A Case Study of Students' and Teachers' Perceptions in a Finnish High School during the COVID Pandemic

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Article Info	Abstract
	This study describes one local upper secondary school in Finland during the COVID-19 pandemic. All teaching was changed to distant for around two months. The study describes students' and teachers' perceptions during that time. Participants responded to the survey four times and freely described their experiences five times. The number of participants varied from 56 to 72 students and 9 to 15 teachers at different times. The data were analyzed by descriptive statistics, cluster analysis, and qualitative content analysis. The main findings indicate that distance teaching was implemented very successfully. However, open comments and cluster analysis revealed many challenges. Students complained of heavy workloads and fatigue. Some students lost motivation. These difficulties did not disappear over time. The main challenges for teachers included non-authentic interaction and a lack of the spontaneity that in-person teaching provides. Teachers quickly learned to use technological platforms, but interaction through it was not of as high quality. Teachers were also worried about students' progress. Teachers did not recognize students' heavy workload and motivation problems in the way that students described them. The study provides several recommendations for future remote teaching.

Introduction

The Pandemic Reaches Finland: Transition to Distance Learning

The first signs of the coronavirus (COVID-19) were seen at the end of February 2020 among Chinese tourists in Finnish Lapland. Thereafter, the virus started to spread, especially from tourists returning from Italy. In mid-March, the Finnish government decided to slow down the virus. Almost all of society began to work from home. Only grocery stores and pharmacies stayed open under special arrangements in order to avoid close human contact. People over the age of 70 were considered to be at particular risk of contracting the virus. Therefore, it was recommended that they stay at home without meeting or taking care of anyone, for example grandchildren. In June 2020, the government began to remove restrictions in small steps with the goal of further preventing the spread of the virus.

Finland spent almost 5 months under exceptional circumstances where external contact was avoided as much as possible. All educational institutions from early childhood to higher education were closed for 2 months (March 18–May 14). During that time, some schools were open with special arrangements for children with special needs or whose parents worked in hospitals, security, etc. The schools opened in stages, with basic education institutions (7- to 15-year-old students) opening in mid-May and high schools (upper secondary schools in the Finnish educational system) and universities at the beginning of the following semester in mid-August 2020. Closing schools was an urgent decision of the Ministry of Education and Culture since there were serious examples both in China and Europe, and no real knowledge about the nature of the virus was available.

In Finland, the leading principle of the educational system is equity. There is a constitutional right for all children to have equal opportunities of high-quality education, and it is supported by the government and local authorities. According to latest Basic Education Act (628/1998), "the aim of education shall further be to secure adequate equity in education throughout the country," which has been confirmed by the Ministry of Education (MEC) and the Finnish National Agency for Education and Culture (FNAE):

> One of the basic principles of Finnish education is that all people must have equal access to high-quality education and training. The same educational opportunities should be available to all citizens irrespective of their ethnic origin, age, wealth or where they live (MEC & FNAE, 2017, p. 6).

The principle of equity also concerns exceptional times. The Ministry of Education and the FNAE clearly recommended that every school switch to online education but otherwise continue as normally as possible:

> Due to the corona outbreak, school premises in Finland are now closed and education is provided remotely as distance learning. The starting point in the arrangements is to aim at deviating from normal operation as little as possible (FNAE, 2020).

The educational system is decentralized in Finland, and the responsibility for educational quality is held by local authorities. In practice, this means that principals and teachers design school-based curricula following the guidelines of the national core curriculum (FNAE, 2020; Niemi, Toom, & Kallioniemi, 2016). Schools choose educational methods and materials themselves and are also responsible for assessment methods. It has often been asked how this kind of decentralized education system can guarantee student equity and at the same time achieve well-known high learning outcomes. The main reason for students' high learning outcomes is mostly found in teacher autonomy, since teachers are used to taking a leadership role and making decisions in their work. They are used to making plans for different kinds of contexts and situations within the framework of national curriculum and regulations. They also have a strong sense of professional and moral responsibility to fulfill the requirements of the educational system and are treated as professionals. The foundations of teachers' high-quality professionalism are created through 5 years of academic education and developed at all stages of their careers through additional training.

During the early stages of the pandemic, the big question was how to move to a new role with new responsibilities. Teachers had 2–3 days to prepare and make new plans for distance teaching. In Finland, the public media reported how rapidly and wonderfully teachers switched from traditional to distance learning, and how schools continued working effectively in the new situation. Some teachers said on the national news that the new situation was first a shock but that they then started to utilize their experience and creativity to make distance teaching work. One reason for the successful change was that teachers had previous experience with online communication and educational applications. For example, Finland has a remote communication web-service named Wilma (Visma InSchool, 2020) between schools and homes that teachers, students, and their guardians use. All schools, and almost every home, have a high-speed internet connection and most students have daily access to a computer, tablet, or mobile phone (European Commission, 2020; Statista, 2020). The schools were also able to borrow devices during the pandemic if students needed them.

Even though teachers had the basic capacity to work remotely, much support was still needed on many levels, especially concerning IT issues. The Ministry of Education and Culture launched a survey (Tanhua-Piiroinen et al., 2020) about school's digitalization and teachers' IT skills in basic education (7- to 15-year-old students covering primary and lower secondary schools). According to that survey, 53% of Finnish teachers had basic IT skills, but only 21% had well-developed pedagogical IT skills. Furthermore, there were big differences between age groups. As teacher education provides the ability to teach at all grade levels, and in-service training for IT skills is mostly common for basic and high school teachers, it can be assumed that the results are representative of the situation in Finland. Although the survey, as well as earlier studies, indicate that teachers have challenges with IT issues (e.g., Artacho et al., 2020), the Finnish study also have also pointed out that teachers' confidence in their own basic IT skills promotes positive attitudes to online learning and that peer tutoring plays an important role in teachers' learning (Tanhua-Piiroinen et al. 2020). In the early stages of the pandemic, local schools arranged practical training and individual tutoring for teachers, and colleagues helped each other. The Ministry of Education and Culture and FNAE also offered online support. At many schools, internet bandwidth was added immediately, and accessible software licenses were provided. To ensure equity, teachers, student counsellors and special-education teachers tried to ensure that every student was attending distance learning. Teachers invited their students to a virtual classroom every morning using Teams, Zoom, Google platforms, or the school's own online communication channels.

COVID-19 and Distance Education in the Case Study School

This study describes the situation of one local upper secondary school in Finland, Sipoo High School (https://sipoonlukio.fi/english) during the COVID-19. , during the COVID-19 outbreak. In Finland, half of the pupils go to high school after 9 years of basic education and the other half go to vocational school. High schools have entrance criteria that are based on students' performance in basic education. Teaching at high schools in Finland is course based. Students can plan their course modules according to their planned matriculation examinations at the end of high school. In practice, students complete high school in 3–4 years and can take examinations in different subject matters twice in a year. The aim of high school is to provide readiness for studies in higher education.

Sipoo High School has about 200 students and around 20 teachers. It is located on the outskirts of Helsinki, the capital of Finland. The school is average in terms of the number of students. The school is ranked 39th or 40th in matriculation examination performance (there are approximately 400 high schools in Finland).

During this study, 140 students (68 boys and 72 girls) and 17 teachers participated in distance learning courses. Those students who did not participate (79 students) had already passed their matriculation examinations and all course work by April 2020. The purpose of the study is to describe students' and teachers' perceptions of the distance schooling and what kind of differences there were between the two groups' perceptions.

