When ergonomists meet each other online to discuss practices: A French-speaking example

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1. Introduction

1.1 Online discussions as a tool to support learning about ergonomics’ practices

It has sometimes been said that some forms of practices of ergonomics (as the one proposed by Activity-Centred Ergonomics) are situated, i.e. that work practices are strongly dependent on the context of the ergonomic intervention (Daniellou, 2005). Hence, the development of knowledge and skills in ergonomics can rest in part on academic courses. However, it is stressed by definitions of the ergonomics profession (IEA, CREE) that this development must also be supported by discussions involving various participants (practitioners, teachers, students, etc) in various situations (congress, workshops, team project, vocational training, etc.), and in various venues, whether physical (e.g. classrooms, conferences, etc.) or digital (e.g. online forums, electronic mailing lists). In another words, one can say that those discussions can support the development of Communities of Practices (CoP, Wenger, 1998). In this communication, we report some results of a research project that aims to understand if one such venue, a French-speaking electronic mailing list called Ergolist (Barcellini, Delgoulet, & Nelson, submitted) could potentially play this role of CoP for ergonomics knowledge development.

In a first stage of this research project, a qualitative analysis of a year’s worth of exchanges (2010) was conducted according to four dimensions (status of senders, and the topic, form and purpose of messages). This reveals that that the list does indeed allow exchanges of resources for practicing ergonomics, but that it does not exhibit all of the key characteristics of a CoP: much of the exchanges on the list were in the form of short conversation threads, where the thread initiator requested a resource (e.g. a textual reference or feedback on experience) and one or more list members provided said resource in the form of documents, information, or advice. Such exchanges make it possible to construct a shared repertoire of resources, but it is not given that they ensure the mutual engagement of list participants, or to ensure involvement in a joint and negotiated enterprise by legitimate peripheral participation and the co-elaboration and reification of knowledge which are presented as key issues for learning (e.g. Lave & Wenger, 1991; Baker, 2009).

1.2 A focus on co-elaboration of knowledge regarding ergonomics’ practices

This communication proposes to address specifically this last point and reports an on-going research on the analysis of co-elaboration of knowledge in major debates of Ergolist (Barcellini, Delgoulet, & Nelson, submitted). Typically displaying longer, more complex structures, these debates often focus on issues concerning the trade of ergonomics itself, and involve genuine debates regarding professional practice. Hence, such threads provide us with the means to study certain aspects of the “joint enterprise” and co-elaboration of knowledge in this mailing-list. More precisely, we aim at understanding: (1) the domains of knowledge which are shared among discussions and (2) if there are some kinds of co-elaboration of this knowledge supported by argumentation processes in online discussions (e.g. Baker, 2009; Détienne et al., in revision).

2. Methods

To address our research questions, we focus on a major debate occurring in 2010 in Ergolist (27 messages posted between September and December 2010), which deals with positions of ergonomics regarding Lean Manufacturing\textsuperscript{1}. This choice is motivated by the fact that this debate was, and is, a socially acute question for the discipline at an international level (not related to the French context of practices). Our methodology combines two complementary approaches of content analysis of discussions. The first one is lexical analysis using the IRAMUTEQ software program using the Reinert Method (for details see Barcellini et al., in revision)

\textsuperscript{1} The conversation thread was titled “LEAN : The human face of new taylorism?”. It began with the narration of a conflict between a group of ergonomists during a workshop organized by a local promoter for business and industry regarding proximity between the Lean and ergonomics approaches. This was an opportunity to question Lean Manufacturing organization and taylorian organisation, and the position of ergonomics regarding this supposed proximity.
to help in identifying the knowledge domains and of argumentation markers in discussions. Based on this first exploration, we develop a coding scheme based on analysis of: (1) the structure of interactions by constructing a network of interactions (who is answering whom?); (2) the dialogical functions of interactions in the messages of the discussion (a participant may wish to inform, to evaluate, to argue...in parts of his/her message) and of knowledge domains evoked (e.g. methods in ergonomics, economics issues...). This content analysis helps characterize actual forms of participations supporting co-elaboration of knowledge online (Barcellini et al., 2013; Detienne et al., in revision; Duveau-Patureau et al., 2010).

3. Results and discussions

The discussion was initiated by one of the moderators of the list and mainly ergonomists² were active in the debate. Concerning the structure of the debate, the structure of interactions reveals a very linear structure of the thread and the absence of usage of key mechanisms intended to frame online discussions (e.g. use of quotation). Moreover, the initiator of the discussion remains central in the debate. A closer examination of the content of the debates using IRAMUTEQ lexical analysis reveals four classes of lexemes accounting for 75.2% of the corpus which refer to: (1) the criteria of lean manufacturing from an organizational point of view (31.1%); (2) the introduction of both the social situation of intervening in the debate, and the object of the debate itself (25.1%); (3) position, companies and jobs (22.1%); and (4) a challenge made by lean manufacturing for ergonomics to evolve as a whole, and to take on a genuine political position with respect to its effects on human health and performance (21.7%). It seems that this last class reveals an attempt for the participants to build a common position regarding ergonomics and Lean.

These results question the role of this mailing list regarding the support it provides in structuring the ergonomics community (both offline and online). On this basis, we discuss possibilities of evolution of the organisation of the list being inspired by other models of Online Epistemic Communities (Detienne et al., in revision), such as Open Sources Software Community or Wikipedia.

Keywords: Work with computing systems, online communities, communities of practice, ergonomics practice, socio-cognitive analysis.

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References


² Not only ergonomists participate to the list (see Barcellini et al., in revision).