

Encouragement of Collaborative Learning Based on Dynamic Groups

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Web 2.0 principles became very successful and brought a lot of energy into the development of web applications. One of the new trends is so-called social software. It uses the web as a broker which allows users to collaborate, communicate or share content and opinions [1]. Typical examples of social software are wikis, blogs or social portals. The rising popularity of these applications caused that many users with different interests and social contexts are connected via common applications. If we want these users to collaborate effectively we need to know how to successfully identify users' groups and help users to find appropriate collaborators [2]. This problem is especially important in the domain of Computer-Supported Collaborative Learning (CSCL). There are several methods which solve this problem but they usually use only one source of information about users and do not consider actual context. Also these methods suppose that teacher knows which attributes make collaboration more effective.

Our main goal is to propose a method for creating different types of study groups and observe their dynamic aspects. Basic process schema using the proposed method is displayed on the Figure 1. This method will be able to take many users' characteristics as inputs, i.e. interests, friendship with other students, knowledge of learning objects etc. Also, the proposed method will consider information about an actual student's position in the learning system. The output of the method will be various types of groups [3]. The group members will be for example friends, experts or novices in the problem area. In order to create these groups we will employ several methods (i.e. latent jigsaw method or methods for creating homogenous, heterogeneous and also mixed groups). Students in created groups will be able to communicate and cooperate with all available collaborative tools. We will observe dynamic aspects of created groups, especially how students use these tools to achieve their goals. The result of our observation will be the behavior patterns which can be used as an additional input for the proposed method.

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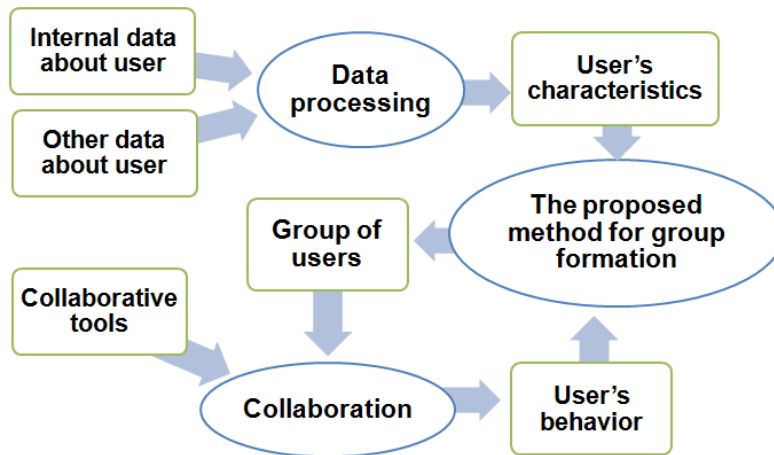


Figure 1. Basic process schema using the proposed method.

We will evaluate the proposed method in the e-learning system ALEF, Adaptive LEarning Framework. In the experiment we hypothesize that there will be a relationship between the group compositions and the way how students mediate collaboration. It means that the result of experiment will be recommendations and observed behavior patterns which can be used in any e-learning system to encourage students' cooperation with respect to available collaboration tools. This type of information can be very useful to improve design of e-learning systems which support effective collaborative learning.

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References

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