The HS did not change its curriculum, course structures, or exam week schedules. All planned courses and exams were held normally, but remotely. Each lesson lasted 75 minutes, with the teacher in charge present. Students followed their structured course plans as normally as possible. Following the decision by the Ministry of Education and Culture, teachers had only one weekend to prepare and make new plans for distance teaching. Most of them had never used Teams, which was chosen as the official teaching platform. For intensive training, the school organized help from the next-door vocational secondary school, which had more experience with Teams. Among teachers there was much peer support and information sharing in the first days. The teachers had a strong "we can do this" attitude, as one teacher expressed in an interview. The following principles were agreed on by the school principal and teachers:
- All lessons should be synchronized and include real teaching, not just task sharing.
- The teacher should start and end all lessons.
- Teachers had to be present throughout the lesson, but they were otherwise free to use their own teaching methods and applications.
- Student attendance was checked at each lesson.
- The aim was to keep all students learning.

Teachers described that moving to Teams was not a problem for their students since they had a lot of experience with different social media platforms from their leisure time. The school wanted to start collecting data with the researchers, both out of interest and to develop the school's practices. They wanted to know how distance education was perceived by students and teachers. The school also wanted to show its kindness to its community, that is, that they were interested and followed this new and unexpected situation in order to do better in the future.

Theoretical Framework, Literature Review

Distance education has many variations and definitions such as distance learning, open learning, or online learning. For example, massive online courses and open-education resources can be used remotely regardless of time and place. Some of the definitions have been criticized for being unclear. Saykılı (2018, p. 5) has proposed the following definition, which we also use in this study:

> Distance education is a form of education which brings together the physically-distant learner(s) and the facilitator(s) of the learning activity around planned and structured learning experiences via various two or multi-way mediated media channels that allow interactions between/among learners, facilitators as well as between learners and educational resources.

Distance education has been investigated for decades, particularly starting 1990s when technology-mediated learning platforms started to emerge in education. As online education has increased, so has research (Arnesen et al., 2019). However, the field of research is diverse and focuses mostly on adult and higher education students (Rice, 2006). During recent decades, technological tools and applications have developed, and this study focuses on the latest research data on distance learning. The aim is to review the newest knowledge about teachers' and students' perceptions in a context where all teaching and learning are done remotely, as in the recent exceptional circumstances. However, even though we focused on the latest research, many concerns are still the same they were in 1990s.

According to previous studies, teachers have agreed that distance learning requires different approach and skills than face-to-face teaching (e.g., Stone & Springer, 2019). A teacher has an essential role in student success, both in traditional and distance learning (Rice, 2006). However, teachers have been concerned about how they can perform remotely, create a pleasant learning environment, and make the student feel important rather than isolated. Since distance learning is becoming more common, teachers have felt that it should not only be their individual responsibility but also that of the entire institution. Distance learning should be based on a common

strategy of the school to which everyone is committed. Teachers also needed support, sufficient resources, and time to put distance learning into practice. (Stone & Springer, 2019)

Furthermore, the challenges to teachers' IT skills are well known (e.g., Artacho et al., 2020). The pandemic showed that there were differences in teachers' skills and readiness to teach online. According to Trust and Whalen (2020), most of the teachers they interviewed had never taught online before. Hence, teachers had many challenges concerning technology, pedagogical changes, governmental guidelines, and students' individual needs. The teachers felt themselves unprepared and needed a lot of support. However, teachers who frequently used technology were better able to transition to distance learning. (Trust & Whalen, 2020)

In general, more experienced and IT-specialized teachers coped best in the new situation (Alea et al., 2020). Teachers' capacity to use technology is crucial because technical challenges in distance learning have had a negative influence on student motivation and learning (Ozkara & Cakir, 2018). It is also alarming that crisis situations increase inequality among students. The recent pandemic proved that students attended distance learning in very difficult circumstances and often without any real teaching or support from their teachers (UNESCO 2020). It is also worrying that teachers and students have been unaware of digital inequality, especially as it has increased due to the pandemic (Hall et al., 2020).

Dropping out is one of the most common problems in distance learning. This has also been a concern during the pandemic. Iivari et al. (2020) found that the pandemic has affected students in different ways. Some students suffered under distance learning and even dropped out. There were also students who became more self-directed and benefited from distance learning. Many studies (e.g., Gregori et al., 2018) have investigated ways to decrease the number of dropouts. Investing in individual guidance and attention for students is important, and according to Stone and Springer (2019), a strong teacher presence and an adequate course design were the best ways to prevent dropouts from distance learning. Students also found regular and constructive feedback very important (Simons et al., 2019) and hoped that someone was present during distance learning to provide support when needed (Lee & Martin, 2017). The support of the school community and parents increased the chances of students completing their courses as well (Simons et al., 2019). During the pandemic, those students who have been supported by their parents in technical problems, for example, succeeded best (Iivari et al., 2020).

Despite of the importance of ongoing support in distance learning settings, students must also be able to regulate their own learning (e.g., Artino & Stephens, 2009), since good self-regulating skills have been connected to motivation and higher school achievement (Wolters, 2003). However, even if the students are highly motivated and self-regulated high achievers, distance learning can still be difficult, isolating, and discouraging for them (Saykılı, 2018). According to Ozkara and Cakir (2018), students tended to have a positive attitude towards distance learning but found it more motivating have an opportunity to communicate face-to-face. For example, the COVID-19 pandemic showed that secondary school students preferred traditional classroom-based science courses and lab experiments to their online equivalents (Pınar & Dönel, 2020). It seems that one of difficulties in distance learning is a lack of social relationships.

However, students have not been very motivated to engage in whole-group online discussions (Lee, 2014) and only do them to get through the courses and get the desired grade. Small-group discussions for sharing are more preferable (Lee & Martin, 2017). Teachers agreed that active interaction was an important prerequisite for learning and could not be replaced by distance learning (Foti, 2020). Consequently, an online environment should be flexible and offer a variety of options that consider the individual needs and identity of the student (Daher & Shahbari, 2020). This increases the student's motivation, sense of independence, and self-regulating skills (Simons et al., 2019).

Methods

Research Questions

This study is based on quantitative and qualitative data collected from one high school's students and teachers.
1. How did students perceive distance learning during the pandemic time?
2. How did teachers perceive distance teaching during the pandemic time?
3. What kind of differences can be found among students and teachers in their perceptions during the pandemic?

Data Collection and Instruments

The distance school started March 16, 2020. Data was collected at approximately the end of every second week. The first data were collected after the 1st week (March 27), the second data on the 3rd week, the third data on the 5th week, and the fourth data on the 8th week (May 15). The questions aimed to find out how teaching and learning worked in the data collection week. Students and teachers also responded to open-ended questions. At the end of May, students and teachers assessed the whole distance learning period qualitatively.

Table 1. Study Participants

Population	Participants in surveys (n)				Total	Final qualitative assessment
	T_1[a]	T_2	T_3	T_4		
Students	72	57	65	64	258	30
Teachers	15	9	14	13	51	11

[a] $T_{1,2,3,4}$ = data collection times in the survey.

The data were collected using an electronic platform commonly used in the school. Answering was anonymous, and respondents could not be identified. Students informed only gender and grade level. All students were between 16 and 18 years old. Permission from parents was also obtained.

The questionnaires (see Table 2 and Table 3) needed to be short because they were used four times, and it was important to avoid response fatigue. The response rates 51% (T_1), 41% (T_2), 46% (T_3), and 45% (T_4) from students ($n = 140$) and 51% (T_1), 88% (T_2), 82% (T_3), and 76% (T_4) from teachers ($n = 17$). Participation for the final, qualitative questions was 21% for the students and 64% for the teachers

Table 2. Measures for Students

Items in students' questionnaires and the scales
1. Distance teaching was implemented in my opinion…   5 = *excellent,* 4 = *very well,* 3 = *satisfactorily,* 2 = *poorly,* 1 = *very poorly*
2. I had technical problems in distance teaching (e.g., network connections) that took time to clear up.   5 = *very much,* 4 = *a lot,* 3 = *some,* 2 = *a little,* 1 = *hardly at all*
3. In distance teaching, I spent more time studying independently compared to in-person teaching.   5 = *very much,* 4 = *a lot,* 3 = *some,* 2 = *a little,* 1 = *hardly at all*
4. Distance teaching was more beneficial to me in terms of learning than in-person teaching.   5 = *very much,* 4 = *a lot,* 3 = *some,* 2 = *a little,* 1 = *hardly at all*
5. Distance teaching motivates me more than in-person teaching   5 = *very much,* 4 = *a lot,* 3 = *some,* 2 = *a little,* 1 = *hardly at all*
6. I would have needed more support for my distance learning,   5 = *very much,* 4 = *a lot,* 3 = *some,* 2 = *a little,* 1 = *hardly at all*
7. My own studies at a distance went …   5 = *very much,* 4 = *a lot,* 3 = *some,* 2 = *a little,* 1 = *hardly at all*
8. Tell us which things were the best aspects of distance teaching this week and which in turn produced difficulties.

