Abstract

In between 60' and 70', when computers just started to appear, three paradigms emerged: CAI, ITS and Logo(T. Koschmann) learning paradigms detailed in Chapter 2, envisioning the contribution of technology as part of the knowledge building process; 50 years later, we are now in an age were computers are widely distributed, internet access is available for more than half of our global population, still we are not at the stage where the educational evolution managed to complete the three paradigms. More recently, a new paradigm was born, CSCL, Computer supported Collaborative Learning as a need of enhancing the tutor-student relationship for the two immovably intertwined activities of perception of scrutinizing class materials and of collaboration among participants. The educational threads do not stop at the tutor-student relationship lever, but push forward into the alternative educational environments as learning communities and reveal the need of detailed understanding of the knowledge building phenomena incepted in these setups. Profiling alternative educational environments raise further challenges as the known paths are derivated by alternative dimensions as topics, inter-animation, time or sentiments; open environments are driven by participants and there are no formal constraints or rules as in traditional educational environments. The drive for mobility and continuous knowledge, the constant extensions of one's capabilities and skills, challenged this thesis to break out of conventional research approach and to explore additional dimension introduced by virtual environments; nevertheless, the existing research in the natural language processing, CSCL and polyphonic model have represented the grounds of validation. Along the lines, the principles remained solid: enhance the relationship tutor student with the use of technology, understand alternative educational environments, discover how knowledge happens in different setups and moments in time, transcend the barrier of time and follow the knowledge blueprint as a collaborative model between students, tutors, learning community members understanding the tenuous particularities. All in all, this has been a process of exploration starting from solid grounds of natural language processing and discourse theory and diving deep into CSCL, unsupervised learning communities and knowledge phenomena as a product of participants' accountability and contribution versus traditional test assessments of received materials.The approach underneath this thesis explores and integrates advanced Computer Supported Collaborative Learning, Natural Language Processing techniques and Learning Communities research in a consolidated view of how knowledge emerges from supervised and alternative educational environments. Furthermore, extending the dimensional space of analysis through time, topics and sentiments, this thesis presents a multi-dimensional analysis on the evolution of learning communities. Going one step further, the findings resulted are then crossed analyzed from a tutor student relationship in order to fill the current gaps and converge to a collaborative educational approaches inspired by the work of Bakhtin(Bakhtin, 1981)Vykostki(Vygotsky, 1978), Scardamalia(Scardamalia, 2002) and Stahl(Stahl, Koschmann, & Suthers, 2006).