LO -> LA: From a Learning Object centric view towards a Learning Activity perspective

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LO→LA
From a Learning Object Centric View to a Learning Activity Perspective

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This article focuses on the learning in e-learning. We argue why we must rethink the current learning object centric paradigm in e-learning technology towards a more learning activity centric perspective on e-learning. When examining current needs in educational practice and limitations in learning technology and LMS, we must conclude that the field of learning technology needs to be enhanced with a specification that is able to capture a larger and more innovative variety of new pedagogical approaches to learning. The IMS Learning Design specification offers a more generic pedagogical framework, that also enables more activity-based and collaborative learning designs for a large variety of approaches and domains.

Keywords: Learning objects, learning activities, learning technology, learning design.

CURRENT LIMITATIONS IN LEARNING TECHNOLOGY AND LMS

The push, focus and aspiration of much e-learning nowadays lies on effectively bringing people to standardized content in a 24/7 form factor. However, there is a growing feeling of uneasiness, that we risk e-learning to

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become merely page-turning according to a people-to-content model. Paul Stacey has decribed this phantom as "static, fossilized, dead [content], low learner motivation and engagement, impersonal and isolating environments". Besides linking people to content, e-learning's market pull is for bringing people to people and address the human side of learning. The availability and form of learning objects should not direct to mere consumption of content by individual learners, but rather support the need for more active learning by both individuals and groups that may (or may not) make use of learning objects during the teaching-learning process.

Educational practice is exploring ways to shape multi-actor collaboration, peer interactions, personalization and adaptive, more active and alive content sharing, but does not yet find this practice supported in commercially available LMS. The currently most used Learning Management Systems (LMS) (e.g., Blackboard, WebCT, Lotus Learning Space, LearnExact) provide authoring and playing facilities that are only suitable for one specific educational system and pedagogical approach at hand. The most advanced of the LMS are based on the IEEE Learning Technology Systems Architecture (LTSA), and use standardized content structuring based on the ADL Sharable Content Object Reference Model (SCORM) that only makes it possible to exchange and reuse learning objects. Authoring tools, that support the LMS, do not enable designing activities based on state-of-the-art pedagogical approaches such as constructivist and collaborative learning. We feel that most of the commercially available LMS reflect old ways of learning embedded in objectivist views on learning ('putting old wine in new vessels').

The Learning Technology field is still struggling with the open question of how web-based educational systems can be designed that are better suitable to manage and exchange learning activities from various pedagogical approaches and LMS. In order to achieve a higher-level architecture based on a more general pedagogical approach, the field is in need of a specification that caters for various learning designs. The need for e-learning systems that support a large pedagogical variety of approaches in education is now considered to be a key issue in web-based learning. Real innovative technology-enabled learning should be guided by instructional principles. We have to face that SCORM 2004 does not foster more recent views on education; adoption might even put the teacher backwards in time, because she or he will not be inclined or motivated to imagine more than just what the LMS offers.

IMS LEARNING DESIGN AS AN ENHANCEMENT OF LEARNING TECHNOLOGY

Reusing learning activities from different LMS assumes that all the required functionalities in a learning process (and this will not just be a 'single learner' interacting with content) can be modelled in a meaningful and understandable way according to a specification, and that LMS based on this specification include all components to support a variety of learning scenarios. One of the primary goals of the IMS Learning Design (LD) specification is to support a wide variety of pedagogical approaches to learning. LD serves as a kind of common denominator that could be distilled after researching the communalities in various learning theories and scenarios. In the heart is a model that underlies many different behaviorist, cognitive, and social-constructivist approaches to learning and instruction. The model revolves around modelling 'units of learning', elemental units providing learning events to satisfy one or more learning objectives.

In a unit of learning, people act in different roles in the learning-teaching process, and work towards certain outcomes by performing learning-support activities within an environment, consisting of learning objects and services. LD separates the educational method, the learning scenario or didactical structure from the concrete instantiation (e.g., the concrete learning resources and services), so that learning scenarios can be reused for various learning objects (e.g., the skeleton for a Problem-Based Learning course can be used to structure approaches to medical problems, political problems, physical problems, computer science problems, et cetera). Vica versa, the same learning objects can be reused for various learning scenarios or models (e.g, information about an area that was appointed as a soil protection area might support both biology and law students in both case-based instruction or a problem-oriented approach). In LD we can design various and multiple roles, allowing both teacher-led and student-led scenarios.

Already in the near future e-learning content will broaden from just static content to active and alive content, emphasizing collaboration and interaction. E-learning content developers will further diversify pedagogical approaches from lectures, self-guided courses, and presentations to webquests, game-based learning, simulations, team-based learning and other more alive, collaborative and active approaches. Our vision on future educational practice is one of reusable learning designs, able to be downloaded and customised by staff and designers, coupled to reusable learning objects and interpreted by LD-aware environments, giving learners

the stimulating, active, challenging and exciting experiences they deserve. LD provides the necessary pedagogical framework that structures the relations between various learning objects, and redirects attention to the instructional value and use of learning objects in learning activities. The framework is both meaningful enough to combine learning objects in real learning activities and flexible enough to support both old (behaviorist and objectivist) and new (social and constructivist) ways of learning, which assures the wide and sustained reuse of specifications.

LD appears to significantly enhance what can be done in e-learning by adding a number of 'unique selling points': coordination of multiple users, integration of learning objects and services, supporting generic properties and conditions that enable personalization, and the ability to support various pedagogical approaches. Most important is adding a learning activity layer over learning objects and services to enable more active and alive e-learning, and not merely content-centric learning. Instead of content, from now let learning rule e-learning.