Table 3. Measures for Teachers

Items in teachers' questionnaires and the scales
1. I thought distance teaching went …   5 = *excellent,* 4 = *very well,* 3 = *satisfactorily,* 2 = *poorly,* 1 = *very poorly*
2. I had connection problems so that teaching took time to solve technical problems.   5 = *very much,* 4 = *a lot,* 3 = *moderately,* 2 = *a little,* 1 = *hardly at all*
3. I spent more time planning distance teaching compared to in-person teaching.   5 = *very much,* 4 = *a lot,* 3 = *moderately,* 2 = *a little,* 1 = *hardly at all*
4. I believe students learned more in my distance teaching compared to in-person teaching.   5 = *very much,* 4 = *a lot,* 3 = *moderately,* 2 = *a little,* 1 = *hardly at all*
5. Distance teaching motivates me more compared to in-person teaching.   5 = *very much,* 4 = *a lot,* 3 = *moderately,* 2 = *a little,* 1 = *hardly at all*
6. I would have needed more support to implement distance learning.   5 = *very much,* 4 = *a lot,* 3 = *moderately,* 2 = *a little,* 1 = *hardly at all*
7. Tell us which things were the best aspects of distance teaching this week and which in turn produced difficulties.

Both students and teachers qualitatively assessed their experiences at the end of the distance education time with the following questions:

1. What were the best aspects of distance teaching/distance learning?
2. What aspects of distance teaching/learning caused difficulties?
3. How should our high school make use of the experience gained in distance teaching/learning when moving back to in-person teaching?
4. Other comments.

Researchers had active communication with the principal and study secretary about the study design. They and a vice-principal were also interviewed after the data collection. The following interview questions were presented:

1. How were teachers trained for distance learning?
2. What factors can explain students' and teachers' differences in perceptions
3. What did they learn from this time for the future?

Analysis

The data were analyzed using descriptive statistics and ANOVA between the four measurement times. Cluster analysis was used for profiling differences among the students and teachers. The qualitative data were analyzed with content analysis. The open questions and students' and teachers' free descriptions were categorized inductively. To validate the findings, the researchers gave the manuscript to the principal, vice-principal, and study secretary for their comments. They confirmed that the findings corresponded to their observations during the pandemic.

Findings

Students' Perceptions of Remote Schooling

Quantitative Responses

The first research question focused on students' experiences during the remote schooling. Mean values and standard deviations are described in Table 4. The general picture is very positive. Students' perceptions of how well the distance teaching was implemented varied between 3.59 and 3.96 out of 5 across the different measurement times. The best experiences were on the second measurement time (3rd week of the remote schooling). Overall, students had few technical problems, the mean values varying between 1.90 and 2.36, but interestingly, the problems grew towards the end. This may have been caused by examinations in the last weeks, which required more technical applications than the normal school days in Teams. Students used much more time in distance learning compared to in-person teaching, and from the qualitative data, we could see that some students were overloaded with the learning tasks. Students did not express very much need for support or help ($M = 1.71–1.80$). Even though most assessments were very positive, the question of how their own studies went received fairly low values. There was some improvement over time. This variable was the only one for which there were statistically significant differences between measurements ($F[3, 254] = 15.767$, $p = .000$). Even though there were no differences between measurement weeks, there were differences within teacher and student groups, for which Tables 4 and 5 give the standard deviations.

Table 4. Students' Perceptions at Different Weeks during the Distance School

Questions[a]	$M\ t_1$[b]	$M\ t_2$	$M\ t_3$	$M\ t_4$	$SD\ t_1$	$SD\ t_2$	$SD\ t_3$	$SD\ t_4$
1	3.63	3.96	3.78	3.59	.659	.597	.696	.771
2	1.90	2.04	2.05	2.36	.875	1.017	1.082	1.173
3	3.06	3.16	3.28	3.41	1.266	1.320	1.305	1.244
4	1.79	1.93	1.82	1.75	.963	1.033	.998	.992
5	1.71	1.98	1.80	1.80	.985	1.094	1.019	.962
6	2.04	2.00	2.35	2.41	.999	.886	1.178	1.137

Note. Scale: 5 (*excellent/very much*)–1 (*very little/not at all*).
[a] See Table 2 for questions.
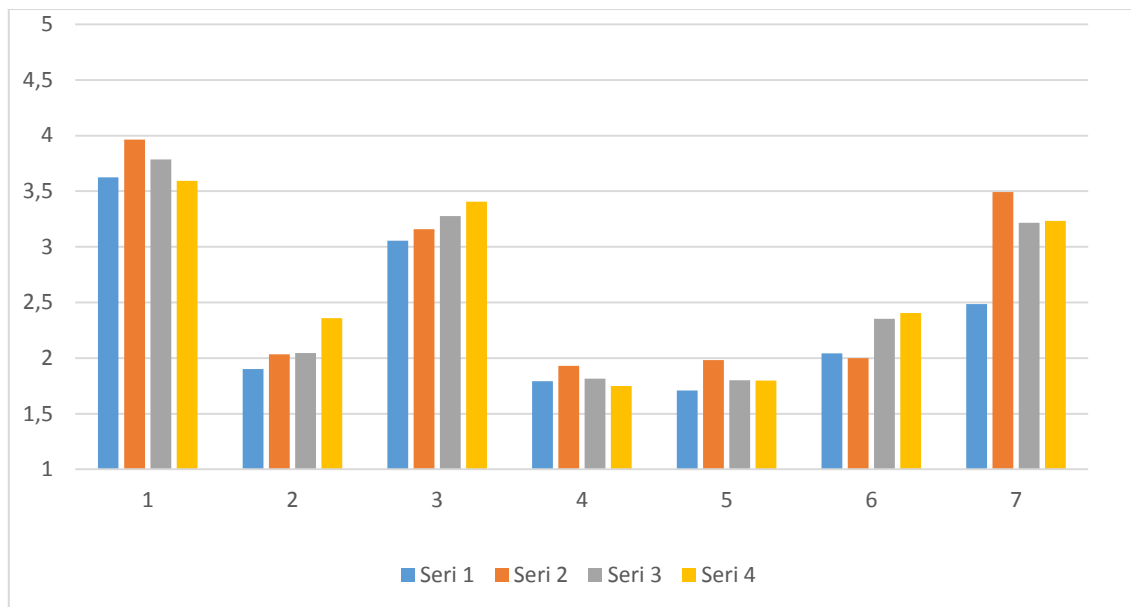[b] $T_{1,2,3,4}$ = survey the data collection times of the survey.

Figure 1. Students' Perceptions at Different Data Collection Weeks

Note. Series 1–4 = $T_{1,2,3,4}$ data collection times.
Variables 1-7 as in Table 2.

Qualitative Responses

Students' qualitative responses to the open-ended questions were analyzed and categorized into three themes:

1. General challenges or reasons not depending on myself.
   - Technological difficulties, teachers' actions and competences, other issues that caused difficulties.
2. Management of own learning.
3. Positive experiences.

