Computer based Interaction Analysis supporting Self-regulation: an emerging research field

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Up to the present, computer based interaction analysis was mainly applied and taken into account by a learning environment, in order to either adapt and personalize itself meeting the users' needs and preferences, or even provide appropriate guiding messages for the users. In these cases the locus of control is on the system. The field of Computer based Interaction Analysis for the support of the participants' selfregulation in technology based learning activities (for individuals or groups) it is a new direction of research that explores the potentiality of attributing the locus of control to the users themselves [3]. Its purpose is to offer an enriched and powerful interface (integrating functionalities deriving from the interaction analysis outputs) and primarily a cognitive and metacognitive support to learning environment participants (e.g. students, moderators, teachers) as well as to observers of those activities (e.g. teachers, researchers), which need to analyze and understand the complex cognitive and social phenomena that may occur. The core aim is to offer directly the means to the human actors (usually via visualized representations of appropriate interaction analysis indicators) so as to be aware of and regulate their behaviour, either as individuals or as cognitive groups. In fact, the corresponding interaction analysis tools support the users in three major levels: awareness, metacognition and evaluation. The objective is the optimization of the activity through: a) refined participation and learning outcome for the students through reflection, self-assessment and self-regulation, b) better activity design, regulation, coordination and evaluation by the moderator.

The Computer based Interaction Analysis tools can be embedded or linked to various kinds of learning environments [1], [2], [4], [5] addressed to individuals (e.g. simulation, modelling environments, etc) or groups (e.g. forums, chats, etc). The Interaction Analysis outputs are presented to the participants or the observers in an appropriate format (graphical, numerical or literal), in a singular or a combined form, via significant interaction analysis indicators. Usually, different kinds of indicators or combinations of them are appropriate for different interaction analysis tools' users, respecting their predefined or emerging roles in the learning activity timeline.

During the workshop, we will have the opportunity to reflect on the potentialities, the limits and the perspectives of this field. For that matter, we will present the general features of the interaction analysis tools and their general functioning modalities. Then, we will present a theoretical framework, allowing the examination of the explicit and implicit features of interaction analysis indicators, so as to outline the corresponding state of the art. Finally, we will discuss the expectations on these indicators and derive the research perspectives that will allow the exploration of the Interaction Analysis tools' effects on the users, in an essential way. The ultimate goal will be to reflect upon the potential of designing adaptive systems complementarily to systems adopting the interaction analysis for supporting humans' selfregulation.

References

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