

The use of Flipped Classroom in Norway

For years, teachers have been using the traditional way of teaching where the teacher presents the lesson in the classroom and then he/she assigns homework to be done at home. Recently, the flipped classroom methodology has revolutionized the traditional way of teaching. In Norway, as in many schools and educational institutes around the world, we have our share of the impact of this revolution.

Let us first give a brief idea to what the traditional classroom lecture method of teaching and flipped classroom methodology are. The traditional classroom lecture where the students get first exposure to the lesson content from the teacher and he/she assigns some homework afterwards. This method can be an effective way to help the students get new knowledge. One of the essential points that we are focusing on in this methodology is pacing. Occasionally, some students have to listen to the lecture, which they have already had information about; some other students would rather that the teacher slow down, or they may not have attended the lecture the day before and they lack the prior knowledge to understand what is said in the classroom. Unfortunately, it is hard sometimes for the teacher to take in consideration to teach according to every single student pace. When the students start to do their homework at home by applying the key concepts that they had in the class time, some of them wonder about the answer of so many questions or they try to review what the teacher may have said about that subject. (Goodwin, Miller 2013).

Here comes flipped classroom as a solution to the situation where students are frustrated because they are unable to get the teacher to teach them according to their pace. In the flipped classroom, the teacher records the lecture (podcast and other sources of internet tools) and posts it online. The students are supposed to watch the video in advance of class and they can watch it at home, in the bus, at school, etc. They can stop the video at the point that they need to review and they can speed it up where there is a part that they already know. In this way, the class would become the place where they discuss concepts and tasks, and the teacher would have time to follow each student's progress (Tucker, 2012). The flipped classroom is not simply to record a video and post it online and that's it. "It means to increase interaction and personalized contact time between students and teachers... A class where all students are engaged in their learning. A place where all students can get a personalized education". (Bergmann J., Overmyer

J., and Wili B. , 2011). Following this methodology would probably lead to let the students take more responsibility for their own learning.

In Norway, the number of teachers who stumble in the idea of flipped classroom and decide to try it is increasing. According to Horizon-report, a regional analysis from The New Media Consortium to the use of technology in the Norwegian school (2013-2018), the flipped classroom methodology will be more and more used in the Norwegian schools the next five years. The report also mentions that this method is used in many Norwegian schools. Some researches have been made regarding the effectiveness of the flipped classroom relative to the traditional lecture based classroom on university level. The research shows that the students score better in flipped class than in traditional lecture based class. “This demonstrates that the classroom flip, if properly implemented with cooperative learning, can lead to increased academic performance”. (Foldnes N., 2016).

One of the secondary school teachers who has applied the flipped classroom is Anne Cathrine Gotaas, a mathematics teacher in a secondary school, and she has been using this method since 2007. According to Gotaas, when she makes a video, she tries to focus on the basics of the concept and leave the difficult part of the topic a side until she is quite sure that the students have enough knowledge on the basics. Otherwise, what is the point of presenting a difficult topic to the student at home and leave them to tackle it alone! (The Norwegian Centre for ICT in Education, 2014).

One of the pioneer in this field is Bjørn Ove Seland Thue, a teacher in a secondary school, who has been applying the flipped classroom since 2010. He has created Campus Inkrement where he posted his lectures in mathematics and physics. There are around 2000 teachers using flipped classroom in Campus Inkrement and around 100 000 students, using these teaching materials actively. (Campus Inkrement, 2017). Campus Inkrement has become quite popular among flipped classroom users. According to Thue, the flipped classroom methodology has given him much time in the class to plan for various activities that embrace the differences between the student’s competence and performance in mathematics. He finds out that as a teacher, he should be prepared even more than he would in a traditional lecture based class as the students are going to address questions that are even more thoughtful. When you have for example two lessons in mathematics and you are not going to use them to explain a new topic or concept, then the time would be used to discuss the tasks and exercises and how to solve them. He says that it’s not a matter of recording videos and post them online and then we would

think that we can take a pillow and take a nap. He ensures that this methodology is quite useful not only in a lesson like mathematic, but also in teaching language or even lessons that require practical explanation like music. Here the music teacher can show how for example to play certain instrument. Thue experiences that the quality of education is even better here. He believes that the student might feel the teacher hanging over him trying to explain things not very pleasant. In the class, the student might feel embarrassed to say that he is out of mind and would choose to be silent and not to ask the teacher to repeat. The disadvantage for this methodology is not to be able to answer the students question at home while they are watching the video. The student of course could write the question down and ask the teacher at the school. As in a traditional teaching; some student would do this, others would not. (Læring i en digital tid, 2015)

Ellen Birgitte and Tonje Elise Barclay De Tolly Straume are teachers in a primary school in Bergen and they have been using the flipped classroom since 2013. They do not recommend to post the video to YouTube but to post it to the school platform like Its Learning, as the student might get busy watching other You Tube videos. Through the learning platform, the teacher will have the chance to know who has succeeded to do the tasks, are there any questions unanswered, etc. The teacher can plan for adjusting the tasks that the students will work with in the class according to their answers. From Ellen and Tonje experiences, this method helps to motivate the student to learn. The feedback that they get from the students' parents are quite positive (Its learning, 2013).

How sensible is this innovation and how far does it improve learning is a question left to the researchers to investigate and find out. However, those who applied the flipped classroom agreed on that they get more time to give feedback to students, and the teacher – student interaction has improved. It's all about giving the students the chance to pace learning to their own needs. To conclude, to enhance the students learning, apply this method thoughtfully.

Some Norwegian resources addressing FC:

Academic thesis:

- Hvordan opplever og utnytter lærere omvendt undervisning som støtte for læring i klasserommet? <https://oda.hio.no/jspui/bitstream/10642/2869/2/Aas.pdf>
- Omvendt undervisning i matematikk
<https://brage.bibsys.no/xmlui/handle/11250/193726>
- Omvendt undervisning i naturfag <https://brage.bibsys.no/xmlui/handle/11250/2398509>
- Omvendt undervisning i norskfaget
<https://brage.bibsys.no/xmlui/handle/11250/2354190>

Researches and articles:

- The flipped classroom and cooperative learning: evidence from a randomised experiment. BI Norwegian Business School
https://brage.bibsys.no/xmlui/bitstream/handle/11250/284890/Foldnes_ALHE%2020216.pdf?sequence=7&isAllowed=y
- The Norwegian Centre for ICT in Education. <https://iktsenteret.no/ressurser/omvendt-undervisning>
- Omvendt undervisning av av Elisabeth Engum
https://www.utdanningsforbundet.no/upload/Tidsskrifter/Bedre%20Skole/BS_nr_2-2012/5502-BS-2-12-web-ny_Engum.pdf

Websites that highlight some of the Norwegian pioneers in FC

- Pioner på omvendt undervisning <http://www.itslearning.no/pioner-p229-omvendt-undervisning>
- Thue Bjørns flipped classroom platform; Campus Inkrement
<https://campus.inkrement.no/Home/OmvendtUndervisning>

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