General challenges. When analyzing the answers, we have to keep in mind that most overall ratings of the distance school implementation was very positive. Also, in only half the open-ended response were challenges dominant. This reflects the reality that even though students assessed that the distance school was implemented well, they still had perceptions that own studies did not go so well.

For the challenges, 60 descriptions were related to teachers, and 41 of these remarks claimed that teachers assigned too many tasks. The most significant individual problem was this excessive number of tasks, and there was no improvement until the end of the period in question. The problem was the same for students regardless of how well they rated the success of their studies. One student commented, *"*Why so many assignments / scripts / reports ???? I haven't been so tired in a long time." Another wrote, "Over the last two weeks, the workload has been quite high. On the worst day, you have to sit at your computer for up to 9-11 hours." Students who assessed that their studies did not go well claimed that they had high pressure and were overloaded with tasks and examination deadlines. One such student said that "teachers give more assignments in distance learning than in face-to-face teaching, and even though we are at home, we don't have that more time." One student wrote:

> It was really hard to keep up with things at times, and you will notice the increased number of tasks, especially in this faulty week before the examination week. Frankly, for some teachers, things got out of hand in terms of the amount of assignments.

Some comments related to teachers were connected to internet connections. Usually the problem was that the teacher could not use the application, the teacher's voice via microphone was too silent, or it echoed—not typically technology alone. Only very few comments were about technical issues, such as: "Sometimes the video image crashes but otherwise goes well" or difficulties with Teams: "This week the study went very differently, but the problem was joining Teams, so I could not get into a group of my own class."

Students rarely described only very little pedagogical methods in distance learning. They considered discussions as rewarding (3), but group work failed: "Group work is bad. Their implementation is very clumsy at a distance." However, pair assignments seemed to work well: "The best aspects were pair work" (2–3 mentions). The least rewarding situation was when teachers only went through study material at a general level.

Students' Self-management. Distance education required much effort and self-management from the students. This category had several subthemes:

- Motivation problems (requiring self-discipline).
- Difficulty concentrating (wandering thoughts and unfinished tasks).
- Fatigue (workload and constant staring at the screen) leading to a desire to give up.
- Learning difficulties, especially in math (languages were easier at a distance) leading to a higher threshold to ask help.
- Longing for interaction.
- Difficulty asking for help.

Students described that, in the beginning, they did not mind distance learning, but as it continued, it became very difficult. Distance learning required more self-discipline, and problems were more difficult to deal with without the presence of a teacher. Some students who thought that their studies had gone very well or excellently expressed that "distance learning does not, in my view, motivate students in the same way, and I am very afraid it will even affect the performance of some. The duration of the situation, of course, affects that!" Another high-performing student said, "The only good thing was that I was able to learn from the bed. The inconvenience caused by self-motivation and the workload is far too large. There was three times more to do than usual."

Students who expressed that they had difficulties in the quantitative questionnaire also missed other people, and one student wrote: "In-person teaching is better because there are social relationships, and it is easier to focus on work." Another student described how during that time "the work then became somewhat more stressful, and the low amount of social contact also causes other problems for studying." One student voiced an opinion shared by many other students: "I've been really tired and have no motivation for school."

Students' Positive Experiences. In the open responses, very few positive descriptions could be found. Most positives were related sleeping or having more flexibility, such as waking up later (6) and sleeping longer (4). Some positive experiences also came from the fact that some students felt it easier to participate in discussions online than in in-person classroom situations: "The discussion was the best. Talking at a distance does not cause so many problems compared to face-to-face teaching. So everyone is better focused independently."

Even though there were positive aspects, there also was a longing for friends: "I didn't need to have time for school trips, got to eat and drink coffee according to my own schedule (on the other hand, I missed the school food, and the café, and friends)."

A Summary of Students' Responses

The quantitative survey data draw a picture that distance teaching was implemented very successfully. However, students' open comments reveal that even though there were positive elements in distance learning, such as the possibility to study independently and it sometimes even being relaxing, it was often harder because it required more self-discipline. It also lacked social relationships, and some students had lost motivation. Students' descriptions gave evidence that the difficulties did not disappear over time but instead increased because of motivational aspects. On students commented, "I've been really tired and have no motivation to school. The best sides have had good weather, so I have been able to study outdoors." Another student summarized, "Distance learning sucks; in the beginning it was just okay, but when it goes on so it's really hard." Even though distance school was implemented successfully without dropouts or technical problems, students still preferred face-to-face teaching.

Teachers' Perceptions of Distance Schooling

The second research question was how teachers perceived the distance school time. We found here the same trend as the students (see Table 5) . From the teachers' viewpoint, distance learning went well, or even better. Mean values varied between 3.87 and 4.11 out of 5 at different times, and there was no statistical difference

between the four measurements. They did not have technical difficulties ($M = 1.67$–0.86). Teachers spent more time planning distance learning compared to c ($M = 3.11$–3.53). There was no statistical difference between four measurements, but standard deviations were bigger for this variable than in other questions, varying between 1.246 and 1.537. Some teachers took much more time in planning their courses than in normal face-to-face teaching. The need for more help in distance teaching varied between *a little* or *hardy at all* ($M = 1.22$–1.87). In ANOVA, there were no statistical differences between any measurement weeks for any variables.

Table 5. Teachers' Perceptions at Different Weeks during Distance School

Questions[a]	$M\ t_1$[b]	$M\ t_2$	$M\ t_3$	$M\ t_4$	$SD\ t_1$	$SD\ t_2$	$SD\ t_3$	$SD\ t_4$
1	3.87	4.11	3.93	4.00	.640	.601	.616	.817
2	1.87	1.67	1.86	1.77	.834	.866	1.027	1.013
3	3.53	3.16	3.11	3.15	1.246	1.537	1.424	1.405
4	1.93	1.67	1.57	1.69	1.033	1.118	.938	.855
5	1.87	2.11	1.86	1.92	1.060	1.452	1.231	1.256
6	1.87	1.22	1.64	1.77	.915	.441	1.008	1.167

Note. Scale: 5 (*excellent/very much*)–1 (*very little/hardly at all*).
[a] See Table 3 for questions.
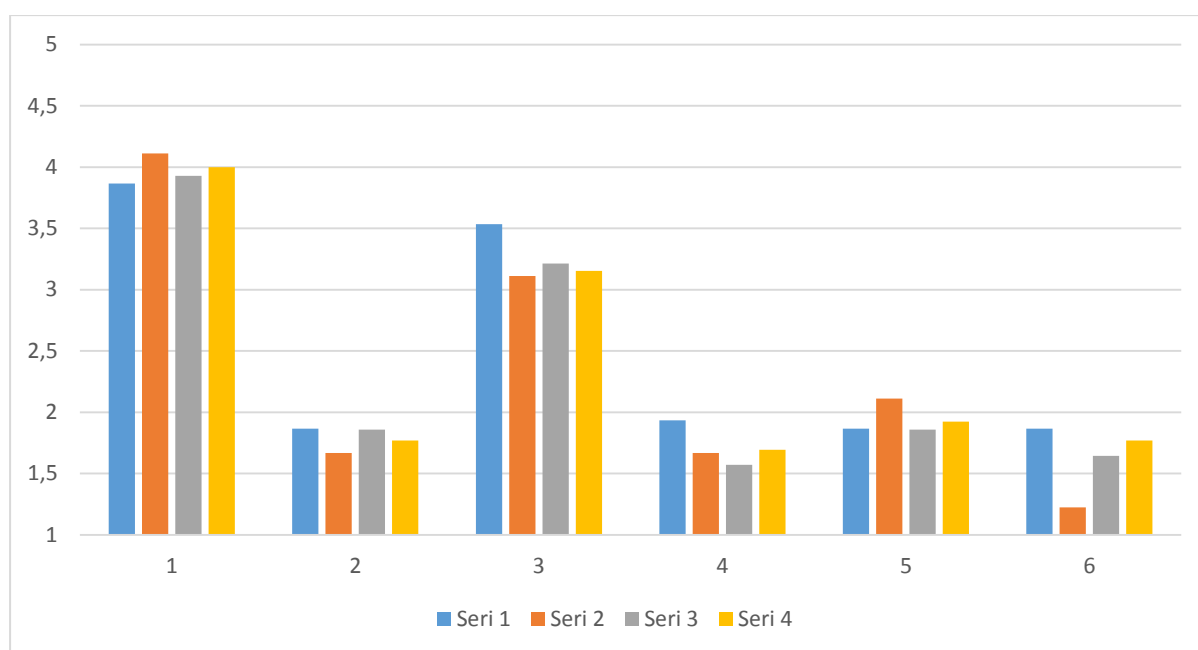[b] $T_{1,2,3,4}$ = survey data collection times.

