Facilitating Informal Cooperation in Web-based Learning Programs

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Abstract

Web-based learning programs enable learners to browse web pages individually through a predefined path or a personalized routine. However, they provide less social context and cooperative context for cooperation. The main idea presented in this poster is the concept of "informal cooperative learning program". It is defined as a set of structured learning steps. Learners can go through all steps by following the structure at different paces, but they are supported to perform cooperative learning when they happen to be at the same step. This idea has been implemented in our prototype system COMPILE (Cooperative Open Multimedia-based Process-centered Integrated Learning Environment).

1. Problems

Currently, a user of a web-based learning program can access learning content at any time anywhere. A learner can set his/her own pace for the schedule of a course, regardless of when other learners take the same course. As a consequence, web-based self-paced learning programs, on the one hand, liberate learners from regimented conduct of traditional courses; on the other hand, they decrease the possibilities for learners to perform cooperative learning activities.

Many efforts have been made to support on-line cooperative learning by integrating synchronous and/or asynchronous cooperation tools in web-based learning environments. However, such functions for supporting cooperation are often provided separately from self-paced learning programs. For example, in Virtual-U, if a learner wants to discuss an issue concerning what s/he is learning in a web-based course, s/he has to navigate from an instruction building to a conference room or a coffee room, where the learning context is changed.

2. Informal Cooperative Learning Program

A web-based learning program is regarded here as a sequence of or a set of networked learning steps. In each step learning objects can be delivered and presented as web pages. At a given time, each online learner who conducts the same learning program must work on a certain learning step. When some learners happen to be at the same step, they may have potential need for cooperation, if they are aware of the co-existing with others at the same step. For example, learners may expect to interact with others, ask their peers for assistance, share ideas and materials, support and encourage each other's academic achievement, explain and elaborate the concepts and strategies being learned, and so on. After a learner finishes his/her work on this step, s/he can "moving" to the next step, where s/he can join another learning group.

In order to support such a kind of informal cooperative learning groups, we propose a concept called as informal cooperative learning program. Like most web-based learning programs, an informal cooperative learning program is defined as a sequence of steps or a set of networked steps as well. However, each step in an informal cooperative learning program is defined as a web-based shared activity workspace, which provides social context and cooperative context for facilitating cooperative learning. It is important to note that an informal cooperative learning program is different from instructor-led online courses, in which each step is a scheduled session. All enrolled learners attend scheduled sessions at the same pace.

3. Implementation

The concept of informal cooperative learning program has been implemented in our prototype system COMPILE. The relevant functionality is implemented by combining internet technology with groupware and workflow technologies. An informal cooperative learning program is specified in COMPILE as a XML file. Each performer can conduct the same informal cooperative learning program as an instance. The structured learning process is supported as a workflow. In each step of the workflow, learners can view information about other users who have past through the same path and have common learning interests, can access shared learning materials, and can use tools available to perform informal
cooperative learning. More detail information is available at http://psycho.uni-muenster.de.