

Chapter 9

AI-Driven Learning Analytics for Personalized Feedback and Assessment in Higher Education

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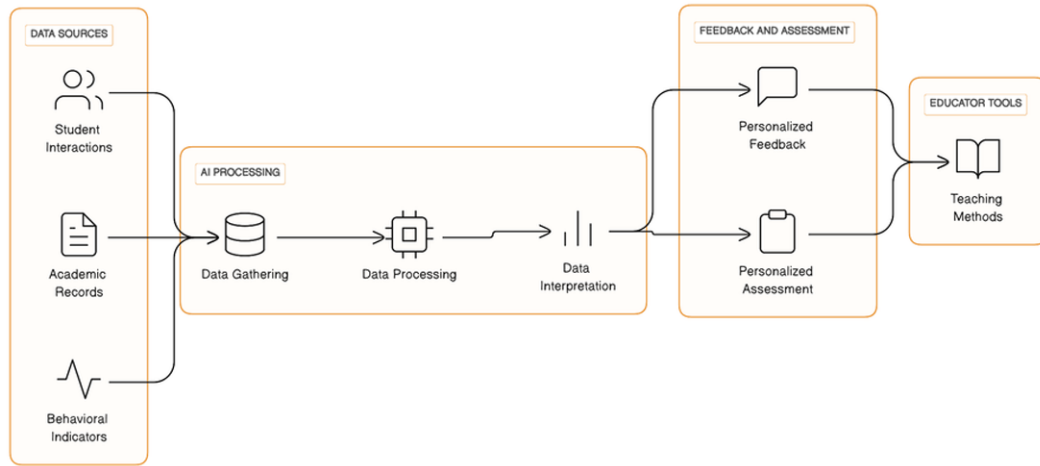
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ABSTRACT

Advancements in artificial intelligence (AI) and learning analytics have opened up new possibilities for personalized education in higher education institutions. This chapter explores the potential of AI-driven learning analytics in higher education, focusing on its application in personalized feedback and assessment. By leveraging AI algorithms and data analytics, personalized feedback can be provided to students, targeting their specific strengths and areas for improvement. Adaptive and formative assessments can also be facilitated through AI-driven learning analytics, enabling personalized and accurate evaluation of students' knowledge and skills. However, ethical considerations, implementation challenges, and faculty training are crucial aspects that must be addressed for successful adoption. As technology continues to evolve, embracing AI-driven learning analytics can enhance student engagement, support individualized learning, and optimize educational outcomes.

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Figure 1. AI-driven learning analytics in higher education



INTRODUCTION

In the rapidly evolving landscape of higher education, the integration of Artificial Intelligence (AI) and learning analytics has emerged as a transformative force. This introduction sets the stage by defining key concepts and highlighting their significance.

Definition and Significance

Definition: AI-driven Learning Analytics in higher education refers to the utilization of artificial intelligence and data analytics techniques to gather, process, and interpret educational data. It aims to provide personalized feedback and assessment to students and educators. This multidimensional approach harnesses data from various sources, including student interactions with digital learning platforms, academic performance records, and behavioral indicators.

Significance: The significance of AI-driven Learning Analytics in higher education is profound. It represents a convergence of advanced technologies that has the potential to revolutionize teaching and learning. By offering personalized insights and feedback, it enhances student engagement, learning outcomes, and the overall educational experience. Moreover, it empowers educators with data-driven tools to tailor their teaching methods effectively.

Evolution of AI in Higher Education

The introduction sets the stage for the exploration of AI in higher education by tracing its evolutionary journey.

Historical Context: The journey of AI in higher education is rooted in the broader evolution of artificial intelligence. It began in the mid-20th century with early experiments in computer-assisted instruction.

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