

11 Finnish Different Perspectives of Effects by COVID-19, Case Studies “University of Applied Sciences”, “Senior Specialists”, and “Experiences of retired emeritus”

Kari LAINE

Satakunta University of Applied Sciences, Pori

Lähdeniemi MATTI

Tampere University

Olli MERTANEN

Turku University of Applied Science

11.1 Case 1: University of Applied Sciences

Finnish Universities of applied Sciences started the Covid-19 lockdown on March 18th in 2020. All Universities of Applied Sciences (UAS) went to online teaching just in days and the Finnish UASes faced lockdown until August 2020. Satakunta University of Applied Sciences (Satakunta UAS) has less credit point loss caused by lockdown compared to any other UAS in Finland. This is due to many circumstances and active work. During the spring 2020 semester there was even 5,4 per cent more credit points earned than year before. This paper provides insights into a Finnish University's (Satakunta University of Applied Sciences) situation and actions during the year 2020. The paper focuses on faculty of technology.

Finland is one of the leading countries in the world in public electronic services. Furthermore, studies show that the digital skills of Finns are the best in the EU. This proves that the prerequisites for success in digitalization are excellent. (Finnish Ministry of Finance 2020)

Satakunta UAS has Bring Your Own Device (BYOD) principle with all new students. This means that the UAS gives a specification for devices, mainly laptop computer, that the students use for their studies. This was one of the reasons why transition to forced online teaching went fluently. Another reason was that Satakunta UAS had its own self-developed online classroom and online learning platforms, and teachers and students of all faculties were familiar with their use. Efforts have been placed to develop interactive video teaching system with breakout rooms. The system can be used in special classrooms at the campus but also from any location on any device. Even students can use the same system by themselves to work as remote teams.

11.1.1 Effects of Covid-19 on teaching and learning

The development and evolution of teaching during the lockdown was a quite linear process with successive steps following each other because of each other (Fig 1). As mentioned, the lockdown was announced on March 18th. The last day at the campus and the first day of the lockdown were spent entirely in planning how to survive in lockdown but also in arranging the most critical actions and teaching events. In many papers this was called emergency remote teaching (see for example Krishnamurthy 2020). On the last day at the campus all the possible equipment and supplies needed in online courses were collected to be carried to home offices by the teachers and researchers. At the same time the images and videos for online exercises were shot as thoroughly as possible.

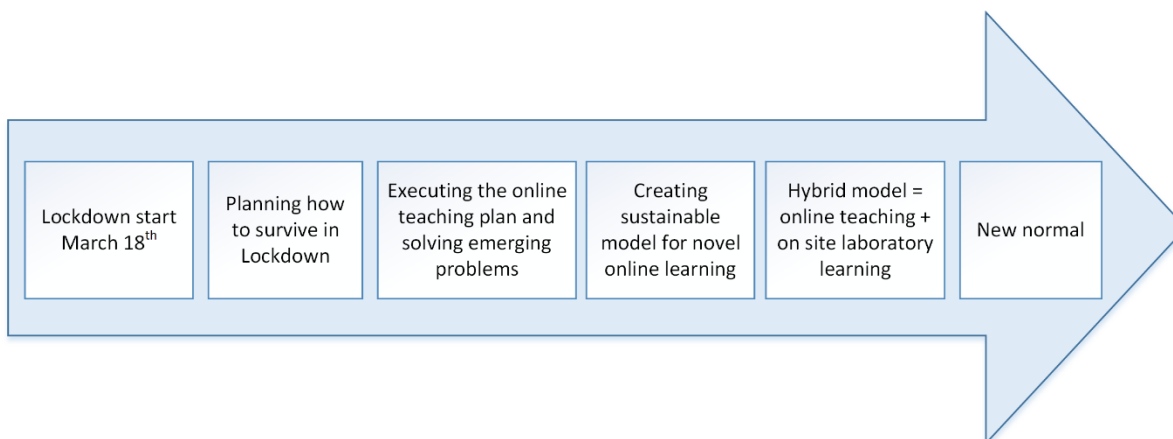


Figure 1. Evolution of teaching during the lockdown.

