

FORMATIVE AND SUMMATIVE TEST ANALYSIS TECHNIQUES TO MEASURE THE COMPETENCE OF STUDENTS IN ISLAMIC BOARDING SCHOOLS

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Abstract

This research focuses on exploring how formative and summative assessment methods are applied to evaluate student skills at Al-Umm Aswaja Islamic Boarding School. A qualitative strategy was utilized, involving detailed interviews, observations, and document reviews. The participants included ten individuals: curriculum coordinators, educators, and students. The data were examined inductively through steps like data reduction, displaying data, and drawing conclusions. Findings show that formative assessments take place regularly through the creation of structured questions, peer support, and feedback systems, while summative evaluations are conducted at semester's end with written, oral, and practical tests. These evaluations are enhanced by question banks and anonymous marking to maintain fairness. Nonetheless, obstacles arise from the prevalence of conventional teaching practices, inadequate technological resources, and significant teacher workload. The blending of formative and summative assessments has beneficially impacted the comprehensive evaluation of student skills. It is suggested that Islamic boarding institutions enhance teacher training and make better use of educational technology to boost the effectiveness of assessments.

Keywords: Competency-based evaluation, Educational technology, Formative assessment, Islamic boarding schools, Summative assessment.

1. Introduction

Educational evaluation serves as a cornerstone in assessing learning outcomes and guiding instructional improvements, particularly in unique educational settings such as Islamic boarding schools (pesantren) [1]. In these institutions, evaluation must align not only with academic standards but also with moral and spiritual development objectives [2]. Formative and summative assessments are two fundamental approaches widely recognized for their complementary roles in education: formative assessment facilitates continuous feedback and learning adaptation, while summative assessment measures cumulative achievement at the end of an instructional period [3, 4].

However, despite the acknowledged importance of these assessment methods, many Islamic boarding schools continue to rely on traditional evaluation practices that prioritize rote memorization and textual recall over critical thinking and competency application [5]. This gap is further widened by limited access to technological tools and inadequate teacher training in contemporary assessment design [6]. Recent studies highlight the potential of digital assessment platforms—such as Quizizz and adaptive learning systems - in enhancing engagement and providing real-time feedback in Islamic education contexts [7, 8]. Nonetheless, empirical research on integrated, technology-enhanced assessment models specifically tailored for pesantren remains scarce.

Previous research has explored the implementation of formative and summative evaluations in Islamic educational settings. For instance, a study at the Jareqjeq Pambusuang Islamic Boarding School emphasized the role of diagnostic and summative assessments in character development [9]. Another investigation at SMP Negeri 3 Hulu Kuantan demonstrated that systematic formative and summative assessments could significantly elevate learning outcomes in Islamic religious education [10]. However, these studies rarely discuss the incorporation of digital tools in the evaluation process, nor do they suggest a cohesive framework that blends teaching innovations with technological advancements. This study, therefore, aims to fill these gaps by investigating current assessment practices, identifying challenges, and proposing a technology-enhanced framework for competency-based evaluation in the pesantren context, as illustrated in Fig. 1. This framework provides a visual representation of how formative and summative assessments can be integrated through technology to create a more holistic and effective evaluation system.

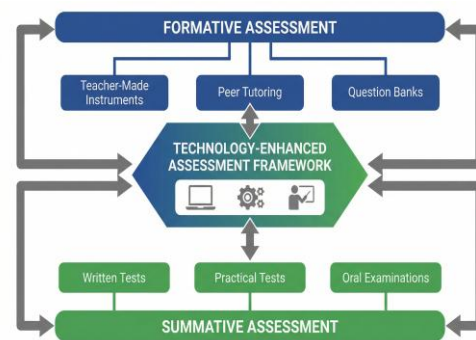


Fig. 1. Technology-enhanced assessment framework.

2. Method

This section outlines the methodological framework employed in this study to examine the implementation of formative and summative assessment techniques at Al-Umm Aswaja Islamic Boarding School. The methodology was designed to capture an in-depth understanding of assessment practices, stakeholder experiences, and contextual challenges within the pesantren setting. To ensure systematic and rigorous inquiry, the research procedure is organized into several sub-sections, including research design, participant selection, data collection techniques, data analysis procedures, and ethical considerations.

2.1. Research design

This study employed a qualitative exploratory approach using a single-case study design [11]. The design was selected to gain an in-depth understanding of educational assessment practices, stakeholder perceptions, and contextual challenges within Al-Umm Aswaja Islamic Boarding School. A qualitative approach allows the exploration of meanings, experiences, and social processes within their natural context [12].

2.2. Participant

Participants were selected through purposive sampling based on their direct involvement in the educational assessment process. The study involved ten participants, consisting of the vice-principal for curriculum affairs, one senior teacher, and eight students from different grade levels. All participants were chosen due to their relevance and experience related to the research focus.

2.3. Data collection

Data were collected using multiple techniques to ensure comprehensive and credible findings, including: (a) semi-structured interviews lasting 60-90 minutes, which were audio-recorded and transcribed; (b) non-participant observation during assessment activities; and (c) document analysis, including question banks, evaluation sheets, and institutional assessment reports. The use of multiple data collection methods aimed to enhance data credibility [11].

2.4. Data analysis

Data analysis was conducted through thematic analysis following Braun and Clarke's six-phase framework: (1) data familiarization, (2) initial coding, (3) theme searching, (4) theme reviewing, (5) defining and naming themes, and (6) report production [13]. To strengthen analytical rigor, data source triangulation was applied. All qualitative data were managed and analysed using NVivo version 12.

