

Chapter XII

LDL for Collaborative Activities

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ABSTRACT

LDL (learning design language) is an educational modeling language which was conceived to model collaborative activities. It has roots in social sciences, mainly linguistics, sociology and ethnomethodology. It proposes seven concepts that allow instructional designers to build the model of a collaborative learning activity. It has both a visual and a textual notation, the latter being computer-readable. This means that the produced models can be easily operationalized and executed in an existing virtual learning environment. This chapter introduces LDL, its concepts and the graphical notations associated with each of them. The methodology proposed to facilitate the modeling is also presented. Its use is illustrated by the example of the planet game, which was practically tested with other research teams as a benchmark/competition during the ICALT 2006 conference.

INTRODUCTION

Learning design language (LDL) is a language intended for use by instructional designers. It has been created to allow them to describe and specify learning activities on the Internet. Lots of activities may take place on the Internet—like a treasure hunt between groups of children, a training session

to improve reading, a discussion between a teacher and students, an examination, etc. So, the focus is placed on collaborative activities, as the LDL authors are convinced that learning can no longer take place without considering and enhancing the interactions between the learners.

The ambition of the LDL authors is twofold: on the one hand, we want to provide instructional

designers with simple means to build the formal description of whatever kind of learning activities (such as the ones previously mentioned, for example) and to combine them. On the other hand, we want the teachers to be able to transform easily these formal descriptions into effective online activities, without any intervention from computer science specialists. These activities will involve services and digital resources available on the teachers' school network and on the Internet.

We did not take into account the division of labor that usually occurs between the instructional designer and the teacher. On the contrary, we have considered that, in order to be exploited by an instructional designer, the language should allow the designer to describe activities as if she or he were a teacher and had to solve some of the problems encountered by teachers preparing lessons. Examples of these problems include determining the theme of the activity, gathering adequate documentation, defining some attainable learning objectives, evaluating the duration of the activity, proposing a division of the activity into sessions, indicating the way students will be arranged during learning sessions, defining individual work sequences and positioning them in the overall activity, defining the way and the means to measure the students' progress. They concern learning and pedagogy, of course, but also logistics, organization and evaluation.

This is an important preparatory task, which may be more or less precise, more or less detailed. It guarantees the teacher being able to conduct the activity once it has begun while keeping control of his or her objectives. Improvisation, on the other hand, is more risky. It is probably limited to the best teachers, in the same way that rally-style driving is restricted to the best drivers. It supposes a complete mastery of pedagogy.

After this preparatory phase, the teacher will be in charge of adapting the activity designed by the instructional designer. The teacher will consider the following:

- The students to be involved in the future activity, because the teacher knows their skills and their work practices,
- The personal objectives defined for each of these students,
- The technical context in which the teacher is operating.

Using LDL during the preparation phase leads the instructional designer to create a *scenario*. A scenario is a codified and formal description of a future activity. It can be considered as a specification of this activity. Designing a scenario to specify an activity consists in describing:

- Where the activity will take place,
- Who the participants in the activity will be,
- What the participants' interventions will be,
- How and when these interventions will be connected throughout the activity,
- The rules the participants will have to comply with,
- What the consequences of the participants' reactions, actions and points of view on the activity will be and how they will be able to express these points of view.

The distinction between a scenario and the activity modeled by this scenario is the same as the difference between a recipe and the future dish whose preparation is described by this recipe. If the ingredients used by the cook are actually the ones mentioned in the recipe, and if the way the dish is prepared is in conformity with the instructions in the recipe, then the tasting of the dish should go off well. In particular, if the codification proposed by LDL is respected, then a computer will be able to interpret a scenario. Thus the teacher will be able to operationalize it in a technical computer environment.

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