All the courses, their actions and teaching methods were reviewed step by step on the first lockdown day. For each step, it was considered whether and how it could be executed and arranged online. When steps that could not be implemented online were identified, they were written down and dates were agreed for their redesign. This was clearly the most critical phase of the whole lockdown, because without it, the day-to-day needs for changing teaching and teaching methods would have become too much.

In the tricky lockdown situation, the everyday teaching had to begin online with the materials and possibilities there was. The plan written in the first lockdown day set the guidelines to the online lectures and exercises. It also boosted the teachers to make appropriate decisions and changes when such situations emerged. Based on the versatile experiences lived through in this situation, a sustainable model for novel online learning could be created. This new experimental model has then been used also in the hybrid model of higher education, when all the possible teaching has been executed online while for example the laboratory exercises with real equipment have been arranged on site, in the laboratories. At the moment, there is no certainty as to when and how to return to campus teaching, but it is certain that all this will cause change and a new normal (Fig 1) is taking shape as we speak.

In teaching, almost all teaching, exercises, and assignments have been transferred online. It required time and efforts, but people with same strong attitude made it happen. Some difficulties have occurred with students that have equipment that does not meet the BYOD specifications. This sometimes causes situations where specific applications do not work as they are supposed to do. These difficulties are mostly solved when the right equipment is in use and instructions are followed. Extra online counselling has been done and sometimes personnel has taken control of the students' equipment online to solve the problems.

Some students, that have not been socially active on campus, have activated more online. They have perhaps found that this new situation brings them new opportunities to contact teachers personally online, by email, or by different collaborative technologies. Thanks to these short online consultations, some students have succeeded to earn credit points even better than in the "normal" circumstances.

Small amount of the students, approximately less than five per cent, have become passive. They have participated to hardly any online teaching and learning. On the other hand, it is easier to identify these passive learners with online metrics, so it may be that the situation is not worse than normally. In normal situation, most of the teaching on campus has no obligatory sessions. So, losing these students may be mainly due to missing of their day rhythm.

The laboratory exercises were affected the most by the changes made because of the lockdown. About a half of the laboratory assignments were changed into online assignments based on videos and demonstration materials, which were used to familiarize students with the same type of challenges. Learning in these exercises was verified with online tests. Rest

of the assignments were able to be done with offline programming and running the programs in virtual environment. The online learning is not exactly same as learning with the real equipment and technologies. Nevertheless, it gives students the most important learning experience, mastering one technology well creates potential to master similar technologies well, too. The most important goal of the laboratory exercises is to give the students practical experiences with technologies. It is obvious that the virtual exercises do not achieve the same level of practical experience as real exercises. So, in the hybrid model, the laboratory exercises will still be carried out on site.

During the summer 2020 Satakunta UAS was in lockdown. This made it possible to start some construction and renewal projects at the campus earlier than planned. Now, in hybrid situation, all teaching and assignments are online, and laboratory work is done in small groups. The number of students in the laboratory is limited to half from the normal situation. Five people from the personnel can be situated in the same space simultaneously. First year students are at campus, whereas other students are mainly online apart from the laboratory working days.

Some of the students say they are tired. They may lack self-management and time management skills, or their learning styles do not fit to the current situation. According to other research, Covid-19 has effect on students' mental health and performance (Friedman and Kopczuk 2020, Aucejo et al. 2020, Gualano et al. 2020). The economic status of students may affect their suffering of the situation. Lower income students suffer more (Aucero et al. 2020).

Student visits to industry sites have been completely ruled out even after the lockdown, as the companies do not take any risks of spreading the virus to their personnel, nor does the university want to expose its students. Some of the visiting lecturers have been able to teach online. While industrial partners' representatives have familiarized themselves with online working methods during lockdown, they are more willing to give visiting lectures online. For student exchange, online studies have been created for students that can't come and study at Satakunta UAS. Online studies start on January 2021.

