

SANDPIT BRIEF

Student Support Centred Learning Analytics: How can it be implemented in a data driven way?

Introduction

Learning analytics (LA) refers to the measurement, collection, analysis, and reporting of data about learners and their contexts, with the goal of understanding and optimizing learning and the environments in which it occurs. It draws on data from learning management systems (LMS), online assessments, student information systems, and other digital platforms to generate insights into student engagement, learning and outcomes.

Current Uses of Learning Analytics

Universities in the UK and globally are increasingly integrating learning analytics into their teaching, support, and strategic planning processes. One major application is student support and retention where real-time analytics can be used to monitor student engagement and flag individuals who may be at risk of dropping out. This enables timely interventions, such as academic advising or pastoral support.

Learning analytics also supports curriculum development by helping identify which parts of a course are most or least effective. By analyzing patterns in student outcomes and engagement, educators can refine course content and delivery methods.

Some universities are experimenting with personalized learning systems that adjust content delivery based on a student's progress. This supports differentiated instruction and helps students learn at their own pace.

Faculty benefit from analytics dashboards that provide insights into how students interact with course materials. This allows for more targeted teaching strategies and better classroom management.

At the institutional level, education providers use aggregated analytics data to inform decisions about resource allocation, program effectiveness, and strategic planning. This includes identifying trends in enrollment, progression, and completion rates.

Data Availability

Despite its potential, learning analytics faces several hurdles in acquiring high-quality, actionable data.

1. **Data Silos and Fragmentation:** Educational data is often stored across multiple platforms that do not communicate effectively. For example LMS and third-party tools may use different formats and standards, making integration difficult.
2. **Inconsistent Data Quality:** Data collected from students may be incomplete, inaccurate, or inconsistent. For example, clickstream data from an LMS may not accurately reflect engagement or understanding.
3. **Limited Access to Data:** Institutional policies, vendor restrictions, and technical limitations can prevent researchers and educators from accessing the data they need. Proprietary systems may restrict data export or analysis.
4. **Lack of Standardization:** There is no universally accepted framework for collecting and interpreting educational data. This lack of standardization hampers cross-institutional research and benchmarking.
5. **Human Factors:** Students and educators may not use digital platforms consistently, leading to gaps in data. Moreover, the interpretation of engagement data (e.g., time spent on a page) can be misleading without context.

Ethical Issues in Learning Analytics

Ethical and transparent use of learning analytics is also a priority. How can we emphasise ethical use, ensuring transparency, student consent, fairness, and compliance with data protection laws?

There are a variety of ways that education providers can address these ethical concerns, including using clear policies and stakeholder engagement, along with implementing ethical frameworks and promoting data literacy.

The Future of Learning Analytics

As artificial intelligence and big data technologies evolve, learning analytics will become more sophisticated with real-time analytics and multimodal data integration on the horizon. However, the ethical and practical challenges are only going to grow.

To ensure that learning analytics serves educational goals rather than undermines them, a balanced approach is needed—one that values human judgment, respects individual rights, and fosters trust.

This sandpit discussion aims to explore what data is or could be available to learning analytics, and to unpack the ethical, technical, operational, and strategic challenges that education providers face in doing so.