Dig Learning

Our project is called dig learning. The word dig has a double meaning, it is digital learning and at the same time, it is very good or cool. Dig learning is a fully digital project at Knappskog school, a primary/elementary school just outside Bergen in Norway. In our school, we have decided that the first four levels, from 6 to 9 years old, use IPads, and the three upper levels, from 10 to 12 years old use Surfaces. By next year we hope that all the pupils have their own digital device. As of today, only 4th and 7th grade are without devices. We use office 365 and we are all using OneDrive for cloud storage. Our school is a part of something called “the Knowledge City West” where we are collaborating with the local secondary and upper secondary schools and businesses.

This year I teach the 6th grade. We started our project previous school year with Surface and with OneNote used as both textbook and workbook. Our work focus is on learning, motivation and achievement for the pupils. We have tried to turn around the traditional teaching to better equip our pupils with the 21st century skills. Important in our project is that we have stepped away from the traditional textbooks and instead we focus on teaching our pupils how to learn. We want our pupils to learn how to find information, evaluate the information, use the information, maybe creatively, in the end hopefully they have converted the information into knowledge.

We don’t use textbooks, except a book for reading, neither in book format nor digitally on the web. The digitalization makes this flipped educational work in class easier, and it also makes it easier to differentiate the teaching. It is much easier to customize both for the strong and the weak pupils. Our use of OneNote makes us at all time updated on every single pupil. After a lesson in maths, I know what I must spend time on in my next lesson. I can clearly see who understood what and if there were any special difficulties.

It is still important to remember that the digitalization itself does not give us the results we want. The educational class work must be in the driving seat, and then the technology can help us on our way and make us achieve even more than before. Even though we are digital, we still communicate, we go to the school library, we cook and we create things in arts and crafts. My pupils do everything as a pupil in any other 6th grade do, but in addition we can do more, we can go further. For example, we can cook, and then write a blog about the food we are making. It is easier to have projects taking in different subjects in for example Minecraft. We can for instance use English, social sciences, arts and crafts, maths and Norwegian in the same project.

We use a lot of flipped classroom. This makes the lessons more effective. All the pupils have tasks on their level the whole time. When they are working separately or in groups, I can devote my time to single pupils, both professionally and socially. We are using an adaptive learning tool in maths called Multi Smart Øving – smart practise. Where the pupils are working on their own level. If they get a wrong answer, the next question will be about the foreknowledge they missed. Both strong and weak pupils will therefore feel that they are in the flow and feel achievement and motivation. At the same time, they will have quantity training.

We are using creative tools as for example Creaza where the pupils need to find the information by themselves other places to present it in Creaza. There are tools to make mind maps, which may be converted into presentations, you can also make cartoons and movies. I think almost every pupil can make a mind map or a cartoon, but the result will vary. Not all pupils can read five pages in a book and then answer three questions. The probability that they remember what they have read isn’t very big. On the other hand I think that the creative tools make more of the information into knowledge, at the same time as they are learning good methods to gather this information.

We are using Quizlet to learn words and terms both in Norwegian and English. In Quizlet, the pupils have different ways to learn the words, and can make choices based on how they best learn. It is a great tool for teachers too. We don’t have to correct the pupils work because the system does it. Quizlet is easy to differentiate, either to give pupils different words to practise, but also to do the test in different ways. A pupil with for example dyslexia may have multiple choice or true/false tasks instead of writing the word. He or she has to know what the word means, but not how to spell it, and may have all the questions right on a such a test. This gives achievement and motivation!

To work digitally we meet the pupils on their home ground. This automatically gives motivation. By using for example Minecraft or other games that the pupils are familiar with in the lessons, we can feel a lack of control. But if we have the educational purposes under control, and are able to put learning in the game, we achieve so much. On the picture, you can see our school built in Minecraft by pupils. We had ha big project called Knappskog as a sustainable community in the future. We also had some of the Minecraft buildings printed in 3d.

In addition to these tools, we of course use all the regular Office products like Word and PowerPoint. We also use Sway to make digital presentations were a whole group of pupils are able to work in the same presentation at the same time. In Sway it is easy to put in for instance pictures, YouTube movies and text. Instead of regular tests, we use Kahoot both to check foreknowledge and learning income. Then we use the same Kahoot before we start on a topic and afterwards. In that way the pupils know what they are going to learn before we start, and they are able to see what they have learned afterwards.

We have also had coding on the schedule since we got the Surface. We started out with the code language Scratch. We have a collaboration with a local it-company, called Acos. It was very motivating for my pupils to go on a business visit and to see that there is a connection between the coding we were doing in Scratch and the coding the programmers in Acos were using. In the knowledge city, we have a goal to equip our pupils with the skills our local businesses need in the future. The business cooperation also made my pupils to exhibit an oil drilling simulator coded in Scratch and controlled by a Makey Makey on a big international oil and offshore exhibition. Makey makey is an invention kit to connect to the computer to be used as touchpad or keyboard. The Makey Makey is between the computer and some object that contains water, for instance a fruit or vegetable, and makes it possible to play the piano or, in this case, control an oil drilling simulator with bananas and apples.

As shown on the picture, the prime minister of Norway came and tried out the drilling simulator after opening the exhibit. The pupils also experienced that grown-ups were impressed by the coding that they had made. I also had pupils there explaining in English what they had done. This year we have started to code with Micro:bit. Micro: bit is a micro controller that was created by BBC in 2016 to teach children programming. It can be programmed with both blocks like Scratch or with text-based code languages such as Python and JavaScript. Micro: bit gives a lot of opportunities with for instance built in LED matrix, gyroscope and temperature and is very motivating for the pupils to work with.

In the end, I want to say that we have never looked back after the digitalization. We will never go back to textbooks again. We experience that our pupils are more motivated and they are learning more. Both pupils and parents are satisfied with the digitalization. In the end of last school year, we had a survey for the parents. All the parents answered that they thought the digitalization gave more learning, motivation and achievement for the pupils than ordinary teaching. The essence of all this is that we dared to turn around our teaching strategies and educational classwork and that the digital devices and tools are helping us to do that. Our goal is that our pupils are not only learning the same as pupils at the same age, but that they are going to learn even more! And we believe we are on the right track…