2.5. Ethical considerations

This study was conducted in accordance with research ethics principles and received appropriate institutional approval. All participants provided informed consent prior to data collection. Confidentiality and anonymity were ensured, and the data were used solely for academic purposes.

3. Result

3.1. Implementation of formative and summative test analysis methods

At Al-Umm Aswaja Islamic Boarding School, a dual system of formative and summative assessments is consistently utilized to evaluate students' skills. Formative assessments, which include teacher-made instruments, peer tutoring, and question banks, are integrated into the daily educational process to provide continuous feedback. The outcomes of these assessments directly inform the Mid-Semester Examination (UTS) scores, reflecting students' abilities without additional support. Summative evaluations, conducted at the end of each semester, consist of written tests, practical assessments, and oral examinations. These tests utilize the Bayanat method, requiring descriptive responses, and employ anonymous grading to ensure fairness. The integrated structure of this assessment framework is visualized in Fig. 1, which illustrates the cyclical relationship between formative and summative components, mediated by a technology-enhanced core.

3.2. Obstacles and solutions in implementing evaluation analysis techniques

Several challenges were identified in the application of these assessment methods, including limited access to information technology, a reliance on traditional teaching practices, and a heavy teacher workload. The regular rotation of subject teachers also disrupts the continuity of evaluation practices. In response, the school has initiated professional development programs, including teacher training, workshops, and mentorship. Fig. 2 provides a visual summary of these challenges and the corresponding solutions being implemented to facilitate a transformation in assessment practices. This figure highlights the key areas of intervention required to move from a traditional to a more technology-integrated assessment model.

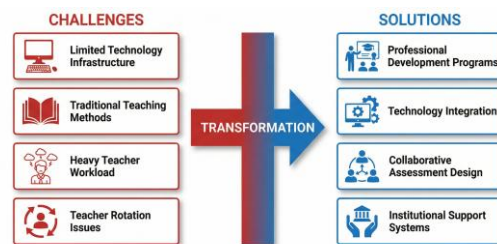


Fig. 2. Challenges and solutions in assessment implementation.

4. Discussion

The findings from Al-Umm Aswaja Islamic Boarding School reveal a structured and intentional approach to educational evaluation, integrating both formative and summative assessments. However, a closer analysis highlights areas for improvement, particularly concerning the application of feedback, the depth of assessment literacy, and the integration of technology. The consistent use of formative assessment for diagnostic purposes aligns with established educational principles, which emphasize its role in providing continuous feedback to guide instruction [14]. This practice is crucial for fostering a learning environment where

students can identify and address their weaknesses in real-time. The work of Black and Wiliam further supports this, asserting that formative assessment significantly enhances learning outcomes when feedback is used to adapt teaching and learning strategies [15].

Despite these strengths, the full potential of formative assessment at Al-Umm Aswaja appears to be constrained by the absence of systematic follow-up mechanisms, such as targeted remediation or personalized learning pathways. As Nicol and Macfarlane-Dick argue, formative assessment is most effective when it empowers students to self-regulate their learning and actively participate in closing their knowledge gaps [16]. Without a structured approach to using feedback for improvement, the diagnostic value of these assessments may not be fully realized.

From a summative perspective, the use of anonymous grading and standardized question banks enhances objectivity and fairness, which is consistent with the principles of reliable and transparent assessment [17]. However, the rigid exclusion of remedial opportunities in summative evaluations raises concerns about the balance between accountability and learning. Smeets et al. caution that overly stringent summative practices can undermine the principles of assessment for learning by limiting opportunities for reflection and growth [18]. A more balanced approach, where summative results inform future learning goals, could foster a more holistic and supportive evaluation culture [19].

The challenges identified in this study, such as inadequate teacher training and limited technological resources, are not unique to Al-Umm Aswaja but reflect broader issues in the educational landscape [20]. The heavy workload of teachers, in particular, is a significant barrier to the effective implementation of any assessment reform [21]. To address these challenges, a comprehensive and sustained professional development program is essential, focusing on enhancing teachers' assessment literacy and their capacity to integrate technology into their practice [22].

This study provides valuable insights into the assessment practices at a single Islamic boarding school, but its findings may not be generalizable to all pesantren, given the diversity of these institutions. The research is based on a small sample of participants, and a larger-scale quantitative study could provide more comprehensive data on the prevalence of the identified challenges and the effectiveness of the proposed solutions. Future research should explore the long-term impact of technology-enhanced assessment frameworks on student learning outcomes and teacher professional development in Islamic boarding schools [23]. Additionally, comparative studies across different types of pesantren could yield a more nuanced understanding of the contextual factors that influence assessment practices [24].

5. Conclusions

This study has illuminated the complex interplay of traditional and modern assessment practices within an Islamic boarding school, highlighting both the strengths of the existing system and the significant challenges that remain. The findings underscore the urgent need for a more integrated and technology-enhanced approach to assessment, one that not only measures student competence but also fosters a culture of continuous improvement. The proposed framework, which combines digital tools with structured teacher training, offers a promising pathway

for transforming evaluation in religious education. By embracing these innovations, Islamic boarding schools can better equip their students with the skills and knowledge needed to thrive in the 21st century, while remaining true to their core values and traditions. The successful implementation of such a framework, however, will require a sustained commitment from all stakeholders, including school leaders, teachers, and policymakers.

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