11.1.2 Effects on collaboration projects

Everywhere, the lockdown also affected the activities of cooperation, research and development projects. Adapting project actions to the requirements of online work took time and there were certainly almost as many different solutions as projects. Reorganizing actions could mean planning meetings and events online instead of traditional meetings or seminars etc. as well as filming demonstrations as videos and presenting them in online meetings. It meant also reorganizing and rescheduling tasks based on things that are possible during the lockdown and things that could not be done during the lockdown. The reshaping of actions in collaboration projects are seen in Fig. 2.

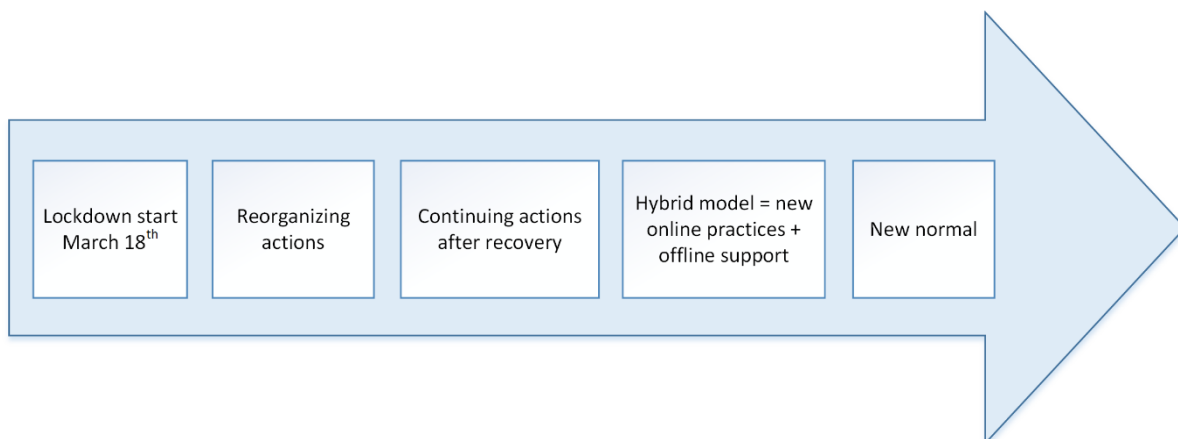


Figure 2. Reshaping of the actions in collaboration projects.

Based on the empirical study made at Satakunta UAS, in collaboration projects it took more time to recovery from the lockdown shock than in teaching. One major reason for this was that in teaching there was only six weeks of the semester left at the lockdown start and the courses had to be finished. Another reason was that projects are usually more complex and have several parallel approaches, so it took time to re-evaluate the goals, needs and possibilities of the project and to reorganize the actions according to that. Similarly, in projects, the implementation of new policies and timetables led to a reshaping of activities. These new activities are then used also in the hybrid model of the project work, where all the possible activities are performed online, but all required actions are taken e.g. in laboratory or face-to-face.

Visits to collaboration partner organizations ended almost entirely in May. Only few organizations have created practices to deal with visitor groups. Online meetings with partners have made it possible to continue collaboration with partners. Understanding partner organization's circumstances and requirements for contract research have been more difficult when it has not been possible to visit the partnering organization. Seeing the environment, like production facilities makes it possible for the experts to make their own observations and conclusions and not relying only on the facts given. One of the new ways of working that has come up with some industrial partners has been video clips made from the production sites, which enabled more detailed knowledge of the operations.

Contacts from industry decreased in number of amounts since May. During this quiet period all existing smaller research projects were finalized. Luckily, industrial partners have become active again after the quiet period. Now they offer collaboration possibilities again.

11.1.3 Effects on research and expert tasks

Most of the research projects continued with minor changes in project plan and schedule during the lockdown. Some practical actions like actions made in the laboratory were delayed, and it was seen also in the budgets of research projects. However, the implications to the budget were mainly changes in the timeline.

