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Integration of Examination Strategies in E-Learning Platform for Assessment of Collaborative Activities

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ABSTRACT

In this article, the authors propose a set of examination strategies for distributing tasks of collaborative activities. The first purpose behind this proposal is to assess fairly the learners who are involved in group or team work at the e-learning platform. Indeed, in the literature, few methods are used to assess the learners' individual contributions to the collective or collaborative work. Therefore, the proposal of this article is based mainly around this issue. This will lead to an approach to assess individuals within the learning group (or team), which in turn, will allow to assess the group (or team) as a learning entity.

KEYWORDS

Assessment Process, Cap-Platform, Distribution Strategies, Division Of Labor, Team Working, Work Item

INTRODUCTION

Collective work, teamwork or networking learners' skills have become the key elements in all educational and professional organizations. Indeed, they increasingly use methods of work organization to better enable collaboration between learners working around the same activity. In such conditions, coordinating task assessment of learners working together may prove difficult, due to several factors such as, the difficulty of assessing the scenario to be played by learners, and the difficulty of finding a consensus for a fair work dispatch, etc. That is why, it is necessary to adapt the division of labor (between learners) befitting such activity or process.

Therefore, these new forms of work organization have widely spread through the usage of new Information and Communication Technologies (ICT). This later has favored the birth of Computer Supported Cooperative Work (CSCW) that studies the individual and collective mechanisms of group working, and then investigates how actors with various skills and different prerequisites can cooperate.

However, if one admits that these technologies offer a set of tools to communicate, coordinate and collaborate, the question is: "what would be the individual and collective performance criteria to be considered for an assessment of collaborative activities". Therefore, it is needed to evaluate and even measure the effectiveness and the added value of these activities in a professional setting. Furthermore, several important issues might arise: "how to reduce the subjectivity in the assessment and how to fairly assess learners involved in the group", and "how to ensure the assessment of learners' individual contributions in group, or the assessment of the group or the team itself?" However, among the six principles of group work assessment established in Galton (2010), "a fair system should be used that rewards both individual effort and group collaboration."

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This paper focuses on the problem of assessing teams or groups, taking into account the individual assessment of each member in the team (or the group). In fact, some authors like Saadoun and Levan (1996) distinguish between the concepts of group and team based on some parameters such as the adhesion (feeling of membership that is strong in teams) and the cohesion (harmony sought to lead without conflicts at work). Generally, in the team context, the examiner must have knowledge of the individual profile of each team members such as, his level, his competence, and background, etc. However, in the group, only the prerequisites are necessary to consider.

In fact, in a teaching context, assess a product resulting from examination of collaborative work does not necessarily reflect the quality of each member of the team, because the efforts of one could cover the shortcomings of others. For example, in a programming project, the skillful of the two programmers monopolizes the task to the point that the other cannot contribute.

Therefore, to achieve the set objective, this paper proposes a set of examination strategies that will be applied for the distribution of tasks between learners who are involved in a group or team working in order to achieve collaborative activities. For that, the authors are particularly interested to exploit the tools provided by CSCW field, particularly Workflow Technology (Van Der Aalst & Van Hee, 2002), that is considered the favorite coordination tool in this field. Then, they propose to take charge of all strategies envisaged through the implementation of a combined system: a Learning Management System (LMS) and a Workflow Management System (WfMS), for purposes of assessment of collaborative activities in e-learning. This paper includes: in section 2, a brief background related to this research. In section 3, an illustrative example that explains the problematic. In section 4, the concept "Activity" on which this research is based. Then, in section 5: a set of examination strategies have been proposed for the distribution of tasks of collaborative activities. In section 6: the e-learning platform in which the proposed strategies have been integrated and implemented. Finally, in section 7: an example to show the step implementation of one of proposed strategies in the platform which was performed for this purpose.

BACKGROUND

Collaborative learning is a teaching strategy by which learners can build their knowledge with their peers who work together in teams or groups. Nowadays, it is one of the most recommended in education. In this learning mode, learners can perform several types of activities such as: solving problems, carrying out projects or mini-projects, collective drafting of documents, etc. However, in this activity, the division of labor has a great interest for the organization and coordination of collaborative activities in which each group member performs a part of the overall activity.

Furthermore, project-based learning (Kilpatrick, 1918; Dougherty, 2018) is a teaching practice that includes collective working in a learning or even a professional environment. This practice places the project as a realization in group by the division of labor. In this case, the most important question is: "how to appropriately distribute tasks". In this context and in the professional middle, the project manager is responsible for attributing the missions or tasks to the various actors using project planning tools. Particularly, Gantt chart adapted by the American Henry Gantt is one the tools. This effective tool is a connected, oriented and valued graph which is used to show the distribution of tasks and graphically shows the project progress through the visualization of different tasks that constitute the project. In addition, this diagram is often a complement of Pert tool[1], that is another conventional method used in project management (developed in the United States in 1950). It provides a methodology and practical means for visualizing the dependence of tasks and proceeds to their scheduling. In addition, brainstorming[2] (Osborn, 1948) is another formalized and technical problem-solving tool, with the guidance of a facilitator. This formula can be useful for find a compromise to distribute tasks between the participants in collaborative activities.

On the other hand, the language for describing teaching contents (Koper, 2001) as the IMS-Learning Design (IMS Global Learning Consortium, 2003) greatly facilitates the construction of