



EMBERI ERŐFORRÁS
TÁMOGATÁSKEZELŐ



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I am Aranka Szamper, Mathematics-Physics-IT master teacher. In 2015 I made a contract with Béla Hamvas Grammar School and the Swiss LearningApps scientific professional organisation in order to realise my master project.

I undertook to organise a team from teachers teaching in different educational institutions in order to translate the learningapps.org website into Hungarian and to promote the website in Hungarian professional circles. That is how Edu-cubes circle came to life.

The master teacher members undertook to run a similar Hungarian page called kockalapok.hu. We started the page in 2016 and have been running and developing it since then. On this page we offer help on making and using so called edu-cubes, interactive educational supplementary material with the help of the LearningApps. We show sample edu-cubes, useful exercises, report about our own work and answer the questions as well we can.

In November 2015 we created a closed Facebook group called TankockKapocs (Edu-cubes Connection) which now has a membership of nearly 2500 enthusiastic colleagues. This group is an excellent forum of discussing our problems and experience while making and using the edu-cubes. From time to time we have to ask for help from the Swiss developers to solve some emerging problems. We have been in a working contact with Mr Michael Hielscher the head of the developers' team with the LearningApps. His help is always very fast and efficient.

The Hungarian LearningApps has more than 32000 registered users at the moment and more than 34500 visitors have seen our kockalapok.hu in the 18 months since it was started. We promote the project not only in our respective schools, but on a national level as well. We hold retraining courses in other schools. We take part in national conferences like the Microsoft Educator Exchange Conference where a colleague of mine represented our team whereas at the Innovative Educators' 2nd Conference, I also organised a workshop.

My colleagues and I took part at the Science on Stage festival where the participants presented nearly 100 projects. We also presented our edu-cubes collected from different science subjects by the name: „Movement-development”. Our report can be seen on our website. This festival is also a competition. A professional panel decides which projects can proceed to the international festival. Our





UT-2016-0017

team was successful and got the opportunity to represent our country at the international Science on Stage festival in June 2017.

I regularly use my edu-cubes in my lessons. My students like these fun, interactive exercises. This way learning and practising doesn't mean the usual boring routine for them. Some of them have even tried to make their own edu-cubes. That gave me the idea to involve my students into the making of edu-cubes to prepare for the international Science on Stage 2017 festival together with them. As an educator I feel it really useful to encourage my student get engrossed into a topic. We shall really understand something when we are able to pass our knowledge to others that is when we reach the two uppermost levels of the Bloom axiom.

While working on the project my students used knowledge from different sources so they synthesized and created unique, creative products. They also had to judge and value their own work when deciding if their products did meet the requirements. My students could learn how to collect, process and genuinely pass knowledge, publish it responsibly. I think that is the most important outcome, the greatest success of our project.

We collected resources to our edu-cubes. We studied the specialized literature available in Hungarian and English both in printed and electronic forms. We attended a very enlightening lecture by Holló-Szabó Ferenc, founder of the Museum of Mathematics at the Eötvös Loránd University in Budapest. We visited the Hungarian Science Museum to see the exhibitions and to take part in a special lesson about insects. In Tata at the Eötvös József Grammar School my students spent a whole day doing Biology, Chemistry and Physics experiments at the Öveges laboratory. This way they collected lots of material way over the requirements of each subject. As we processed this knowledge I always stressed them the importance of source reference. I also had the opportunity to tell them about the methods of scientific research and publication and develop their scientific and IKT skills. So I can publish the created edu-cubes with confidence. The Hungarian professional team of the Swiss developer team of LearningApps undertook the task of quality assurance. They also offered the free use of their site. Dr Radványiné Varga Andrea headmistress, and two colleagues Mr Gögh Zoltán and Mr Handl Attila helped in the professional test of the edu-cubes.



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The edu-cubes I am taking to the international Science on Stage 2017 festival have been translated into English as well. This made it necessary to study specialised literature in English, to study and use the English terminology. As not all the five students study English as a first foreign language we had to divide the tasks in the group, but they had to work closely together, to cooperate with each other. This way the students could learn not only from teachers and other professionals, but from each other as well. I was really delighted to learn that by the end of our cooperation Toplak Fanni passed the intermediate state exam in English. The others still have to improve their English. But they have some time left until the end of their studies. The project has evoked the girls' interest towards a career in science. For example Holczimer Marta who is interested in drawing and arts turned towards Physics with interest. I also think this project helped the students to take part in later projects and team work effectively.

We published the results and observations on the home page of Hamvas Béla Grammar School, in the local media and on our site kockalapok.hu. We had a successful event at the end of the project where we could turn nursery school teachers' interest towards the edu-cubes. We plan to offer them methodological help in the creating of their own edu-cubes with the participation of our students. This way there will be a continuation of our work.

I would like to thank everyone for all the invaluable help we got during the project and the support of my school the Hamvas Béla Grammar School and the Ministry of Education.



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