

Discussion Paper



**Tablet Supported Education in a Hungarian Primary School: Results of Students and Teachers**

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### Proposal Information

The Horizon Report in 2010 published by the researchers and educational technology experts of NMC (New Media Consortium) predicted the emerge of mobile technology in education within one year. On the word of the predicted trend the mobile devices (e.g. laptop, smartphone, tablet, e-book reader, portable and wearable smart devices) have expanded not only in everyday life and in the households but also in the education both in Hungary and at international level. As a Hungarian research shows 83 per cent of the primary school pupils owns a smartphone, more than 50 per cent of them owns a tablet, which is followed by the laptop (47 per cent) and the desktop computer (37 per cent) (DIA, 2016). The arise of the information and communication technologies in education is confirmed by international (Clarke et al., 2014; Fabian–Maclean, 2013; Mares, 2012) as well as Hungarian researches (Abonyi-Toth – Turcsanyi-Szabo, 2015; Kis-Toth – Borbas – Karpati, 2014; Racsko – Herzog, 2015). Beside the devices mainly used for frontal methods (e.g. smartboard) more and more mobile educational devices take their places in the classroom making the 1:1 access model (one device per student) possible. Amongst them the tablet has an important role due to its size, long-lasting battery and intuitive user interface (Mares, 2012). Because of these characteristics the international researches also reveal that the testing of the tablets in educational surrounding has already begun from European countries through the USA, Asia, India, Australia to South-Korea (Clarke et al., 2013). In parallel with the international tendency several Hungarian educational institutions started to use tablets from kindergarten up to higher education; there have been some initiatives which both apply and research the new technology as well as the 1:1 access model in educational settings since 2011. Despite of the growing number of the schools implementing tablets in Hungary several years of delay can be observed in comparison with the global situation. The initiatives, which are accompanied

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with scientific researches, are mainly launched by multinational companies (CSR programs), higher educational institutions and individual schools as pilot projects. However, the low number of the Hungarian researches raises some questions in connection with the possibilities of implementation and primarily the effectiveness of the tablet. The possible and necessary researches may examine the students and teachers attitude, the frequency and way of using the tablet, the effectiveness of the learning outcomes and the different possibilities using it as an assessment tool.

According to the above mentioned types of initiatives, our research as a part of a pilot project was organized in a primary school in Budapest, Hungary. The two-year-long "Tablet supported education" project started to use tablets in class work in September 2015 after one year of preparation and planning. In general neither the school management, nor the teachers and the pupils had any particular experiences with the utilization of ICT during lessons. The project launched with 18 tablets in four classes in the first (age 6-7, ISCED 2011 level 1) and fifth grade (age 10-11, ISCED 2011 level 2).

## **Methods**

Our research goal was to examine the acceptance of the new device within educational setting, and also to investigate the possibilities of its implementation in primary school, therefore we researched the attitudes and the usage profile of the mobile device. We were curious about how the mobile devices could be utilized in the school lessons, and how the attitude towards the tablets and the applied methods would change or whether not at all during one school year. We hypothesized that (1) the tablet usage during lessons can increase the motivation of the students, (2) the tablet usage during lessons can help the learning process, (3) the tablets can help the teachers to reach their pedagogical goals easier and (4) as time goes the positive attitude toward the devices will decrease because of the „novelty factor". Our research questions were keen on (1) what advantages the teachers experience using tablets in education, (2) what challenges the teachers experience using tablets in education, and (3) how much extra time teachers need for preparing a tablet supported lesson.

Our attitude and usage profile research was accomplished on a full sample; all the pupils (lower primary students: n=28; upper primary students: n=37) and all the teachers (n=12) in the pilot project were involved. The one-year-long longitudinal research applied multiple data gathering so finally we received 153 from the lower primary, 317 from the upper primary students and 174 questionnaires from the teachers. We used questionnaires amongst the pupils, questionnaires and semi-structured interviews amongst the teachers as data gathering instruments. The paper-based questionnaire had two different graphical design for the first and the fifth graders. Similarly, two separated questionnaires were used amongst the teachers; one to fill out after every tablet supported lesson and the other one to fill out continuously. The pupil survey used a three-point while the teachers' ones used a ten-point Likert scale. There were 2-3 measurements in a month for the pupils after the tablet supported lessons. The statistical

analysis of the data was executed with the SPSS 22.0 SPSS data mining and statistical analysis software. During the statistical analysis we examined frequencies, and we also used crosstabs and ANOVA. The results of the interviews amongst the teachers were separated into two categories, pros and cons of using tablets in education.

