

Eastern Europe

Case Study 4: Alternatív Közgazdasági Gimnázium (Alternative Secondary School of Economics), 13-19, Budapest, Hungary

Success factors

- Students given training on using technology for learning, as no matter how confident they are using technology, they are not all aware of how they can use it effectively for learning
- Building and nurturing an atmosphere of innovation amongst teachers and students through problem based learning
- Students are encouraged to take responsibility for their actions with acceptable Internet use being part of this process
- Technology skills are taught and learnt in context
- Teachers were prepared immediately before the students received their device in the introduction of the Digital School project
- Teacher receive one to one support on technology use
- Recognised the need for a high performing WiFi system so students can always get access to the Internet

About the school

This is a private school of 600 students established 30 years ago. It is unique in Hungary in that it is owned by the teachers who elect or re-elect the Principal each year. The students are from upper middle class with well-educated parents.

There are no official rules, instead the teachers have strong personal relationships with students through a mentorship programme which creates a family atmosphere. Students are assigned a mentor when they enter the school and which which they select from six assigned to their year group. They meet this mentor regularly in groups of 12 for 80 minutes once a week. This mentor supports and represents the student throughout their time in school, fulfilling the role of "parent" in a school context and are involve in any disputes. Mentors can help develop the student's curriculum and agree their teachers. Each year group acts as a mini school.

The first four are years aimed at developing skills and competences in four themes through project based activity - society, science, mathematics and arts. For three weeks the students will study art and science intensively in daily 80-minute sessions. This alternates with mathematics and society in the following three weeks, and so on throughout the school year. Other subjects, including English, are taught separately in 45-minute lessons.



In year 5 students focus on a second language (German, Spanish or French) in 20 classes a week for an intensive year of language learning. The final two years involve preparation for prep for final national exams at intermediate or advanced level. Students select which three subjects to take at advanced level.

School achievement

Half the students continue their studies abroad and the feedback from some of the well-respected UK universities, including Oxford and Cambridge, is usually excellent. The school supports other schools whose teachers visit and observe classes

Use of digital technologies

The school is a leader in use of technology having been awarded an internet connection financed by the Soros Foundation because of its reputation as an innovative school. (It was one of 12 schools in the country selected). Informatics was one of the subjects offered which was mainly about using Microsoft Office software, but students could also study coding. The teaching of typing is also included in the curriculum.

Technology infrastructure and devices

In 2014 the school took a big step forward when it started a digital school project. This involved ensuring that every student entering the school at 13 years of age has a laptop. These are Windows machines; the school started the project with Lenovo class notebooks as they wanted students to have a touch screen.

There were some challenges: the school discovered that increasing the number of devices meant they needed a higher performing WiFi system with more access points which have now been installed. The school has 1GB of bandwidth which is sufficient as students are taught not to consume more bandwidth than necessary and to share it with others. There is a small black list of sites and certain ports can't be used, but otherwise there is little use of filtering. The personal relationships developed through the mentoring programme means that inappropriate use is part of the discussion between students and their mentor. Games that consume large amounts of bandwidth are discouraged. The tools available can pinpoint offenders and staff can then sanction these students. Students can bring and use smartphones as these are also subject to the acceptable use discussion. Social software is not banned either as students are encouraged to take responsibility for their actions which helps to develop them as active learners. About seven per cent of the school budget is spent on IT.



Robots and robotics kits, Micribits and Ardvino are used and there are two 3D printers which are used extensively. Interactive white boards are in every classroom but are not being replaced as students all have computers that can be projected. Video conferencing is used sometimes including for some inter school projects.

Digital pedagogy

The decision was made to introduce laptops rather than tablets because laptops added more benefit: "Learning is an active process: tablets are for content consumption whereas laptops are also for content creation".

Almost every teacher uses the devices in the classroom and would not go back. Teachers were enthusiastic about the digital school project, although not all were confident users. An introduction to digital learning course was developed for students comprising of 20 lessons. This was developed because it was recognised that although students were confident using technology, they were not all aware of how they could make use of it for effective learning.

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OneNote is used for collaboration, note taking and mind-maps. Students make films and edit them on their machines and search for information. Students have better opportunities for learning as all their notes are accessible and it is easier to correct mistakes. The technology provides a range of more powerful teaching tools: teachers can give instant feedback and they can see every student's answer.

The technology changes the efficiency and contribution of each student. For example, in an Open Book examination the teachers can ensure students are not sharing answers by asking students to submit their screen recording of them undertaking the task. This had additional benefits: teachers discovered that they could find out far more about how their students worked, how long they took, and how much of their work was "cut and paste" than if students had just submitted an essay.

Teacher professional development

The teachers studied the introduction to digital learning course developed for students before the school started the digital school project. Teachers use the technology to add course notes and the Office suite supports collaboration between teachers and between teachers and students, as well as between students. The technology coordinator shares his ideas between teachers as part of his remit. Support is via one to one tutoring – understanding a problem and how the coordinator can help the teacher to improve their digital pedagogy. This type of support is seen to be much more valuable than workshops.

Technology use across the curriculum

Computer science is taught across the school. At age 13 students learn to touch type. At 14-15 there are six fields that students study and demonstrate mastery either in dedicated lessons or integrated into their other subjects. These fields are documents, data, multimedia, coding, the Internet and network, and presentations. The school has defined three levels of competency - beginner, intermediate and expert. Every student must reach beginner competency in all six, and they must all be intermediate in four and expert in two of their choice.

Projects require a video, a presentation or an essay with teachers deciding the format. Group work is encouraged. The teachers are developing their own interactive digital books. Adaptive learning and digital books are used for language learning.