

**DEVELOPMENT OF AN INTELLIGENT DIAGNOSTIC ASSESSMENT  
SYSTEM FOR DETECTING THE INITIAL ABILITIES OF STUDENTS  
AT SMAN 1 BLAHBATUH**

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**ABSTRACT**

The challenge of accurately mapping students' initial abilities remains a major problem at SMAN 1 Blahbatuh where administrative burden and time constraints pressure educator effectiveness. This is supported by data showing revealing that 77.4% of teachers experience difficulties in designing adaptive assessment instruments. Based on these problems, this research initiates the development of DIGIDAWS (Digital Diagnostic Assessment Web System), a proposed system artificial intelligence with the precision of Multistage Test (MST). Through a series of systematic development stages using the ADDIE model, has demonstrated initial reliability. Technical evaluation indicates high validity based on expert judgment, and the system successfully passed all targeted functional testing scenarios, while user acceptance measured through the User Experience Questionnaire Short (UEQ-S) suggests potential effectiveness to enhance the diagnostic assessment process.

Keywords: Diagnostic Assessment, Google Gemini, Large Language Models,  
Multistage Test, Informatics Education

# **PENGEMBANGAN SISTEM PENILAIAN DIAGNOSTIK CERDAS UNTUK MENGIDENTIFIKASI KEMAMPUAN AWAL SISWA DI SMAN 1 BLAHBATUH**

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## **ABSTRAK**

Tantangan dalam memetakan kemampuan awal siswa secara akurat masih menjadi masalah utama di SMAN 1 Blahbatuh, di mana beban administratif dan keterbatasan waktu membebani efektivitas pendidik. Hal ini didukung oleh data yang menunjukkan bahwa 77,4% guru mengalami kesulitan dalam merancang instrumen penilaian adaptif. Berdasarkan masalah-masalah tersebut, penelitian ini menginisiasi pengembangan DIGIDAWS (Digital Diagnostic Assessment Web System), sebuah sistem kecerdasan buatan yang diusulkan dengan akurasi Multistage Test (MST). Melalui serangkaian tahap pengembangan sistematis menggunakan model ADDIE, sistem ini telah menunjukkan keandalan awal. Evaluasi teknis menunjukkan validitas yang tinggi berdasarkan penilaian ahli, dan sistem berhasil lulus semua skenario pengujian fungsional yang ditargetkan, sementara penerimaan pengguna yang diukur melalui User Experience Questionnaire Short (UEQ-S) menunjukkan potensi efektivitas untuk meningkatkan proses penilaian diagnostik.

Kata kunci: Penilaian Diagnostik, Google Gemini, Model Bahasa Besar, Uji Multistage, Pendidikan Informatika