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# **E-Learning in (Austrian) Schools Some Empirical Findings, Obstacles, Theses and Visions**

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**Key words:** *E-Learning in secondary education, dissemination, empirical results*

*Is E-Learning in Higher Education, the apparently cutting-edge place in applying and transformig the newest technologies in the educational field, already established and an indispensible part of teaching? The answer seems to be clearly Yes, subject to some contstraints which are immanent to all (educational) evolutions. But does this apply also to secondary education, where the approaches to establish E-Learning in schools are even more multifaceted, accompanied by top-down and bottom-up initiatives as well? This paper highlights exemplary aspects of the current situation with respect to some empirical findings in Austrian's secondary academic schools. Furthermore some theses grounding on realistic assumptions are put up for discussion.*

## **1 Introduction**

“One laptop for each student”, “If You want to do something good for your child, then do not buy him a computer” [1], are just two statements showing the dialectics of modern technology and new media in an educational context. Most certainly, computers and education evidently constitute a reality in everyday school live, which is – seen from the students’ perspective – already triggered by high availability of technology, and - from the teachers’ perspective - by slowly beginning efforts to establish systematic approaches. The increasing autonomy at Austrian schools leads to a currently very inhomogeneous situation with regard to the computer as a learning tool.

Some top-down strategies and programmes of the Ministry of Education, regarding E-Learning at schools, are still a work in progress. Till now just a minor part of the the secondary schools take part in these programmes [2],[3], e.g. eLC:“e-Learning-Clusters” in higher secondary education, and eLSA: “e-Learning in everyday school live” at lower secondary level. Although these initiatives can be seen - all in all - as success stories it should be mentioned that the vast majority of Austrian schools is still far away from an overall supply with efficient and elaborated E-Learning strategies and operative implementations.

## **2 Empirical Findings**

An empirical study [4], which has been recently conducted in Austrian’s secondary academic schools, shows clearly the lack of of contagious enthusiasm, but – with some reservations - it can be interpreted at least as a reasonable basis for future E-Learning scenarios.

There is empirical evidence that a significant majority of teachers does not apply the computer in classroom teaching. Still more than 70% of the headmasters of secondary academic schools complain explicitly that they have an insufficient IT-infrastructure. Interestingly, the local school administrations estimate that more than half of their teaching staff is well prepared for the application of modern technologies. Asked about evaluating the

current situation of E-Learning at their schools, about 25% marked it “good”, the same percentage “satisfying” and the rest “insufficient”.

We also asked students in the 10<sup>th</sup> grade about their usage of computers in other subjects than informatics. About 20% use the computer at school regularly and 60% rarely. The preferred subjects are German, followed by English and Mathematics. About 10% use a learning platform regularly (at least once a week) and 40% occasionally. On the other hand, but not surprisingly, about 50% use the computer for gaming at least once a week. About 70% use E-Mail at least once a week and only 3% do not use this form of communication at all. About 50% are chatting weekly, and the same percentage is actively using discussion forums. 70% do not use P2P-connections and almost 20% claim to have active experience with blogs. Finally, practically all pupils and students have access to computers at home and almost 80% are connected to the internet.

These exemplary and quantitative results in Austria’s secondary academic education about E-Learning represent just the smaller part of a big empirical field study, which focused on informatics education. About 9300 online questionnaires have been returned [4].

The tentative results are neither surprising nor very disappointing or pessimistic. From a conservative point of view, E-Learning in secondary academic schools respectively its preconditions can be estimated as fairly well developed, whereas from an avant-gard point of view it still plays a rather inferior role at the moment, and the dissemination of E-Learning develops (too) slowly.

### 3 Conclusion

The ultimate and clear answer, if E-Learning at schools improves the learning process, has not been given yet. This might be one reason that euphoric attitude is not indicated, not among the majority of teachers nor among school politicians who have to provide for additional budgets. (Rapidely) changing technologies and teachers’ training are expensive, and if the investments do not pay, E-Learning programmes can be stopped easily. The quote from a concerned teacher: “I will not spend a week in a computer lab teaching something I can teach a day with paper and pencil” expresses this obstacle very well. If teachers can not be convinced of the benefits and added value of the method E-Learning they won’t apply it. The struggle in controlling technology still beats pedagogical issues and the necessary didactical approaches. It is wishful thinking that all technical devices are reliable, adequate and secure. For early adopters the efficient application of technology (in education) always means more effort - for the same salary - and is for the time being not time-saving. Consequently it is hard to encourage the majority of teachers to use more technology in classroom, although almost all of them use the computer for the preparation of lessons.

At the moment, the still rapidly changing and developing new technologies and the increasing inflation of tools lead to disorientation. This uncertainty and affluence doesn’t make things easier.

Although we face a constant growth of (unstructured and inhomogeneous) digital educational content on the internet, the situation does not get better. The often promised and easily available learning objects seem to be still dreams of the future. Efforts to establish valuable and easily accessible content for all stages and school subjects have not been successful yet.

Finally, there is a need for more scientifically proved empiric results considering the benefits of E-Learning. Based upon these findings we need reliable top-down IT-strategies in form of secured budgets and incentives for innovative teachers. Very often they are undervalued for their developmental work.

The current situation of E-Learning as the driving element in augmenting the educational process at (Austrian) schools is still in an experimental stage. Some initiatives, with groups of innovative teachers involved, have brought forward the idea of E-Learning. But we must admit that the critical mass of teachers has not been reached yet. E-Learning in secondary education has still the light smell of “a religious movement”. Its overall dissemination and the transformation at schools depend on various factors mentioned above. There is still a stony way to go and much convictional work to be done.

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