## **Conclusion**

The results of the research are based on 174 tablet supported lessons, from which 67 were held in lower primary, 107 were held in upper primary. The research amongst the pupils were positive; on the basis of the feedback the 89,5 per cent of the lower primary students and 91,8 per cent of the upper primary students felt themselves “very well” during lessons, while the “in between” and “not really” categories remained at a low level. The attitude towards the new device was also positive, as the 88,2 per cent of the lower primary and 86,4 per cent of the upper primary students “enjoyed that they could use tablets”. Amongst the upper primary students the self-reported results show that the tablet helped their learning “very much” (86 per cent), “half way” (10 per cent) and “not really” (3 per cent). On the basis of this question we examined the “novelty effect” longitudinally; though it showed a significant result ( $p=0,008$ ), it didn’t reflect any tendency. The teachers were satisfied with their results as more than three quarters of them “reached their pedagogical goals” at between 90 and 100 per cent, while 85 per cent of them replied that “the tablets helped them to reach their pedagogical goals” at a high level (90-100 per cent). The semi-structured interviews revealed numerous positive effects of the tablet supported education, however it showed some challenges also, which were mainly based on the lack of infrastructure (e.g. Wi-Fi).

The research presented above is the fundamental step into the direction of our future examinations. These future examinations are pointing towards the effectiveness of the tablet supported education in primary school, investigating the learning outcomes by different subjects. We are planning to observe the change of different skills and competencies by using experimental research, applying PPC research model.

**Keywords:** ICT, mobile technology, tablet, education, primary school

## **References**

- Abonyi-Toth, A. & Turcsanyi-Szabo, M. (2015): A mobiltechnologiaival támogatott tanulás és tanítás módszerei. Budapest: Educatio.
- Clarke, B., Svanaes, S., Zimmermann, S. & Crowther, K. (2013): Technology in Schools: Characteristics, the Global Picture and a Pre and Post Use Study, Stage 3: April – September 2013. <http://techknowledge.org.uk/download/1761/> [Accessed: 2015.12.06.]
- Clarke, B. & Svanaes, S. (2014): An Updated Literature Review on the Use of Tablets in Education, Family Kids and Youth <http://techknowledge.org.uk/download/1810/> [Accessed: 2015.12.06.]
- Digital Identity Agency Magyarország Kft. (DIA) (2016): A Hipersuli Program szakmai monitoringja - első riport. <http://bit.ly/2gX52hZ> [Accessed: 2016.09.17.]

Fabian, K. & Maclean, D. (2013): Keep taking the tablets? Assessing the use of tablet devices in learning and teaching activities in the Further Education sector. <http://bit.ly/1mwPyh8> [Accessed: 2016.04.09.]

Johnson, L., Levine, A., Smith, R., & Stone, S. (2010). The 2010 Horizon Report. Austin, Texas: The New Media Consortium. <http://www.nmc.org/pdf/2010-Horizon-Report.pdf> [Accessed: 2015.12.13.]

Kis-Toth L., Borbas L. & Karpati A.: Tablagepek alkalmazasa az oktatásban: tanari tapasztalatok. In.: Iskolakultura, 2014. (24. evf.) 9. sz. 50-71. old.

Mares, L. (2012): Tablets in education. Opportunities and challenges in one-to-one programs. <http://bit.ly/25SrBoT> [Accessed: 2016.04.10.]

Racsko R. & Herzog Cs. (2015): Egy tablageppel tamogatott pedagogiai kiserlet tanuloi es szuloi hattervizsgalata. In: Torgyik Judit (szerk.) Szazarcu pedagogia. 513 p. Konferencia helye, ideje: Komarno, Szlovakia, 2015.01.12-2015.01.14. Komarno: International Research Institute, 2015. pp. 81-94.