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## M-learning in a geography lesson

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We live in rapidly advancing world. Our homes and offices are invaded by new technological achievements. School is a part of the society and many students nowadays use smartphones and table pc's daily. Therefore it's important that schoolteachers advise them on how to manage in such a complex world of engineering miracles and show how to use this kind of equipment in their studies and everyday life.

Geography is a natural substance and the best way to study nature is to see, touch and feel it directly. It's important to link the theoretical knowledge that students acquire in a classroom with a practical work in the nature. M-learning gives a great opportunity for that.

M-learning, shortened from mobile learning is defined as learning across multiple contexts, through social and content interactions, using personal electronic devices.

The main goal of M-learning is to bring new technological equipment to the studies for the purpose of diversifying the learning process. You can use M-learning whether students are doing individual or teamwork.

By doing the practical work and thinking all the steps through the students are more actively involved in the learning process and can acquire and fix the knowledge more effectively. Personal electronic devices give the freedom to study anytime and anywhere. This means M-learning is really good for trails and other outdoor activities.

In spring 2012 I did my Master's thesis about M-learning. For it I compiled a geographical trail in Tallinn city centre. There were many different geographical tasks that students had to solve. The trail included whether observation, practical work on a slope (measuring the height and the inclination of a slope), drawing a plan, questions about rocks, trees and many other tasks. The students had worksheets, where there were only geographical coordinates. They used GPS devices to get to the designated points. In every point they had a task to take a photo. After the exercises the students formed their work in Google Earth where they did a tour of their journey. In the feedback students said that it was a very interesting and an educational practical task.

A new opportunity in M-learning is to use QR codes. This means that you don't have to print out worksheets with questions. You can hide question in the code and students can read them with their own devices on site.

From the Master's thesis I also developed a tutorial material named "M-learning in a geography lesson" (in Estonian: M-õpe geograafiatunnis), you can see it in the webpage katrimope@wordpress.com. The tutorial received a second place on the Estonian study material contest in 2013.

This is only one example on how to use M-learning. In Gustav Adolf Grammar School we use M-learning in lots of different subjects because it's really important in modern school to link new technologies, surrounding environment and learning for the purpose of better obtainment of knowledge.