At a Glance

What they wanted to do
- Diminish technical IT-problems that take away time from teaching
- Further the county's own pedagogical goals as well as the national standards by use of IT
- Secure a smooth transition to using IT in the classroom

What they did
- Worked out a new strategy for digitization
- Invested 7.5 million danish kroners in IT for 2015
- Reorganized the IT staff
- Purchased 3.000 Chromebooks for the students in the 11 schools of the county and 500 Chromebooks for the teachers
- Offered a course to the teachers in the use of Chromebooks, Google Apps and IT-didactics
- Involved students in the widespread implementation of the new infrastructure
- Made Cooperation Agreements with external partners, so that student productions can be used outside of a school context

What they accomplished
- A cloud-based infrastructure that works with a relatively low Total Cost of Ownership (TCO)
- Better learning through processes that are characterized by collaboration and joint innovation
- A line of new teaching methods that elevates and contributes to learning by the use of IT
- The experience of fulfilling national and county learning goals
- FMC is the second county in Denmark to use Google for Education in all its elementary school grades, and was featured in the Google for Education roadshow. This has resulted in an increased political interest in the school's IT-didactic effort and a lot of positive press

Google for Education facilitates learning at minimal operating costs for Faabourg-Midtfyn County

Background

In mid-2014, Tonni Leicht Jørgensen and Michael Hansen as Head of Education and IT decided to take a closer look at the infrastructure at Faaborg-Midtfyn County (FMC). The meeting marked the beginning of 'The Digital School: Strategy and Course of Action for School-IT 2014-2017', a program initiated by the County. The school's use of IT had previously suffered from technical difficulties. Now, learning had to be the primary focus. They needed technology that just had to work.

'The strategy was an expression of a political wish, meaning that it came with funding. So I was hired as the manager of School-IT and became head of our Educational IT-Committee. We started looking for solutions. We chose Google Apps for Education and Chromebooks, because Google for Education appeared to be a stable infrastructure that was quite easy to implement. The platform demanded minimal expenses for operation and provided the best conditions for learning through IT', Rasmus Kirsch Bork explains.

7.5 million kr. was granted for the digitalization of the county's 11 schools in 2015.

Challenges

The schools in FMC had previously used IT cabinets, where teachers could fetch computers when they deemed them relevant for subject lessons. The schools had approximately 1 PC per 3.5 students.

"But computers weren't a natural part of the teaching and they were hardly used in all subjects. Maybe 10% of teachers were using them – and when they did bring them into the classrooms, the technological difficulties were too overwhelming", Rasmus Kirsch Bork says.

FMC went looking for an infrastructure that did not swallow up teachers' time. Also, the IT-supervisors in the schools had to be more than just technical support. Of equal importance was that they helped teachers find new ways of using IT in subject lessons. In other words, it was important to have a reliable infrastructure, if teachers as well as IT-supervisors could be expected to have time for their core task: teaching.

Another challenge was having teachers feel a sense of ownership of the new tools.

"In elementary school we have to focus on learning. Still we were really technologically challenged. In the beginning, the technology took up most of our time. This meant that the strategy had very little appeal to the teachers", Rasmus Kirsch Bork says.

On top of that, there was the educational challenge. How to improve the schools by the use of IT? How to support the joint national goals that demand IT to be integrated in all subjects? How to create inclusion through IT and better conditions for knowledge sharing and learning in general?

Solutions

To date, the county has purchased 3.000 Chromebooks for the 5.300 students in the schools of FMC. From the first to the sixth grade, every student has his or her own device. At the higher grades, Chromebooks are also used. That is if the student is not using his or her own device – typically a laptop or an Ipad brought by the student from home. Moreover, every teacher in the county has his or her own Chromebook (a total of 500).

"We chose Chromebooks with a keyboard and a touch-screen. The touch-feature makes the navigation more intuitive – students use it a lot", Rasmus Kirsch Bork says.

In order to introduce the new infrastructure, the teaching staff of FMC were put through a training course, where they were introduced to Google for Education. They got acquainted with Chromebooks, Google Apps for Education and interesting 3rd party apps for didactical use. The IT-supervisors came up with concrete ideas for teaching courses. Now, everything was ready to be tested in the classrooms, while the IT-supervisors stood by with answers, knowledge and further inspiration.

The students themselves have taken part in rolling out the infrastructure. The teachers and the county have established a number of joint ventures with the intention of rooting digital tools in the everyday working environment of teachers and students. Among other things, the fifth graders have acted as 'visiting professors' for the first year students. 800 students from first to third grade have used the 3rd party app "Write and Read" to make a book exhibition at the library in Ringe. Students have coded the light-show at The Tivoli Gardens. Everything has been done digitally. Moreover, 30 classes from fourth to sixth grade collaborate with The Danish Center for Architecture on a three year project called 'The Cultural Backpack'. Here, the students use their digital toolbox to conceptualize and design 'alternative spaces for learning'.

Benefits

The combination of Chromebooks and Google Apps for Education has proven to be a highly reliable solution. Except for a few printer problems with the Chromebooks, the technical implementation has been astoundingly smooth.

"We have had virtually no technical problems during the start-up, and that includes the daily teaching situations. If a Chromebook crashes, we just replace it. The student logs on to Google Apps from another Chromebook. All data reappears and immediately the student can resume working", says Rasmus Kirsch Bork.

The IT-supervisors support operation in the schools, but Rasmus Kirsch Bork also points out that there is still only a single person in the county hired to be responsible for actual operation and maintenance of School-IT.

We haven't shut down our Windows environment, but even though we have invested massively in IT, we don't spend more time on maintenance and operation. The new system is cloud-based. The only thing we have to make sure is that the wireless network is up and running and that there are Chromebooks enough for all the students. Google and the Chromebook producers handle all the rest", Rasmus Kirsch Bork says .

FMC has based all teaching on the principle that students have to be 'productive' and that the things they produce preferably have a real use outside of school. The rationale is that you remember things better when you use the knowledge in practice. When the things you produce are actually used for specific purposes, you put an extra effort into the process. It creates motivation and therefor better learning.

"Chromebooks and Google Apps make it easier to be productive. The students have quickly adapted to collaboration on Google Apps. They think it is a lot of fun. They listen to each other and use the input from each other. And they learn more because they constantly use the knowledge that teachers convey, and at the same time are allowed to succeed and fail in a safe environment. Other students seem more motivated and like they are more active members of the small student working communities. The platform gives them an opportunity to work with some of their own special skill sets, like finding pictures online – which actually is a real skill", says Rasmus Kirsch Bork.

Also the adult users have become comfortable with the platform. The IT-supervisors, school consultants and teachers collaborate and share knowledge via Google Apps for Education.

"The next step is for management to come along. When, for instance, agendas and school development plans are shared with teachers and in other cases parents, Google Apps will make working towards the same ends more of a collaboration. Managers and parents will feel less like recipients of information and more like active participants who have ownership of decisions. This will contribute to more effective personal meetings", FMC's manager of School-IT says.

According to the county's Head of Education. Tonni Leicht Jørgensen, the new infrastructure lives up to the expectations.

"Technically, the infrastructure works really well. And it is remarkable how much the students actually use the platform. That's positive, because it is only through the practical use that students get familiar with the technology", says Tonni Leicht Jørgensen.

FMC launched Google for Education after the Easter Holidays in 2015. As is well known, there is no teaching during the summer.

"Yet, the students uploaded more than 250 documents per day during the summer holidays and shared about half of them with each other", Rasmus Kirsch Bork says.

Adoption and use continues to grow steadily in FMC and so does the enthusiasm among students, staff and decisionmakers.

Google for Education