Figure 2. Teachers' Perceptions at Different Data Collection Weeks

Note. Series 1–4 = $T_{1,2,3,4}$ data collection times.
Variables 1-6 as in Table 3.

Qualitative Analysis of Teachers' Responses

The following categories were found in the teachers' qualitative responses:
1. Interaction with students
2. Evaluation of learning
3. Workload of teachers and students
4. Students' motivation
5. Technology

In all these categories, teachers described both positive and negative experiences. The general tone was positive but at the same time worried and reflective. Teachers described that they had learned new methods to use technology but also expressed very clearly that distance learning and teaching lacked many valuable elements

that normal school life could provide. High school puts a strong performance stress on students because of matriculation examinations. Teachers felt that this demand, combined with the rapid change to distance education, increased the pressure to ensure that students succeed in their examinations. However, some teachers also saw an opportunity to create something new, like using simulations:

> The technology works, and new ways to be in direct contact with the student were also found. The start was smooth. It has been difficult to keep things in perspective. You find that you plan lessons too much in proportion to their usefulness and, on the other hand, have high stress to make sure that students get a meaningful number of assignments. Balancing is challenging because there is no earlier experience as support. (Teacher A)
>
> The best is quiet working conditions. Now I plan my own teaching in a completely different way than in in-person teaching. This in turn has greatly increased the use of different simulations. (Teacher B)

Interaction with Students. The strongest theme in teachers' responses was related to interaction with students. All teaching was synchronic, and teachers mainly used Teams, but in some cases also used other interactive digital tools or platforms. Teachers valued the flexibility that the distance teaching make possible, as one teacher describes: "The best aspects [of distance teaching] were fluency, active presence of students, communication with students regardless of the time of day." Teachers also described how rewarding it was to see that some students very active in discussions:

> Student participation (forced to comment in chat or live) I thought was more successful than in a regular lesson. Pros: In my own lessons, the technology worked pretty well and the students were well present. Teams are easy to take over. No inconvenience. (Teacher C)

Even though there were positive experiences, almost half of the teachers said that they had difficulties creating real interactive relationships with all students. They were worried that they did not always know if students were really participating because not students used a camera. Teachers would have liked to activate students to be more involved and felt that interaction was artificial, not real communication.

> The teacher drifts into a monologue. Keeps milking the answers from the students in order to make them participate in the discussion. It is good, but the downside can be a lack of spontaneity. You have to force students to take their turns if you want to have a conversation or interaction. (Teacher A)

A lack of normal interaction could be a very difficult experience, as one teacher described:

> At this moment, there's a feeling that there are students on the other side of the screen who have not learned anything during the entire course. They're like ghosts in the classroom: they don't follow instruction, listen to instructional videos, or do assignments. I guess the same situation would occur in in-person teaching, but then it would even be necessary to be physically in class all the time and thereby be exposed to interaction with the teacher. (Teacher D)

An interesting viewpoint came from one teacher's observation:

> The spontaneity is not easy in a structured learning platform, such as, e.g., Teams, even though it offers interactive opportunities for communication. A real classroom situation provides much more inspiring spontaneous moments. (Teacher E)

Some teachers described that, in normal school situations, they could push students who were in a danger to falling behind in their course work. In high schools, teachers had felt they had high responsibility for students' success in examinations, and it alarmed teachers when they saw that some students had difficulties.

Evaluation of Learning. Many teachers were worried about issues related to assessing learning and learning outcomes. The worries had different aspects. The first was: How reliable are students' performances when they are doing examinations and tests at home? Do they use materials, e.g., textbooks, when that is not allowed, and teachers cannot control it? One teacher wrote: "Can evaluation be relied upon? Has the book or dictionary been used as an aid?" The second worry was related to a formative assessment during learning process. Teachers could not follow the learning process in the same way as in an ordinary classroom, and a teacher describes: "There is no certainty about student learning." However, they also gave examples how Teams provided students with opportunities to share their documents with teachers and obtain help from a teacher. Teachers also remarked that they could not know how much students had learned. Some teachers emphasized that they needed new methods for assessments in distance learning.

Workload of Teachers and Students. Other categories were not so strongly or commonly expressed. Students spoke often of too heavy workloads, but very few teachers mentioned that the workload could be too heavy for students. Some teachers were worried that students did not work during the distance school hours and then had

excessive work for their examinations outside of class hours. There was a difference between students' and teachers' perceptions. When some teachers spoke about workload, they described how their own workload had increased:

> Some students are exhausted under the workload. Perhaps the biggest explanatory factor for this is a lack of self-discipline at the beginning of the course, while a large portion of the tasks accumulate in the last half of the period. (Teacher F)

> Implementing entire courses as distance learning is really laborious precisely in terms of producing course material. I have spent a lot of time going through a variety of online environments, studying, and giving instructions to students. In practice, the courses that started in the 5th period have to be redesigned almost completely compared to how they were implemented in-person teaching. (Teacher A)

Students' Motivation. Students' identified their main challenge as motivation, but only some teachers spoke about that as a challenge. From their perspective, students were hard working and motivated. Some teachers were even impressed at how much students worked:

> Students are more productive and clearly more responsible (not everyone, of course, but most students in my own group). (Teacher H)
> The students did great! (Teacher B)

Based on interviews with the principal and study counselor, students performed comparably to normal school time. Some teachers said that they had the impression that there was a sense of a joint effort: Teachers tried to their best and students respected that. Teachers and students had different perspectives about motivation. Students spoke more in terms of inner motivation and feelings. Teachers spoke more about outer motivation and looked at performances and tasks that were completed.

Technology. Teachers mainly used Teams, but also other digital tools, such simulations, DVDs, Classroom, Kahoot, Google Sheets, and, e.g., WhatsApp for organizing pair work during Teams sessions. The common experience was that, after short training in the first days, technology worked well. If there were, e.g., connection problems or other technological problems, they could be solved quickly and were not a real problem in a long run.

Summary of Teachers' Responses

To teachers, the distance school required a rapid transition to a new mode of teaching. The main challenge was interaction with students, and teachers missed the spontaneity that classroom teaching provided. Teachers quickly learned to use technological platforms, and technology was not a problem, but the quality of interaction through it was not satisfactory. Teachers were worried about how they could follow students' progress and be sure that they had really learned something. They expressed that they needed new kinds of evaluation methods. They could also see that students worked hard and could complete their assignments. Teachers did not recognize students' heavy workload and motivation problems in the way that students described. One teachers' assessment of the distance school excellently describes the common atmosphere among teachers:

> Both teachers and students will probably be happy if the return to everyday life comes in August :) The supervision of the exams will also be in order. For myself, the distance period was by no means traumatic, but contact with students seemed to suffer a bit. (Teacher A)

Differences among Students and Teachers

Student Profiles

The third research question focused on what kinds of differences existed among students and teachers. In the analysis, we could see that there were no statistically significant differences between measurement times. However, qualitative responses gave evidence that there were different perceptions among students and teachers. The cluster analysis gave the rough picture that, in each measurement week, there was a group of students that had more difficulties than others. In cluster analysis, two major groups can be identified for each time of measurement (see Table 6 and Figure 3, 4, 5, and 6). The groups could be labeled as (1) *independent learners* and (2) *more-support-needed learners*. Because of the anonymous responses, we cannot know if they were same students each time. ANOVA between clusters in each measurement times gave evidence that the founded two clusters differed significantly ($p = 000$) in all four measures.

