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Overview › Technology › **Learning Management Systems**

Mioduser, David; Nachmias, Rafi; Oren, Avigail; Lahav, Orly (1998)

Web-Based Learning Environments (WBLE): Current State and Emerging Trends

In *World Conference on Educational Multimedia, Hypermedia and Telecommunications (EDMEDIA)*, pp. 753–758

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Review by: [Reichert, Raimond](#) (2004-08-05)

In its early years, the Web raised many expectations regarding pedagogical scenarios, and many Web-based learning environments were created. This paper reports on a 1998 survey of 436 such environments. The authors developed a classification scheme of about 100 variables in four dimensions: basic descriptive information, pedagogical and educational considerations, knowledge attributes, and communication features. Each website included in this survey had to have an educational purpose and a clearly defined topic (for this study, science, technology, and mathematics), and it had to be a unit of its own (e. g. not a link repository).

The authors expected a match between current pedagogical approaches (e. g. active learning, collaborative learning, individualized learning) and the pedagogical approaches behind Web-based learning environments. However, the results of the survey contradict this expectation. For example, most sites elicited cognitive processes such as information retrieval (52%) or memorizing (42%), whereas only 32% required analysis and inference; higher cognitive processes such as problem solving (5%) were rarely required. Interaction types were more or less restricted to browsing (76%) and multiple choice (31%); complex (3%) or online (6%) activities were rare. Collaborative learning was only manifest in 3% of the sites. The most common form of communication was e-mail (65%); more advanced tools for collaboration were hardly used at all.

Any such study must of course be taken with a grain of salt – the classification scheme is always subject to discussion, as is the selection of sites and their classification within the scheme. However, as the authors point out, the situation regarding web-based learning environments could be summarized as “one step ahead for technology, two steps back for pedagogy”. Previous efforts at, for example, sophisticated and constructivism-based educational software were supplanted by information-rich sites featuring more traditional (behaviorist) computer-aided learning approaches. 1998 could certainly be regarded as a transitional phase when the Web

was relatively new and much experimentation was done to figure out how to use it for educational purposes. It would be interesting to see such surveys on a regular basis to determine the trends of Web-based learning environments.

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