; (1) kelayakan modul pembelajaran berdasarkan ahli materi mendapatkan presentase sebesar 89% dan dikategorikan sangat layak; (2) kelayakan modul berdasarkan ahli media mendapatkan presentase sebesar 78% dan dikategorikan layak; (3) uji coba produk terbatas mendapatkan presentase sebesar 84,5% dikategorikan sangat layak, dan; (4) uji coba pemakaian mendapatkan presentase sebesar 84,5% dan dikategorikan sangat layak.

Kata kunci : Modul pembelajaran, Gambar Teknik, Instalasi listrik

**DEVELOPMENT OF TECHNICAL DRAWING TEACHING MATERIALS
ON ELECTRIC POWER INSTALLATION TECHNIQUES EXPERTISE
PROGRAM AT SMK MUHAMMADIYAH 3 YOGYAKARTA**

By:

Maulana Danuri

Student Number: 15501241023

ABSTRACT

The thesis aims to (1) Develop Technical Drawing Materials that have the characteristics of self instruction, self contained, stand alone, user friendly, clarity of message, content representation and classical or individual. (2) observe the level of technical drawing teaching module feasibility for grade X on Electric Power Installation Techniques program at SMK Muhammadiyah 3 Yogyakarta.

This research is a Research and Development (R&D) study by applying development model conveyed by Sugiyono (2014) that includes several steps namely: (1) identification of the problem; (2) gathering information; (3) design product; (4) design validation; (5) design editing; (6) limited product trials; (7) product improvement; (8) trial run; (9) product improvement; (10) mass production. This study took place at SMK Muhammadiyah 3 Yogyakarta and the subjects are X grade students from Electric Power Installation Techniques expertise program. Technique of the data collection technique is questionnaire instrument using likert scale with four choices to get the data of feasibility teaching module. The validity of the questionnaire instrument is done by applying expert judgment, whereas the instrument reliability is tested by using cronbach alpha. The data analysis is done by using quantitative descriptive analysis techniques.

This development research resulted in a product in the form of a learning module: technical drawing for X grade students of Electric Power Installation Techniques expertise program at SMK Muhammadiyah 3 Yogyakarta. The assessment of module feasibility level includes material aspect, media, limited product trials, and also trial run that is followed by 21 students. The results of the study can be seen that: (1) the feasibility of learning module based on material experts gain the percentage of 89% and it is categorized as very decent; (2) the worthiness of learning module based on media experts reaches 78% and it is considered as feasible; (3) the limited product trials get the result of 84,5% and it is categorized as highlyfeasible; and (4) the trial run gain the result up to 84,5% and it is categorized as highlyfeasible.

Keywords: *learning module, technical drawing, electrical installation*