However, the F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The biggest differences were in how much time students used in their learning tasks. In the beginning, students did not have real problems with technology, but later on the more-support-needed learners took more and more time for their assignments, had more technological challenges, and needed more support. They also saw that their learning was not working well. They saw that distance learning did not motivate and was not beneficial to them. This group was around one third of the student group.

Table 6. Cluster Centers of Students' Profiles in Different Measurement Weeks

Questions	$M\,t_1$		$M\,t_2$		$M\,t_3$		$M\,t_4$	
	C1	*C2*	*C1*	*C2*	*C1*	*C2*	*C1*	*C2*
1	3	4	4	4	4	3	4	3
2	2	2	2	2	1	3	2	3
3	4	2	4	2	3	4	3	4
4	1	2	1	3	2	1	2	1
5	1	2	2	3	2	1	2	1
6	3	1	2	1	2	3	2	4
7	3	2	3	3	4	2	4	2
N	39	33	42	15	40	26	43	21
%	54	45	74	26	61	39	77	33

Note. C1 and C2 are cluster centers.
Questions:
1. Distance teaching was implemented in my opinion…
2. I had technical problems in distance teaching (e.g., network connections) that took time to clear up.
3. In distance teaching, I spent more time studying independently compared to in-person teaching.
4. Distance teaching was more beneficial to me in terms of learning than in-person teaching.
5. Distance teaching motivates me more than in-person teaching
6. I would have needed more support for my distance learning,
7. My own studies at a distance went …
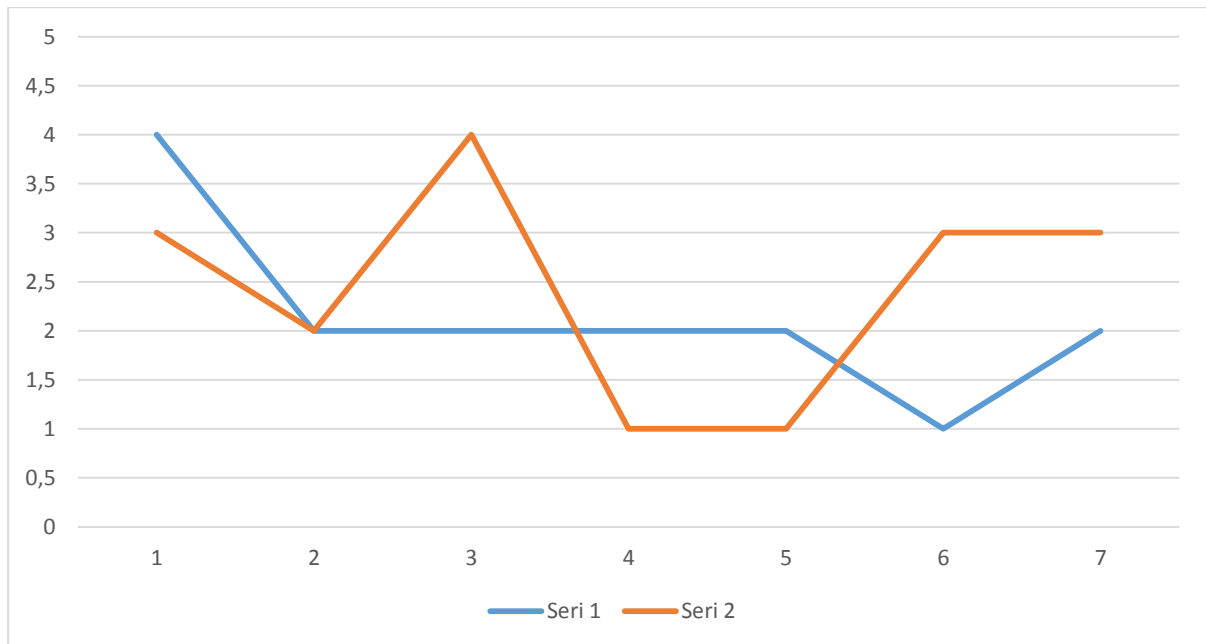Scale 5 (excellent/very much) – 1 (very little/hardly at all)

Figure 3. Students' Profiles in the 1st Measure

Note. *n* = 72.
See Table 6 for questions.
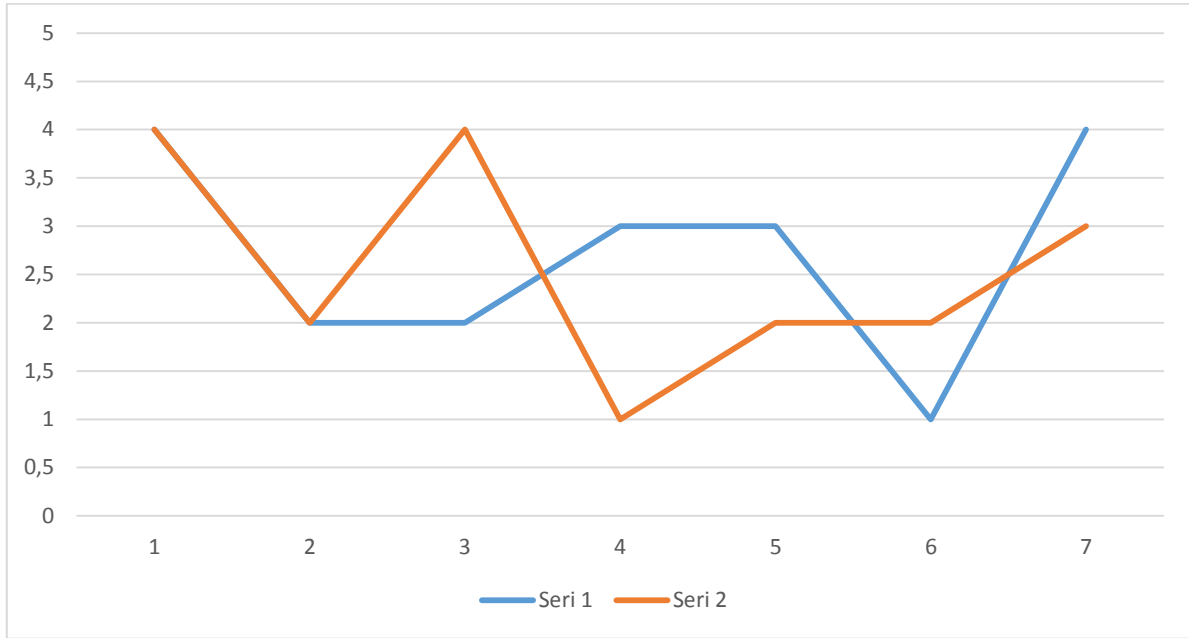Series 1: 54% *independent learners*, Series 2: 45% *more-support-needed learners*

