

UBIKO - School unit as an inspiring learning environment

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Background

UBIKO is a pedagogical development project (2011-2013) with a wide-ranging approach (pedagogy, infrastructure, culture) to modify school life to the 21st century learning needs. The name UBIKO means ubiquitous technology enhanced learning. UBIKO consists of 110 4th and 5th graders (age 10-11) working with their teachers in a designated unit of Oulu University Teacher Training School (OUTTS) and it is mainly funded by The Finnish National Board of Education (FNBE).

In 2012 UBIKO was strengthened, as the University properties of Finland Ltd (the owner of the school building) conjoined pursuing for the common goal. With support of the Finnish Funding Agency for Technology and Innovation (TEKES) it started the Ubiko DEMO project, comprising several studies on the effects of changes on architectural indoor design and indoor environmental factors, eg. indoor air quality, acoustics and lightning, on teachers' and pupils' activities. The DEMO included renovation of the UBIKO -unit from 5 traditional classrooms to a learning environment that supports UBIKO's pedagogical aims (Figure 1).

Currently UBIKO provides a platform for multidisciplinary approach for research and pedagogical development.



Figure 1. 3D drawing of UBIKO -unit by Heikki Luminen

Aims

UBIKO is a research based development project aiming to renew the school and to understand what kind of school promotes inspired and skillful learners. We would like our pupils to be aware of their own abilities so they can set personal goals for their learning and modify those if necessary. They should be able to utilize efficient learning strategies (analyze, practice, take notes) in their studies and to monitor and evaluate the attainment of their goals. To support their learning pupils should know how and when to modify and regulate their learning environment.

The main objectives of UBIKO are

1. to develop the curriculum,
2. to find effective methods to promote self-regulation among primary school pupils (age 10-11),
3. to develop teamwork among teachers,
4. to enrich multi-locational learning in school context.

Theoretical framework

Learners can be taught to study more effectively by supporting their own abilities to self-regulate their learning (SRL). (Hadwin, Järvelä & Miller, 2010; Zimmerman & Schunk, 2011, Zimmerman & Bandura, 1994). In addition of strong understanding of SRL, research in the UBIKO learning context will target to analyse the nature of effective classroom practices (Malmberg, Järvenoja & Järvelä, 2010).

Despite of strong theoretical evidence of the effectiveness of SRL, teachers are often unsure about how to support pupils in practice and the pupils need more experience and training to SRL (Perry, Hutchinson, & Thauberger, 2008). Teacher education, especially, should support teachers to learn how to promote SRL effectively (Dignath-van Ewijk & van der Werf, 2012).

Practical examples

In the UBIKO unit traditional school life has been changed in many ways.

- Communal places give opportunities for thinking and reasoning together (opportunities for co-regulation).
- Pupils can work in pairs, larger groups or alone in technology enhanced environment (opportunities for socially shared regulation).
- Teachers' new role is to support the pupils' self-regulation process instead of just teaching the subjects
- Pupils have a lot of choices related to their learning (location, solo – collaboration, use of technology, level of support, level of challenge).
- Communal learning area is a natural and creative place for shared expertise to both teachers and pupils.

Conclusions

- Skillful learners regulate their solo on collaborative learning processes.
- Pupils need support, choices, failures and success to learn to regulate their learning.
- Researcher – Teacher collaboration is an effective and evidence based way to develop school practices
- Case UBIKO shows the strength of multidisciplinary collaboration in school research and development.
- Flexible learning environment supports the promotion of SRL (Multi-locational learning).

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