On the other hand, there has been more time, and there are even more results followed. This is due to reduced time for travelling and less uncontrolled interruptions. In teaching work of the experts, the results have been transferred to teaching even more effectively than before the crises, because now there has been more time for that.

Part of the partner organizations became paralyzed. They did not find new ways to proceed in the new situation. This caused break in collaboration for some months. Since partners learned effective online practices all has been almost like before the crises.

In international collaborative projects, everything needs and can be done online. However, additional innovations are not created/initiated without face-to-face meetings.

Most of the conferences are delayed or cancelled. Some of them are gone virtual. In virtual conferences unofficial things like running into someone does not happen. It is difficult to create serendipity with online solutions. Review processes of journals are delayed, and reviewers are allowed to have extra time to review papers. This causes delays in publication processes.

11.1.4 Discussion

The government of Finland started to make actions immediately when Covid-19 was seen on the region. There were limitations for travelling and all pupils and students from the age of ten went to distance education, for example. In general, Finland has good technology infrastructure and it made online studying and working well possible. Probably based on early actions, there has been less Covid-19 infections in Finland compared to many other European countries. That, again, made it possible to have effective online teaching and working. Although

the change from earlier phase to lockdown and hybrid models went fluently, teachers may have feeling of inadequacy.

Other researchers report that lower-income students have more delay in their studies because of Covid-19 than student with better incomes (Aucejo et al. 2020). In Finland, students with lower income suffered perhaps less than students in same situation in other countries, because in Finland the university studies are free. Students can also receive study grants and they can take state-guaranteed student loan for their study time.

In the lockdown start, teachers had to change their teaching style and recreate materials suitable for online teaching. Students, on the other hand, had to adapt the new style of teaching and try to find personal ways to participate in teaching and learning. Here, too, one's own activity, but on the other hand an open attitude towards change, has helped both teachers and students. The goal is not only how to survive, but how to eventually rise the quality and value of the learning (see for example Krishnamurthy 2020, Ratten and Jones 2020).

The students, teachers, researchers and collaboration partners that started to see opportunities directly, have suffered less from the difficult situation. They have studied what things to do at once, and how to proceed in the new situation.

11.1.5 Conclusions

In spring 2020, teaching went online in days. There had been online teaching before, of course, but now all teaching went online. For teachers that was perhaps not so big change mentally as it was for students. Some students got lost, mainly due to their lack of self-management skills. Although the change was moderately tolerable for teachers, it was a laborious phase that certainly exhausted. Assessment also had to be thought from a new perspective, as tests and exercises were done online.

Attitude seems to be the most significant factor defining how different actors have recovered from the crisis. There have been not only bad effects. Some best practices will be continued and utilized wider. New normal after the crises will be different for time before the crisis. Research has not suffered that much. Part of the research can still be done as earlier. Collaboration with partners suffered first but recovered quite soon as online practices were learned.

Some conventions will get lost and new ones will be established. There will be less meetings, travelling, and more online teaching and collaborative learning after the crisis as well. Unplanned meetings at campus and outside campus decreased in number of amounts. It is difficult to bring serendipity with online or software solutions. So, there must be conscious thinking, how innovativeness can be sustained or even increased. Therefore, the design of these new ways will be done in collaboration with many stakeholders in order to find new best practices for innovation.

11.2 Case 2: Senior Specialist

11.2.1 Up and down effects of Covid-19 in the life of senior specialist

It was 6th of March 2020 when post doc pool had the meeting of executive board. At the beginning of our meeting, we did jokes about new ways to say hello, knocking our elbows or touching our foot and after few days it was real life. We were organising online meetings and it was really surprising how rapidly we were familiar with Teams, Zoom, Google Meet and other several tools. Post doc pool is the combination of several foundations granting about 3.2 million euros for young talented doctors for their international research periods.