Figure 4. Students' Profiles in the 2nd Measure

Note. *n* = 57.
See Table 6 for questions.
Series 1: 74% *independent learners*, Series 2: 26% *more-support-needed learners*
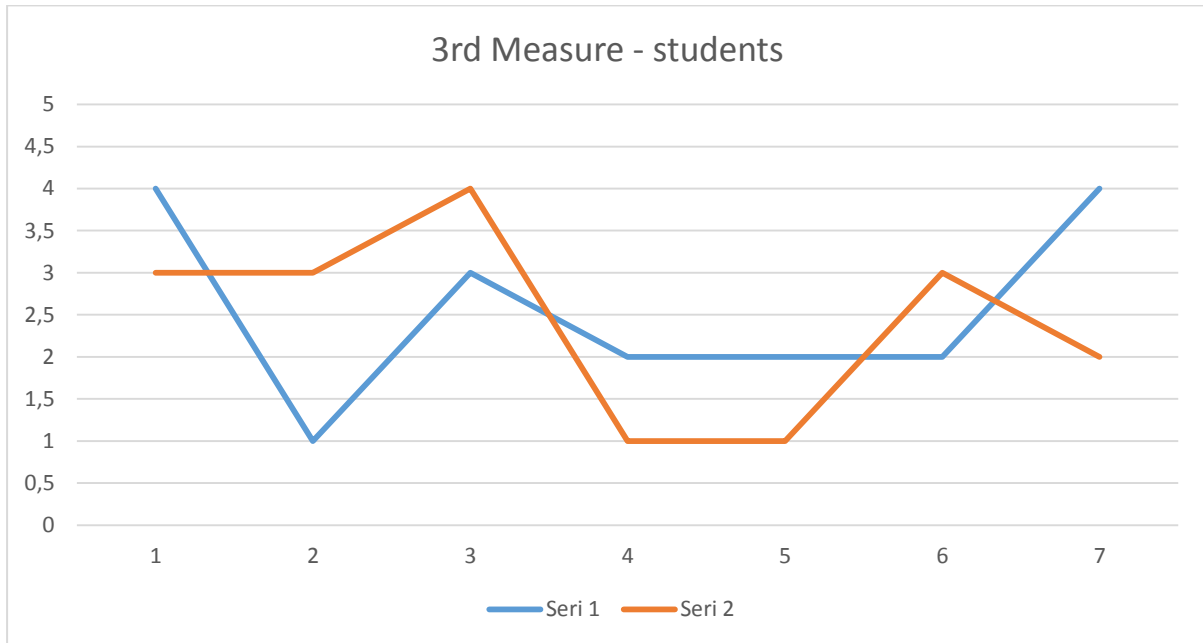

Figure 5. Students' Profiles in the 3rd Measure

Note. *n* = 66.
See Table 6 for questions.
Series 1: 61% *independent learners*, Series 2: 39% *more-support-needed learner*
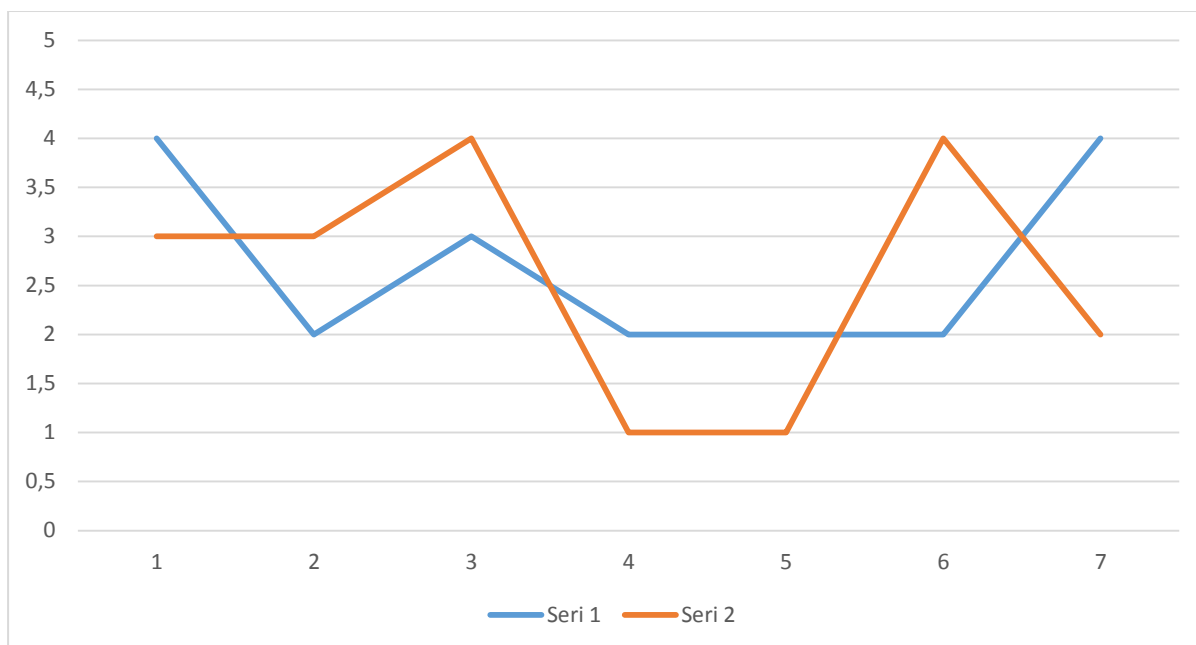
Figure 6. Students' Profiles in 4th Measure

Teacher Profiles

In the cluster analysis, the statement "I believe students learned more in my distance learning compared to in-person teaching" was omitted because some teachers commented in their open responses that it was very difficult to assess students' real learning. The number of teachers varied between 9 and 15 in the weekly measures. In the cluster analysis, we could find two different profiles. The number of teachers, particularly in the smaller group, was small, and there was a danger that these teachers could be easily identified.

The most important differentiating feature was how much time teachers used in planning. Differences also existed in how motivated teachers were about distance teaching and how much support they needed. Therefore, all week-based measurements were taken into that same cluster analysis. In four measurements, 51 teachers were profiled. The same teacher may be in a case several times in the same profile group or be in another profile depending on their responses.

The aim was to have an overview. The profiles in Figure 7 summarize what was found in week-based analyses. The two different profiles could be labeled as *experienced distance teachers*, who did not need much time for panning their teaching or much support. These kinds of teachers were less than half of all cases in the four measurements. The majority of cases could be labeled as *new distance teachers,* and they used a lot more time in planning and perceived that distance learning did not motivate them compared to in-person teaching. Even though there were differences among teachers, all cases still gave evidence that distance learning went well and that there were not many technical problems.
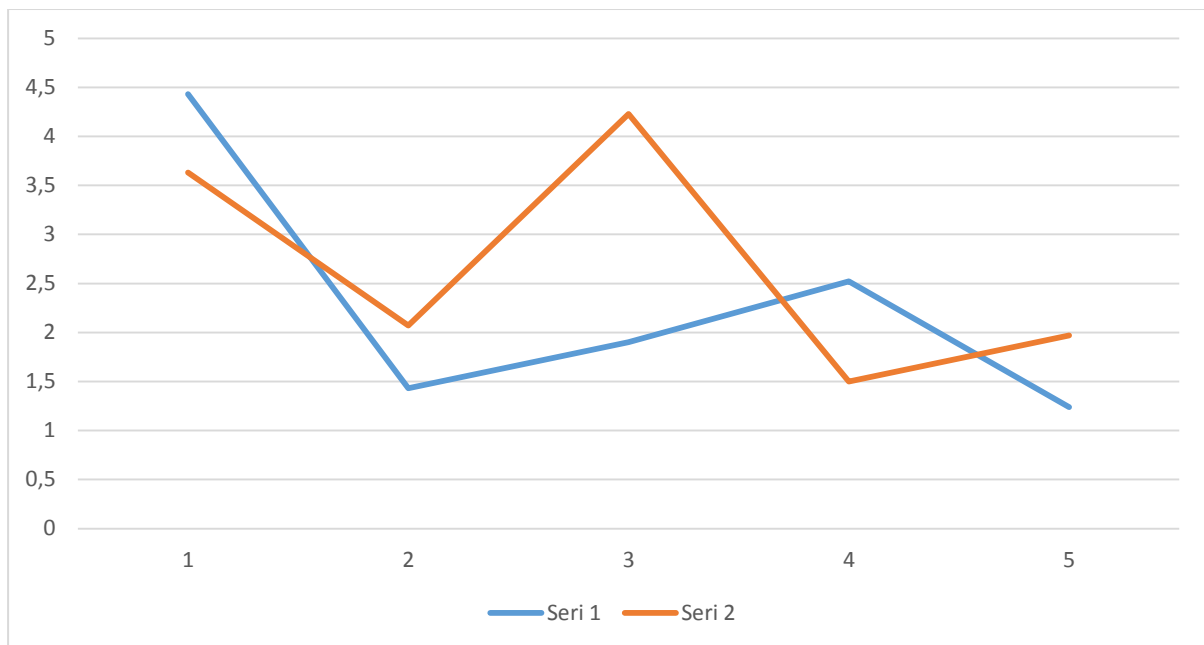
Figure 7. Teachers' Profiles in All Measurement Weeks

