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What can we derive from South Africa in the field of Mobile Learning?

Through several studies which included Information and communication technology (ICT) in education it became obvious, that the teacher may not be replaced by technology, but has to play a major role in the education process. As mobile phones are widely spread in South Africa, concepts for teaching with mobile devices and teacher training have been developed and attempted in South Africa in the manner of ICT for Development (ICT4D). A comparative study of such concepts applied in South Africa and Germany is conducted and synergy effects shall be identified. Remark: In this article, the term *ICTs* will be used in the sense of *new media*, *digital media* and *mobile media*.

Introduction

ICTs are new media, which could have the potential to transform education and student learning in developed countries, but especially also in developing countries, (cf. Dutta et al., 2015). But should learning with ICT and media education already start in school or even before school? From teachers and parents we hear concerns: In family and the environment appeared an overabundance of impressions and risks on the child. The media of our society which is technology-determined were complicit in this over-stimulation and risks. Especially visual stimuli, messages of the moving image may cause restlessness, lack of concentration, learning and behavioral disorders. Furthermore - not to forget - the risks of the internet. Should the school not be a protected space where children are shielded from the disturbing influences of the ICTs to be able to develop permanent learning attitudes and undisturbed creativity? (cf. Maier et al., 1997). Schools should be aware that children are exposed to ICTs in their everyday family lives and should consequently support children with ICTs. Pavlik mentioned already in 1998 the fact that „*Today's children and youth are the heaviest users of new media technology.*", (Pavlik, 1998). This citation is still valid and can be verified by several studies like the KIM-studies in Germany, (MFS, 2000-2015). Thus, since children are exposed in a young age to ICTs and use it, the teaching of media skills cannot start too early. Through media education in school, we can prepare the young children to a future that will be shaped in all areas of life by ICTs and create also risk awareness of the usage of this. Nowadays, ICTs are in a position to access various information and content via the internet and also control communication processes that can take place almost everywhere in the world, (cf.

Bertow, 2008). Many ICT in school initiatives based their concepts on the idea that learning will happen if learners are provided direct access to ICTs. However, there is little evidence of the value of such approaches despite years of research, (cf. Dutta et al., 2015). *"The main reason for the lack of success of these highly promoted projects is that they have ignored the single most important person in the education and learning experience of the child: the teacher. Decades of research have shown us that the most important contributor to raising educational outcomes in schools is clear: we need better educators."*, (Dutta et. al., 2015). Among others, Herselman & Botha (2014) state, that the teacher professional development component of the ICT4RED initiative (http://www.ict4red.co.za/) implemented in South Africa made this initiative a success. *"Attendance was high and teachers started their own co-creation of content, lessons plans and sharing this in communities of practice with similar teachers in their area."* (Herselman & Botha, 2014). The main task of (digital) media in education is mainly to support the teacher and his/her teaching. It can provide a positive learning effect, if active learners are created (cf. Bachmair, 1979).

What is the situation in Germany and in South Africa?

In scholastic standards in Germany, the use of ICTs in teaching is only explicitly mentioned in the standards for Secondary Education I. Nevertheless, both the use of traditional and ICTs can be found in numerous framework curricula. For example in the primary school framework curriculum of Rhineland-Palatinate, ICTs are seen as one quality indicator for good teaching (Ministerium für Bildung Wissenschaft, Weiterbildung und Kultur). According to the Kultusministerkonferenz modern education in school is unthinkable without media education, (vgl. Schwarzenberg, 2012). In the framework curriculum of Rhineland-Palatinate for special needs schools and Secondary Education, especially the work on computers is promoted. The 2005 curriculum of South Africa does not exclude the integration of ICTs, but *"welcomes their use where they may be appropriate to achieving educational outcomes. However, it does not make special provision for the use of ICTs, nor does it offer specific guidelines on the use of ICTs in the core curriculum."* (Holcroft, 2004). In 2004, the White Paper on e-education, which represents a new framework for the collaboration of Government and the private sector in the provision of ICTs in education, was published. *"Through this initiative, we hope that we will be able to turn our schools into centres of quality learning and teaching for the twenty-first century."* (DoE, 2004). Going on with the question what projects on ICT in education exist, *"reputable ICT4D collections focused on Sub-Saharan Africa exist but a platform where these silos of excellence can be aligned and shared*

for open access is not a reality yet."(Platz & Biljon, 2015). Consequently, the amount of existing projects using ICT for teaching can not be determined yet, as well es their success. The same is valid for Germany: there are a lot of projects on teaching with ICT (or mobile learning), but there is no overview over all the existing projects. As already mentioned, one successful project implemented in South Africa is the ICT4RED initiative. The ICT4RED initiative was part of The Technology for Rural Education Development (TECH4RED) research programme which aimed to contribute to the improvement of rural education via technology-led innovation in South Africa. Herselman & Botha (2014) derived from the most significant results and challenges in the ICT4RED initiative, among others, the following recommendations for implementing ICTs in a successful way into teaching: Empowering teachers through professional development training courses before deploying technology; Use of the earn-as-you-learn reward-based badge system; Support by the Department of Basic Education, together with the local provincial department; Budget for mobile tablet upgrades, teacher professional development training (TPD) courses, extra staff, and maintenance of infrastructure.

What lessons learnt in South Africa can be transferred to Germany?

A small survey has been performed with 29 teachers in Germany. Teacher education and training for the use of ICTs in teaching was indicated as being an important issue: 37,9% of the probands stated, that their school never offers teacher education and training. In the context of the ICT4RED project, 11 South African teachers, who participated in the TPD, were interviewed. All of them would recommend to other teachers to attend such a training. The benefits they saw in the TPD were the following: The use of new teaching methods and the motivation increase in the pupils; ICT can help to make teaching easier.; The communication quality and trust between the pupils (enabling group work), but as well between the teacher and the pupils increased; The discipline in the classroom improved; To become more confident with the use of ICT and, at the same time, to learn to be open to learn from the pupils. Consequently, the implementation of a TPD in the manner of ICT4RED in schools and during teacher education can contribute to enhancing teaching with ICT in Germany. Of course, such a TPD needs to be adjusted to German requirements and constraints. Differences between Germany and South Africa exist, among others, in politics, language, culture, access to ICTs, the socio-economic situation, the school system and the equipment of schools. These differences have to be addressed. Furthermore, collaboration and the sharing of ideas and lessons learnt is essential to make such a project a success. Specifically for teaching with

ICT, guidelines for the use of ICT and concrete teaching material in this context should be transferred to the German context to enable access to useful material and thus improve the teaching practices with ICTs and the use of ICTs in schools. Vise versa, the developed TPD training for German conditions can then be adjusted to South African conditions and applied there, as well.

Conclusions and Next Steps

One main issue for ICT in education projects that work is identified by Dutta et. al. (2015) as *"delivering quality digital educational content, which must provide in-depth focus on the quality and availability in multiple languages, especially targeted at educators."* This issue will be addressed by developing a TPD based on the ICT4RED principles adjusted to German conditions. This can only be a success, if collaboration, co-creation and sharing takes place amongst teachers and learners in the form of communities of practice between schools, teachers and learners in Germany.

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