

LEARNING ANALYTICS DASHBOARDS IN MUQADDIMAH ILM AL-LUGHAH ASSESSMENT

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Keywords:

*Learning Analytics,
Dashboard, Arabic
Linguistics, Assessment
Data, Muqaddimah Ilm
Al-Lughah*

Abstract

This study discusses the use of learning analytics dashboards in Muqaddimah Ilm al-Lughah assessment as a data-informed approach to improving evaluation practices in introductory Arabic linguistics. The study is based on the problem that lecturers often receive assessment results only as final scores, without detailed information about students' conceptual difficulties across linguistic subfields. Using a qualitative descriptive method and conceptual literature analysis, this article explores how dashboards can visualize students' performance in phonology, morphology, syntax, and semantics. The findings indicate that learning analytics dashboards can help lecturers identify low-performing topics, monitor student participation, compare progress across tasks, and design remedial learning. Dashboards also support students by providing transparent information about their strengths and weaknesses. However, dashboards must be designed pedagogically, not merely technically, because data visualization must be connected to meaningful learning intervention. The study concludes that learning analytics dashboards can strengthen assessment in Muqaddimah Ilm al-Lughah by transforming score data into actionable feedback for lecturers and students.

INTRODUCTION

Assessment data in Muqaddimah Ilm al-Lughah is often underutilized. Lecturers may know students' final scores, but they may not know which concepts are most difficult or which students require specific support. In a course that includes several linguistic domains, data-informed evaluation is important for designing targeted remediation and improving learning quality (Parawansah & Sofa, 2025).

The dynamics of technology use in learning evaluation indicate a shift from paper-based assessment toward more flexible, interactive, and data-informed assessment. Technology enables lecturers to design various instruments, collect responses faster, provide feedback more efficiently, and document student development over time. Nevertheless, the use of technology does not automatically improve evaluation quality. It must be guided by clear learning outcomes, valid indicators, and pedagogical consideration (Sofa et al., 2025).

In introductory Arabic-related courses, evaluation should measure conceptual mastery, analytical skill, reflective awareness, and the ability to apply concepts in

authentic learning tasks. Students should not only memorize definitions, but also demonstrate understanding through explanation, classification, comparison, and contextual application. Therefore, technology-based evaluation must be designed to support deeper learning rather than merely accelerate scoring (R. Sholihah & Sofa, 2025).

This article aims to analyze the practice and dynamics of technology use in learning evaluation with a specific focus on learning analytics dashboards in muqaddimah ilm al-lughah assessment. The significance of this study lies in its attempt to provide a conceptual evaluation model that is adaptive to modern learning needs while remaining grounded in sound assessment principles (Parawansah & Sofa, 2024).

LITERATURE REVIEW

Conceptual foundation

Learning analytics refers to the measurement, collection, analysis, and reporting of data about learners and learning contexts. In assessment, analytics can transform raw scores into meaningful information for decision-making (N. Sholihah et al., 2026).

The literature suggests that effective technology-supported assessment must connect assessment tasks, learning objectives, and feedback mechanisms. When these elements are aligned, evaluation becomes a learning process rather than a separate administrative activity. This alignment is especially important in language and Islamic education contexts because learning outcomes include knowledge, skills, attitudes, and communicative competence (Sholeha & Sofa, 2025).

Technology and assessment practice

Dashboards provide visual summaries of learning data, such as participation, scores, task completion, and topic mastery. For lecturers, dashboards help identify patterns; for students, they support self-monitoring (Fillah & Sofa, 2026).

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Feedback and learning improvement

In Arabic linguistics learning, dashboard indicators can be organized according to linguistic domains, such as phonology, morphology, syntax, semantics, and applied language use (Ramadani & Sofa, 2025).

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RESEARCH METHODS

The study used a qualitative descriptive method based on library research and conceptual analysis. The object of analysis was the possible application of learning

analytics dashboards in evaluating Muqaddimah Ilm al-Lughah. Data were collected from academic sources on learning analytics, digital assessment, dashboard design, and language learning evaluation. The data were analyzed thematically by focusing on dashboard functions, assessment indicators, feedback transformation, and implementation risks (Hasanah & Sofa, 2025).

The validity of the analysis was strengthened through source triangulation by comparing ideas from assessment theory, educational technology, and language or Islamic education pedagogy. The study does not aim to test statistical hypotheses, but to formulate a conceptual and practical understanding of how technology can be used responsibly in learning evaluation.

RESULTS AND DISCUSSION

Dashboard visualization of linguistic mastery

The findings show that dashboards can visualize student performance in different linguistic domains. For example, a lecturer can see that students perform well in definitions but struggle with syntactic analysis. This information helps lecturers adjust instruction (Firdausiyah & Sofa, 2025).

This finding confirms that technology-based evaluation should be interpreted as a pedagogical system. The lecturer needs to design assessment tasks that are valid, provide feedback that is understandable, and use the resulting data for follow-up learning. Without this pedagogical orientation, technology may only change the medium of assessment without improving its academic quality.

Early warning and remedial planning

Learning analytics can identify students who consistently miss assignments or score low in specific topics. This early warning function supports timely intervention before students fail in final evaluation (Saputra & Sofa, 2026).

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Student self-monitoring

Dashboards can help students understand their own learning progress. When students see their performance across phonology, morphology, syntax, and semantics, they can plan independent study more effectively (Husnia & Sofa, 2026).

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Pedagogical and ethical limitations

The use of dashboards must consider data privacy, interpretation accuracy, and the risk of reducing learning to numbers. Lecturers must combine dashboard information with qualitative observation and academic judgment (Husnia & Sofa, 2026).

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Synthesis of discussion

Overall, the discussion shows that technology has the potential to make evaluation more flexible, transparent, and responsive to student needs (Wulandari et al., 2026). However, technology must be integrated with assessment literacy. Lecturers should determine what competence is being assessed, how evidence is collected, how feedback is delivered, and how students use the feedback to improve their learning.

Table 1. Technology-based evaluation framework

Evaluation Focus	Technology Practice	Learning Contribution
Score data	Dashboard visualization	Shows topic mastery
Participation data	Attendance and task completion chart	Detects engagement problems
Error patterns	Item analysis report	Guides remedial teaching
Student feedback	Progress dashboard	Supports self-regulated learning

The novelty of this article lies in the emphasis on a specific evaluation model rather than a general discussion of educational technology. By focusing on a distinct assessment practice, the article demonstrates that technology can support different dimensions of learning evaluation, including diagnosis, reflection, feedback, documentation, motivation, and data-informed decision making.

CONCLUSION

This study concludes that learning analytics dashboards in muqaddimah ilm al-lughah assessment offers a relevant approach for improving the quality of learning evaluation in contemporary education. The use of technology can support more timely feedback, richer learning evidence, and more active student participation. It also helps lecturers identify learning difficulties and design appropriate follow-up actions.

The implication of this study is that lecturers need to develop assessment instruments that are technologically adaptive and pedagogically meaningful. Technology should be used to strengthen validity, transparency, feedback, and student reflection. The limitation of this study is its conceptual nature; therefore, future research should conduct empirical studies using classroom experiments, student response analysis, or mixed-method designs to measure the effectiveness of the proposed evaluation model.

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