The aim of this thesis is to investigate how new knowledge can be developed in computer-supported social practice. Participants were selected from newly qualified secondary school teachers and student teachers at a higher education institution in Rwanda. The thesis consists of four empirical case studies, the findings of which were analysed from a sociocultural perspective. In the first study, it has been shown that novice teachers are motivated to acquire information and communication technology (ICT) and to use it in their teaching and learning. The study also reveals that they succeed in situations where school administrators grant them easy access to computers. This implies a need to develop school-based curricula and appropriate pedagogy in the area of ICT literacy, which can allow teachers to develop critical reflection vis-à-vis the new technology and enable them to cope with change in social practice. In the second study, it has been shown that, while acquiring hands-on computer skills in small task-based groups, student teachers can adopt one of the three major learning patterns: individual-led, group-led, or individual-group hybrid-led. Moreover, the study shows that the group-led framework seems to create a supportive environment for knowledge building. This may require that students receive the right kind of teacher assistance and focus on criterion-referenced reflection to regulate their learning. The findings of the third article reveal that students coping with web-based literature face a twofold reality of learning discourse rooted in their sociocultural and educational contexts: the one conveyed through the foreign languages in which they are instructed, the other whose vehicle is their native language. The study suggests an alternative way of constructing a substantial learning discourse based on dissolution of language boundaries. The fourth article shows that appropriation of ICT use can stem from learning conditions including users' motivation and their participation in social practice. Additionally, it can stem from collaboration between active users and other students. Given this, the study suggests that active ICT users can play a role as agents of change in the implementation of the new technology. Together, the four studies show that thinking and learning with ICT can develop through the interplay of mediation, learning conditions, collaboration and critical reflection.
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