

ABSTRAK

Ujian sekolah berfungsi sebagai tolok ukur pemahaman siswa, namun dalam praktiknya masih sering terjadi pelanggaran tata tertib seperti perilaku tidak jujur, kolaborasi tidak sah, dan pemanfaatan kelemahan sistem. Salah satu faktor penyebab adalah pemberian soal dengan urutan yang sama antar siswa sehingga peluang kerja sama menjadi besar. Untuk mengatasi permasalahan tersebut, penelitian ini mengimplementasikan algoritma *Fisher-Yates Shuffle* guna mengacak urutan soal, sehingga setiap siswa memperoleh soal dengan isi sama tetapi urutan berbeda. Sistem ujian dirancang agar dapat diakses melalui jaringan *Wireless Router* tanpa koneksi internet, sehingga soal hanya dapat diakses di lingkungan sekolah. Proses pengujian sistem dilakukan dengan metode *Usability Testing* yang mencakup lima indikator, yaitu *Learnability*, *Efficiency*, *Memorability*, *Errors*, dan *Satisfaction*. Hasil pengujian menunjukkan bahwa semua butir kuesioner valid (r hitung $>$ r tabel 0,195), sedangkan uji *reliabilitas* menghasilkan nilai *Cronbach's Alpha* 0,622, yang termasuk kategori *reliabel* (baik). Selain itu, hasil tingkat capaian responden pada indikator *Learnability* 91.45%, *Efficiency* 92.84%, *Memorability* 95.20%, *Errors* 90.53%, *Satisfaction* 93.84%.

Kata Kunci: *Wireless Router*, *Fisher-Yates Shuffle*, Pengacakan Soal, *Usability Testing*.

ABSTRACT

School examinations serve as a benchmark for students' understanding; however, in practice, violations of exam regulations such as dishonest behavior, unauthorized collaboration, and exploitation of system weaknesses still frequently occur. One contributing factor is the distribution of questions in identical order among students, which increases the likelihood of collaboration. To address this issue, this study implements the Fisher-Yates Shuffle algorithm to randomize the order of questions, so that each student receives the same content but in a different sequence. The exam system was designed to be accessed via a Wireless Router without an internet connection, ensuring that the questions can only be accessed within the school environment. System evaluation was carried out using Usability Testing, which includes five indicators: Learnability, Efficiency, Memorability, Errors, and Satisfaction. The results show that all questionnaire items are valid (r count $>$ r table 0.195), while the reliability test produced a Cronbach's Alpha value of 0.622, categorized as fairly reliable. Furthermore, the respondents' achievement levels for each indicator were as follows Learnability 91.45%, Efficiency 92.84%, Memorability 95.20%, Errors 90.53%, and Satisfaction 93.48%.

Keywords: *Wireless Router, Fisher-Yates Shuffle, Question Randomization, Usability Testing.*