Learning at the Boundary: Digital Tools as Enablers of Boundary Crossing in Education

This speech, grounded in socio-cultural and dialogic perspectives on learning, asks what kinds of transformative learning processes can be enabled by a theoretically grounded and empirically validated adoption of educational technology. Drawing on more than a decade of theoretical-methodological work and empirical studies on technology-mediated educational environments and digital game-based learning, this keynote offers an original synthesis of research on space-time relations in learning, boundary crossing, and digital gamified learning, arguing that these perspectives illuminate a set of principles and conditions for transformative digital education. First, it discusses how the adoption of technology entails a deep transformation in the space-time relations of learning that goes far beyond the common "learn anywhere, anytime" slogan often associated with distance education, and examines the implications of this transformation for the design and implementation of technology-mediated learning. Second, it shows how learning can move beyond the boundaries that institutions draw around it. Examining how learners can cross social, cultural, disciplinary, and contextual borders (for example between school and life, formal and informal learning, and physical and virtual environments) allows to shed light on some conditions under which technology-mediated and distance education can generate genuine transformative processes. Third, it concludes with preliminary empirical evidence from a recent comparative research project showing that game elements alone seem insufficient to enhance motivation or engagement in digital learning, and highlights how deliberate, theoretically grounded design is crucial for enabling meaningful educational experiences. Together, these insights converge on the claim that the potential of digital and distance education depends (to some degree) on how educational technology developers, instructional designers, educators, and learners co-construct and negotiate the boundaries, space-time configurations, and social relations that can make technology-mediated learning genuinely meaningful.