ELEARNINGNEWS ARTICLE

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Learning Analytics in online training

How can learning data analysis improve your online course and help you create more effective learning experiences?

Online training and the use of specific protocols for **tracking user activities** provide designers, administrators and teachers with a considerable amount of data: test times, user interaction data, course drop-out rates, etc.

These data, whose volume is constantly growing thanks to the development of increasingly sophisticated learning management systems (**LMS**), have considerable potential and, if analysed correctly, allow to understand **how learners behave** and how they interact with the course and, consequently, allow to **optimize learning**, forming the basis for an increasingly effective pedagogy.

More specifically, in the field of **educational analysis** techniques, we can distinguish:

- **Educational Data Mining (EDM)**, which analyzes from a technical point of view the way in which we can extract value from learning related data;
- **Learning Analytics**, which focuses on educational aspects to optimize online learning opportunities.

What is Learning Analtytics?

Learning Analytics, which is the **analysis of learning data**, is nothing more than a process of collecting and analyzing the details of individual learner interactions in online learning activities.

The analysis of learning data can be divided into four phases:

- **descriptive analysis**: the data collected is used to analyse past performance;
- **diagnostic analysis**: the data collected is used to answer questions about why things happened;
- **predictive analysis**: the data collected is used to analyse trends and suggest what might happen in the future;
- **prescriptive analysis**: the data collected is used to answer questions about what should be done in the future.

What data should be monitored to improve an online course?

Collecting the traces left by students is a very useful practice to improve learning. But what are the **eLearning metrics** to monitor? Let's see some of them:

- **Student satisfaction**: Measuring reactions, feedback and other forms of student assessment about the course and the teachers can help you adapt your course to the needs of your target audience and create learning experiences that are increasingly responsive to learners' expectations;
- **Time spent**: measuring time spent on courses, quizzes and exercises can be crucial in designing increasingly effective learning content and tests;
- **Less popular content**: measuring the effectiveness of eLearning elements (e.g. by monitoring those parts of the course that generate longer learning times or increase drop-out rates) allows you to identify less popular elements and modify or eliminate them, helping to keep the attention curve and motivation of learners high.

Benefits of learning data analysis

As we have seen, the **analysis of learning data** from an online course provides a clear view of what students want and what learning approaches best meet their needs. Assuming the learner's perspective consequently leads to a better understanding of learning mechanisms and factors that influence course completion and learner success.

At the same time, the learner data allow some gaps in **distance learning** to be filled, first of all the loss of those visual references that help teachers to understand when participants are not sufficiently motivated, when they are bored or overloaded.

The result is a more **optimised online course**, which increases ROI (return on investment) and produces better learning outcomes at a lower price.

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