**Tarti. 2023.** “*Pengembangan Dan Analisis Kualitas Sistem E-learning Menggunakan Standar ISO 25010 (Studi Kasus SMK Negeri 1 Sedayu)*”. Tugas Akhir. Yogyakarta: Program Studi Pendidikan Teknologi Informasi Universitas Teknologi Yogyakarta. Pembimbing: Dr. Arief Hermawan, Ir.,MT.,IPU.

# ABSTRAK

Salah satu pemanfaatan teknologi informasi di dunia pendidikan yaitu *e-learning*. Kelebihan e-learning dapat diakses dimana saja dan kapan saja. Pengujian sistem dilakukan untuk menunjang keberhasilan sebuah sistem agar dapat memberikan kepuasan, kenyamanan, serta kemudahan penggunanya. Penelitian ini bertujuan untuk meningkatkan kualitas sistem *e-learning* berbasis web di SMK Negeri 1 Sedayu menggunakan standar ISO 25010. Metode penelitian yang digunakan adalah *Research and Development (R&D)* dengan model pengembangan *waterfall*. Model *waterfall* terdapat 5 tahapan yaitu analisis, desain sistem, penulisan kode program, pengujian program, dan penerapan program. *E-learning* dibuat menggunakan bahasa pemrograman PHP dan MySQL sebagai basis datanya. Hasil penelitian ini berupa e*-learning* berbasis web yang mendukung proses materi, tugas, ujian, nilai, pembaruan profil, chat dan pembaharuan kata sandi. Hasil pengujian sistem *e-learning* dengan menggunakan 5 aspek yaitu pengujian *usability* mendapatkan nilai 88,8% (80%-100%), dengan kategori sangat baik. Pengujian *functional suitability* memperoleh nilai 100% (≥50%), dengan kriteria presentase kelayakan dapat diterima. Pengujian *reliability* mendapat nilai *time test* 91,6 % (>90%), artinya sistem memiliki ketahanan tinggi dalam *time test*. Pengujian *ramp test* memperoleh nilai 88,9 % (<90%), artinya sistem belum memiliki ketahanan tinggi dalam *ramp test*. Pengujian *click test* mendapat nilai 100 % (>90%), artinya sistem memiliki ketahanan tinggi dalam *click test*. Pengujian *performance efficience* dengan menguji 28 laman diperoleh nilai *Page Load* 3,63 detik (<10 detik), artinya sistem mempunyai tingkat efisiensi performa yang tinggi. Pengujian *maintainability* memperoleh nilai MI 91,41 (86-100) dengan kategori level high (tinggi) dengan keterangan sangat mudah dirawat.

Kata kunci: *E-learning, web,* ISO 25010

**Tarti. 2023.** *"Development and Quality Analysis of E-learning Systems Using ISO 25010 Standards (Case Study of SMK Negeri 1 Sedayu)".* Thesis. Yogyakarta: Information Technology Education Study Program University of Technology Yogyakarta. Advisor: Dr. Arief Hermawan, Ir.,MT.,IPU.

# ABSTRACT

*One of the uses of information technology in the world of education is e-learning. The advantages of e-learning can be accessed anywhere and anytime. System testing is carried out to support the success of a system so that it can provide satisfaction, comfort, and convenience to its users. This study aims to improve the quality of the web-based e-learning system at SMK Negeri 1 Sedayu using the ISO 25010 standard. The research method used is Research and Development (R&D) with a waterfall development model. The waterfall model has 5 stages, namely analysis, system design, writing program code, program testing, and program implementation. E-learning is created using the programming language PHP and MySQL as the database. The results of this study are web-based e-learning that supports the process of materials, assignments, exams, grades, profile updates, chat and password updates. The results of testing the e-learning system using 5 aspects, namely usability testing, get a score of 88.8% (80% -100%), with a very good category. Functional suitability testing obtained a value of 100% (≥50%), with the criteria of an acceptable percentage of eligibility. Reliability testing got a time test value of 91.6% (> 90%), meaning that the system has high resistance in the time test. The ramp test obtained a value of 88.9% (<90%), meaning that the system did not yet have high robustness in the ramp test. The click test gets a value of 100% (> 90%), meaning that the system has high resilience in the click test. Performance efficiency testing by testing 28 pages obtained a Page Load value of 3.63 seconds (<10 seconds), meaning that the system has a high level of performance efficiency. The maintainability test obtained an MI value of 91.41 (86-100) in the high level category with information very easy to maintain.*

*Keywords: E-learning, web, ISO 25010*