Personal Smartphones in Primary School: Devices for a PLE?

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ABSTRACT

This paper describes the goals and first results of an ongoing two year case study in a European primary school (5th primary class) where the teacher and all students were equipped with a personal smartphone. Students are allowed to use phone and internet services at no charge and to take home their smartphones after school. In this project the students have access to an internet connected computing device which can be used for reading, writing, calculating, drawing, taking photos, listening or recording audio, and communicating. Does this setting help to achieve the goals of the official school curriculum? How do personal smartphones in primary school influence teaching and learning, especially weekly planning (“Wochenplanunterricht”) and learning outside school? The paper describes the planning and introduction phase of the project as well as first best practice examples of using personal smartphones in and out of school after five months of use. The authors provide qualitative data from questionnaires with students and parents and quantitative data of phone and internet use. To date the results help to formulate specific research questions for further research and they encourage enlarging the case study to several classes in the near future.

Keywords: iPhones, Mobile Learning, One-to-One Computing, Personal Learning Environment (PLE), Smartphones in Primary School

INTRODUCTION

Switzerland is on its way into the information society. In recent years Switzerland was number one worldwide regarding per capita expenditure for ICT (IDA IG, 2008) and in 2009 it was ranked 8th worldwide in the ICT development index of the International Telecommunication Union (ITU, 2009). This high ICT saturation also applies to mobile phones and especially to teenagers and mobile phones. In Switzerland teenage ownership of mobile phones is comparable to its neighbouring country Germany, where 86% of 12/13 year old teenagers own a mobile phone (MPFS, 2008). As in other countries (OECD, 2005) this high overall ICT saturation contrasts with a relatively low use of ICT in Swiss schools. Swiss School ICT administrators mention four main reasons why Swiss teachers do not use ICT in class more often (Barras & Petko, 2007):

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• 70.5% mention a lack of competences among teachers to use ICT in class.
• 63.8% say that there are not enough devices available in class for learners.
• 59.3% mention lack of time among teachers to prepare lessons with ICT or exploring the possibilities of the internet for school use.
• 57.5% see a motivational problem among teachers to integrate ICT in class.

So in spite of a high overall ICT saturation in Switzerland the second most mentioned reason for not using ICT in class more often is lack of hardware among learners. This leads to a paradoxical situation: More and more learners in Switzerland own mobile internet-capable multimedia devices, but are not allowed to bring them to class. In the past two years several Swiss school districts have banned mobile phones from school or are planning to do so.

Because the technological development continues, one can assume that in five years from now 90% of the 12/13-year olds will own smartphones. The pilot project described in this paper has been started to show that there is another way of dealing with smartphones than banning them from school and to gain experience with the learners’ personal mobile internet.

THE IDEA BEHIND THE GOLDAU IPHONE PROJECT

In a two year pilot project all 17 students of a 5th grade class in Goldau received a personal smartphone (Apple iPhone 3G) in fall 2009, which they could take home and use outside of school after an introductionary eight week phase. The students are allowed to use phone and internet services free of charge. For at least two years the students have anytime and anywhere a device at their disposal for reading, writing, calculating, drawing, taking pictures, listening to music, recording sound, making phone calls as well as browsing the internet and communication via various channels. While using the device in and out of school, the students shall learn to use the smartphone as part of their personal learning environment. The students have to learn to deal with ubiquitous computing and internet in an emancipated manner.

The project has been initiated by the Institute for Media and School (IMS) at the University of Teacher Education Central Switzerland (PHZ). Devices and communication costs are sponsored by Swisscom, the largest Swiss telecommunication company. It is assured that neither the local school nor parents or students have to pay anything during the two year project period.

Up to now this project seems to be the first long term smartphone project in Europe, where the learners are allowed to take the devices home. The project can be seen in the perspective of Alan Kay as an implementation of his dynabook vision of 1972 (Kay, 1972), where he proposed personal internetworked computers for “children of all ages”. The project combines aspects of one-to-one learning (Sharples et al., 2005; Chan et al., 2006), handhelds in education (Soloway et al., 2001; Norris & Soloway, 2004) and mobile learning (Sharples, 2005; Pachler & Bachmair, 2010).

PREPARATION PHASE

Before distributing the smartphones to the students in August 2009 there was a longer preparation phase. After finding a sponsor for the project without obligations for the school, the teacher or the students it was necessary to gain the confidence of the school authorities and the parents involved. The first parent-teacher conference was rather unusual as the class did not yet exist when the conference took place. After the parent-teacher conference the parents were given one week of respite before all the parents agreed with the project. The parents’ main concern was envy of siblings and students outside the project. There was not much project-specific teacher preparation as the involved teacher is the local school ICT manager and has worked with the University of Teacher Education Central Switzerland in pedagogical ICTprojects for several years. There wasn’t
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