Note. Questions:
1. I thought distance teaching went …
2. I had connection problems so that teaching took time to solve technical problems.
3. I spent more time planning distance teaching compared to in-person teaching.
4. Distance teaching motivates me more compared to in-person teaching.
5.   I would have needed more support to implement distance learning.

Scale 5 (excellent/very much) – 1 (very little/hardly at all)
Series 1 cases = 21 (*experienced distance teachers)*; Series 2 cases = 30 (*new distance teachers).*

Discussion

Although experiences of distance learning were mainly positive, there are many things we can learn from. We will focus on four aspects that arose from the results: teachers' roles, students' motivation and self-management in learning, the role of the school as a community, and common equity issues.

Teachers' Roles

In this study, most teachers' perceptions about distance learning were positive, but there were also teachers who spent a lot of time planning their teaching. This confirms earlier studies that found that distance teaching requires more work and effort than in-person teaching (Stone & Springer, 2019). Teachers were also worried about how students would perform in their assignments and exams. Even if the teachers noticed that their students worked hard and completed their tasks, they were not sure if they really learned or if their learning outcomes were just copied from somewhere else. Most of all, only a few teachers recognized the workloads of students similarly to how students did. Some students complained that they were given too many assignments. On the other hand, some teachers spoke about how their own workload was increased as well. It can be assumed that teachers saw the workloads differently than students and were perhaps not aware of other teachers' assignments for the same students, so a holistic picture of students' workloads was missing. A more holistic picture about student workload could be accomplished, for example, by collaborative organization of studies (Stone & Springer, 2019). In teachers' open responses, concern about a lacking social relationships was evident. They would have liked to follow students' work more closely, but it was not easy. They recognized the need to support students, but in practice the situation was difficult. We can learn from earlier studies that investing in individual guidance and attention for students is important, and according to Stone and Springer (2019), a strong teacher presence and adequate course design are the most essential ways to prevent dropouts in distance learning. Students have also found regular and constructive feedback very important (Simons et al., 2019) and hoped that someone was present during distance learning to provide support when needed (Lee & Martin, 2017).

The support of the school community and parents increased the chances of students completing their courses as well (Simons et al., 2019). During the pandemic, those students who were supported by their parents in technical problems, for example, succeeded best (Iivari et al., 2020).

Students' Motivation and Self-management in Learning

Students' responses to the questionnaire gave evidence that distance teaching was implemented successfully. Many students were tired, and their motivation decreased during the distance learning period. Some of the students complained that the workload was too heavy and affected negatively on their motivation. Even students who thought their studying went well had problems with learning management and motivation. However, teachers thought that students were motivated and that distance learning went very well. When students spoke about their motivation, they meant inner motivation, and teachers talked about outer motivation and students' outcomes. According to Saykılı (2018), even high-achieving students with good motivation and self-regulating skills can find distance learning difficult, isolating, and discouraging. Previous studies have also confirmed that students need self-management skills in distance learning (e.g., Artino & Stephens, 2009), since self-regulation is a key to motivation and better achievement (Wolters, 2003). A flexible learning environment with different options for individual needs has been suggested (Daher & Shahbari, 2020) since it can increase the student's motivation, sense of independence, and self-regulating skills (Simons et al., 2019). Technological problems in distance learning also affected students' motivation (Ozkara & Cakir, 2018). In the beginning, our study's students did not have many problems with technology, but later on technological problems emerged in assignments and examinations. Alarmingly, up to one third of the students spent needed more help than they received. Even more difficult than the problems caused by technology was the lack of social relationships. Students missed both face-to-face teaching and friends. This confirms earlier studies that found that students tended to be more motivated if they could communicate face to face (Ozkara & Cakir, 2018). According to a recent study, secondary school students missed traditional courses because they found them more motivating, fun, understandable, and socially important (Pınar & Dönel, 2020). In this and previous studies, teachers agreed with students that active interaction is very important and cannot be replaced by distance learning (Foti, 2020). In this study, teachers missed the spontaneity of interaction that traditional teaching provides. They also claimed that the interaction was more forced and artificial.

The Role of the School as a Community

This study showed that, being a place for formal learning, the school has multiple functions in students' lives that fell under two themes, social relationships (keeping company with peers, chatting, playing, having lunch and coffee together, etc.) and collaborating (working together, sharing ideas support learning), that often have an impact on motivation to learn, sometimes indirectly. These all influence students' wellbeing and these elements are not present enough in distance schools. The school is a community where a direct contact with teachers makes it easier to ask help and support. Support from the community and parents increases students' ability to complete their courses as well (Simons et al., 2019). According to teachers, distance learning should be based on a school's strategy where everyone is equally committed and responsible for students (Stone & Springer, 2019).

Conclusions and Recommendations

This study is a case of one high school during the COVID-19 pandemic. Even though the overall picture is positive, we could find issues that are important also for the future crises. Although we cannot forecast when crisis time will occur, schools should be prepared for exceptional teaching arrangements as they prepare themselves and practice, e.g., for hurricanes or security threats. Readiness for online teaching and distance learning should be part of a school's strategy.

Teachers' Capacity for Online Teaching

Distance teaching and learning need other kinds of pedagogical and evaluation methods than face-to-face teaching. Students' holistic development and support needs are not as easily recognizable as they are in normal classes. Teachers need methods and tools to follow how students learn and what kind of support they need. Technology can provide more real-time teaching methods, but their use requires clarification on certain ethical

questions, especially who has the right to access this data. There is also a need for active communication between teachers and for opportunities to share experiences with colleagues.

Students' Capacity for Online Learning

Online learning requires advanced learning skills and motivational strategies. Motivation can be inner or outer, and usually both are needed. Inner motivation involves growing when learning is meaningful. Passing courses is important for outer motivation. Students also need life management skills—how they themselves organize their days, balance distance school and leisure time, and learn to maintain their own wellbeing.

Schools' Role as a Community in Distance Learning

Distance education means working very much alone. Both teachers and students need to find new ways to strengthen social relationships in distance education. Solutions could include official platforms for sharing experiences, unofficial virtual coffees for chatting, virtual gyms, and other social activities. A sense of belonging is very important when learning at a distance.

Needed Future Research to Avoid Inequalities

This study focused only on one school. More research is needed in other high schools to obtain a wider understanding of students' and teachers' pressures during distance education and its long-term consequences. Distance learning should already be taught during preservice teacher education, and support should be continued throughout teachers' careers. We need more research on which pedagogical models work best in exceptional times when social and emotional challenges emerge. Additionally, more attention should be paid to growing inequalities in distance schooling. There are also increasing needs to make technology as interactive as possible and to provide digital services and tools for distance learning that make learning and communication more authentic and meaningful. Important new tools are becoming available also through artificial intelligence, especially with learning analytics, and these applications need more research on how they can provide opportunities to improve students' learning and wellbeing.

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