Naturally training was needed and several times somebody was asking “am I online now?”, do you hear me now?” and maybe the most used comment was “could you please unmute me”. Training was producing results and meeting started to be more and more effective maybe sometimes too effective lacking rambling innovative discussions. For me it was a bit exciting to act first time as a meeting chairman, to figure out how the statements are allocated to the members and how to avoid overlapping comments, but it was also running well.

There are several seminars and conferences in which you don't have time to take part in but now I have taken part into several web seminars following also fruitful chat discussions, picking the coffee cup from my own kitchen. Another thing is that you don't have to fix your outfit dress.

During March we also quit normal shopping and changed to online shopping picking our groceries from the backyard of the local supermarket. After a while the situation was normalised but came back again in the autumn. Another way was to study what are the quietest hours in different markets.

In everyday life, it is very normal that you have “left over lists” of the works which you finalise sometimes in the future and now Covid-19 has strongly limited your outside activities and now the list is almost empty. There are very few tasks left on the lists.

My hobby is a forest thinning and last spring about 100 cubic meters firewood was done, because the forest was the place where all the limitations by Covid-19 were easily considered. Forest work was also very positive for the personal health both physical and mental.

I belong to the local moose hunt group and normally when the weekend hunt starts at Saturday morning, we gather to the hunt cottage, cooking coffee, discussing but now we come exactly for the start of the hunt, stay outside with masks taking care of distances.

In Finland, we have our Independent Day at 6th of December, and I was asked to give the oration as a part of the ceremony. I will never forget the feeling when I was giving the oration in the big empty celebration hall without any audience only operative staff around for streaming the celebration to YouTube.

And last but not least, our 3 children and 7 grandchildren, with which we normally keep very near contacts even that they live far away. Now we primarily meet via WhatsApp but of course it is not adequate. Physical contacts or even that you have live contacts are important and we have done it so that during weekends every now and then we gather to picnics and wandering surrounded by Finnish landscape.

As a conclusion, online and distance working methods fit partly well for Finnish nature following the book by Richard D. Lewis “Finland, Cultural Lone Wolf”. On the other hand, there is another truth also, every human being needs real physical interaction for fruitful life and for the source of innovation and that is what we are waiting after we have cut down COVID-19.

11.3 Case 3: Experiences of retired emeritus

When I realized that Covid-19 changes my life in spring 2020, I could not imagine how things were starting to improve my life although I had to stay in quarantine. My quarantine was quite easy, because I live in countryside in the middle of forest faraway of any other human.

Although different kind of teleworking means were familiar to me for a couple of decades, I was surprised how fast people learned to utilize, develop and organize these means. Especially the organizers have rapidly learned better ways of action. I think that is the real reason in my case why I started to activate and to participate a lot more to different conferences, lectures and meetings. I have learned a lot and would say that even civilized. Of course, these tele meetings and webcasts are not the best way for human to network with others, which is one main idea of many conferences (at least not yet with now available tools). All the same the possibilities to participate more may influence the broadening networks to new areas and groups of new

kind of people? And the participating to these kinds of happenings is in most cases a lot easier. Maybe the development will solve also unformal part of conferences, evening meals, excursions and other happenings.

And surprise, the improved tools changed also my private living. I could play and discuss with my grandchildren. It is amazing how rapidly even toddlers learned to use these new ways of communication. And isn't it cute when toddler comes at the end of video session to give you a hug, hugs the smartphone and then waves with a tiny hand. These kind of videocalls are part of our new normal. Of course, I try to meet my grandchildren quite often also face to face naturally, but they live quite far away and there is the virus. This makes me think why it is still not so common to utilize the available possibilities in everyday situations in private life. Traditional smartphone voice calls seem still to stay in use in ordinary communications. I wonder why!

There is no doubt that COVID-19 leaves behind total new manners to work, study and communicate also after the virus. It will take some time, but is inevitable: cheaper, time saving, more convenient and more efficient in most cases. I do really believe in this change. Hopefully it may also help the climate, when all kind of travelling shall decrease.

11.4 References

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