

ABSTRAK

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PERANCANGAN WEBSITE *E-LEARNING* DENGAN PENILAIAN UJIAN *ESSAY ONLINE* SECARA OTOMATIS MENGGUNAKAN METODE *EUCLIDEAN SIMILARITY* DAN ARIFIN-SETIONO

(xv + 75 halaman; 50 gambar; 27 tabel)

E-learning adalah proses pembelajaran dimana guru dan siswa tidak diharuskan bertatap muka. Proses pembelajaran juga mencakup tahap penilaian berupa tes, seperti tes esai *online* yang mewajibkan siswa menjelaskan jawabannya dengan kalimat sendiri karena tidak ada jawaban dan dilakukan secara *online*. Proses penilaian ujian *online* secara otomatis untuk soal pilihan berganda dapat dilakukan dengan mudah. Untuk menyelesaikan permasalahan ini, maka dapat diterapkan *text mining*. Proses *preprocessing text mining* mencakup case *folding* (menghapus karakter non-huruf), mengubah seluruh huruf menjadi huruf kecil, *tokenizing* (memisahkan teks menurut kata-katanya), *filtering* (menghapus kata-kata yang tidak penting dari data pada *stopword*), dan *stemming* (mengubah kata imbuhan menjadi kata dasar). Salah satu metode *stemming* Bahasa Indonesia adalah Arfin Setiono. Langkah selanjutnya dalam proses pengolahan teks adalah melakukan penilaian teks. Studi ini akan menggunakan metode *Euclidean Similarity*. Hasil dari penelitian ini adalah sebuah aplikasi penilaian ujian *essay online* yang menggunakan metode *Euclidean Similarity* dan Arifin-Setiono untuk menilai jawaban soal *essay* secara otomatis, sehingga siswa dapat mengetahui nilai langsung setelah ujian.

Kata Kunci: *e-learning*, ujian *essay online*, *text mining*, metode Arifin Setiono, metode *Euclidean Similarity*

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ABSTRACT

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E-LEARNING WEBSITE WITH AUTOMATIC ONLINE ESSAY TEST ASSESSMENT USING EUCLIDEAN SIMILARITY AND ARIFIN-SETIONO METHOD

(xv + 75 halaman; 50 gambar; 27 tabel)

E-learning is a learning process where teachers and students are not required to meet face to face. The learning process also includes an assessment stage in the form of a test, such as an online essay test which requires students to explain the answers in their own words because there are no answers and is done online. The automatic online exam assessment process for multiple choice questions can be done easily. This is because there is a possibility that the words in the answers given by students are not exactly the same as the answers stored in the database, but in fact the answers have the same meaning. To solve this problem, text mining can be applied. Among the text mining preprocessing processes are case folding (removing non-letter characters), changing all letters to lowercase, tokenizing (separating text according to its words), filtering (removing unimportant words from the data on stop words), and stemming (changing affix words into base words). One of the Indonesian stemming methods is Arfin Setiono. The next step in the text processing process is to assess the text. This study will use the Euclidean similarity method. The result is an online essay exam assessment application that uses the Euclidean Similarity and Arifin-Setiono methods to automatically assess essay question answers, so students can find out their scores directly after the exam.

Keywords: *e-learning, online essay exams, text mining, Arifin Setiono method, Euclidean Similarity method*

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