

PhD Day - February 2012

Programme - PhD Day February 2012

Date: Friday, February 3, 2012

Time: 10-12

Place: edTech-lab (2D309), Science Park, Joensuu

Presentations given by: Amit Roy, Verona Cassim and Såde Lind

Tentative Schedule

10:00 - 10:30, **Amit Roy**, School of Computing, UEF.

Title: *Observations from Visits to Holistic Schools in India as an Educational Technologists*

10:30 - 11:00, **Verona Cassim**, North-West University, South-Africa.

Title: *Guidelines for the Teacher Professional Development of Mathematics teachers for the Pedagogical use of ICT through Open Distance Learning*

Abstract

This research is based on the findings of Secondary Data Analyses (SDA) conducted of the Second International Information Technology in Education Study of 2006 (SITES 2006) data from the 640 participating Mathematics teachers in South Africa. The correlated data described the technological pedagogical content knowledge (TPCK) of Mathematics teachers while making use of ICT. Results revealed that continuous professional teacher development is required to focus on the attainment of technological pedagogical content knowledge to further the use of ICT on the teaching of Mathematics. The study also indicates that South Africa lags far behind the other 22 countries that participated in SITES 2006.

The Department of Education (DoE) in South Africa realized in order to meet the needs of a democratic South Africa an ICT policy needs to be developed and implemented focussing on developing the 21st century skills. The White Paper on e-Education in South Africa (South Africa, 2004) and the Need for an e-Education Initiative in South Africa (South Africa, 2007) unfortunately did not meet the needs of a democratic South Africa as indicated from the SITES 2006 study that only 18% of the participating Mathematics teachers made use of ICT within their teaching and learning. Recent statistics within the Western Cape shows some objectives were obtained: 28035 teachers received basic IT training. Unfortunately those of real value in the development of 21st century skills and Technological Content Pedagogical Knowledge (TCPK) to deliver the curriculum narrow the digital divide etc. have not been achieved (Western Cape Education Department). Teacher Professional Development in Mathematics and ICT is currently an area of concern within the South African education system as 87% of teacher indicated a need to be developed in ICT integration. The DoE needs to have alternative methods in order to achieve the objectives set within the policy having a fully ICT integrated system by 2013. Due to vast distances within the nine provinces and the shortage of time and funds TPD through Open Distance Learning (ODL) can assist in obtaining the targets set within the White Paper e-Education (South Africa, 2004).

The aim of the research is to determine how teacher professional development (TPD) of Mathematics teachers on the pedagogical use ICT could be delivered through open distance learning (ODL). The study will be conceptualized according to Engelstöm's (2008) Activity Theory that uses tools, objects and activities to find the intertwining of the related concepts. Activity Theory is more a descriptive framework than a predictive theory that can be used to understand how a range of factors interact together to reach a focused outcome, the system-wide integration of ICT TPD. This problem relates to a real-life problem that requires intervention from both a theoretical and pragmatic approach as it relates to a complex issue that cannot be addressed from a single methodological approach. A multimodal research design that relates to both qualitative and quantitative aspects that fits within the constructivist paradigm seems to address the research problem best (Denzin et al., 1994: 22).

11:00 - 11:15, **Break**

11:15 - 12:00, **Såde Lind**, School of Computing, UEF

Title: *Inclusive Solutions*

Online participation

You can join the PhD meeting via the Adobe Connect Pro system.

If you want to participate online, please contact Jarkko Suhonen (jarkko.suhonen(at)uef.fi) prior to the meeting.