

ASSIGNMENT 2: “AI-Driven Learning Management Systems (LMS) and Learning Analytics (LA): Impacts on Teachers’ Decision-Making Based on Recent Research”

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Problem Statement

Teachers now have much greater access to real-time data, predictive insights, and automated feedback processes because of the integration of AI-driven Learning Analytics (LA) and Learning Management Systems (LMS). Recent studies have demonstrated that AI-enhanced learning management system platforms enhance data visibility, customize learning paths, and facilitate the early detection of students who may be at risk (Dashboard/K-12 Decision Systems Review, 2024/2025; Banihashem et al., 2022; Gligorea et al., 2023). Notwithstanding these developments, teachers frequently find it difficult to decipher LA reports and turn them into insightful teaching decisions. Limited data literacy, inadequate training, unclear data interpretation frameworks, and differing degrees of confidence in AI-generated recommendations are some of the obstacles that have been documented in studies (Hershkovitz & Forkosh-Baruch, 2024; Pan, 2024).

The need for data-informed teaching is partially met by current solutions, such as dashboards, automated alerts, and AI recommendation systems; however, these systems frequently put data presentation ahead of pedagogical usability. Many AI-powered learning management systems (LMS) fall short in matching analytics results to the real-world demands of classroom decision-making, especially for educators who are not accustomed to working with large amounts of data (Qazi et al., 2024). Because of this, learning analytics' potential to improve instructional decisions is still not fully realized.

Research is obviously needed to understand how AI-driven LMS and LA tools affect teachers' decision-making, what obstacles they encounter when utilizing these systems, and which particular features or features can enhance instructional responsiveness and decision accuracy. To improve the design of AI-enabled learning platforms and increase teachers' ability to make data-driven decisions that enhance student learning, it is imperative to look into these gaps.

Research Objectives

Primary Goal:

to investigate how teachers' instructional decisions are influenced by AI-driven learning management systems and learning analytics tools, and to pinpoint the main system elements and issues that hinder their efficient use.

Specific Objectives:

1. To examine how instructors currently make decisions about their lessons using AI-driven learning management systems and learning analytics.
2. To determine the main obstacles educators face when analyzing and utilizing data produced by AI-enabled learning management systems.
3. To assess how well the current analytics dashboards and AI-powered LMS features support precise and prompt teacher decisions.
4. To ascertain how well teachers can use AI-generated insights in relation to their data literacy levels.
5. To make suggestions for design or support systems that improve the pedagogical relevance, interpretability, and usability of AI-driven learning analytics for educators.

References:

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3. Gligorea, I. et al. (2023). Adaptive Learning Using Artificial Intelligence in e-Learning. (MDPI; open access). (MDPI)
4. Hershkovitz, A. & Forkosh-Baruch, A. (2024). Instructors' Perceptions of the Use of Learning Analytics. (MDPI; open access). (MDPI)
5. Pan, Z. (2024). A Systematic Review of Learning Analytics (Journal of Learning Analytics). (learning-analytics.info)
6. Qazi, S. et al. (2024). AI-Driven Learning Management Systems: Modern Developments, Challenges and Future Trends. (sciencedirect.com)