



## Article

# Challenges and Positives Caused by Changing Roles during Emergency Remote Education in Estonia as Revealed by Facebook Messages

Marina Lepp \* and Piret Luik

Institute of Computer Science, University of Tartu, 51009 Tartu, Estonia; piret.luik@ut.ee

\* Correspondence: marina.lepp@ut.ee

**Abstract:** At the beginning of 2020, education worldwide, including in Estonia, was affected by the coronavirus pandemic, which necessitated the transfer of all levels of education to distance learning. Emergency remote education created both challenges and positives for different stakeholders, especially during the early part of this staggering situation. This study aims to describe the challenges and positives encountered by people in different roles, using data from the Facebook group ‘Homeschooling with technology’ from 6 March–26 April 2020. Members of the Facebook group were divided into eight role groups. A qualitative method study design was used and inductive thematic analysis of 130 messages posted by different roles was conducted. 72 messages were coded as expressing negative sentiments and describing various problems and challenges, which were then used to create a thematic map with seven main themes. Two themes (teachers’ unreadiness and problems related to technology) were reported by all stakeholder groups except members from government institutions, who did not post any messages about challenges. Seven main themes describing positives in the Facebook messages were identified using 58 messages coded as expressing positive sentiments. All role groups posted some messages about the positives but only the theme ‘Stress management’ was mentioned by all roles. Several themes (e.g., digital tools, teachers) included both negative and positive reports. The results help capture the effect of changing roles on challenges and positives experienced by different stakeholders during the implementation of emergency remote education, which can be used for future application of distance learning in education.

**Keywords:** challenges; positives; Facebook; COVID-19; inductive thematic analysis; remote education



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## 1. Introduction

At the beginning of 2020, education, among other aspects of society, was affected by the coronavirus pandemic which necessitated the transfer of all levels of education to distance learning. Courses offered online in response to a crisis differ from planned distance learning and can be better described as emergency remote education (Bozkurt et al. 2020). Emergency remote education was not an option but an obligation, and its implementation was not based on theoretical and practical knowledge, as is the case of distance learning (Bozkurt et al. 2020). This emergency remote teaching and learning was needed for surviving in a time of crisis but it created problems and challenges for all participants—students, parents, teachers, school principals, and government. However, this unexpected change in education revealed some positive eye-openers as well, which can be used in the future. Different roles at various levels of the education system experienced diverse difficulties and positives during the pandemic. It is essential to disseminate information about this staggering situation during emergency remote teaching and learning, ideally from different stakeholders’ standpoints (Huber and Helm 2020). There were some failures during the emergency remote education (Bozkurt et al. 2020); however, some good things were achieved as well (Bubb and Jones 2020). Further success is often a

result of learning from the past, so by examining and describing the first experiences with emergency remote education we can learn from this, take these lessons forward and not only be prepared for such situations but use the experience in 'ordinary' education in the future as well.

### *1.1. Challenges of Emergency Remote Education*

One of the challenges identified by teachers was associated with the gap in teachers' preparation and the lack of previous online teaching experience, resulting in the lack of technological and pedagogical skills needed for online teaching (Ferri et al. 2020; Ma et al. 2021; Putri et al. 2020; Trust and Whalen 2020). Teachers' workload increased as more time was needed to give feedback on students' work and to create e-content due to a lack of suitable e-resources (Kaden 2020; Putri et al. 2020). On the other hand, some teachers felt overwhelmed with all the online learning resources and tools available (Ferri et al. 2020; Trust and Whalen 2020). Further issues encountered by teachers included more intense and time-consuming communication with parents, longer screen time and higher internet bills (Putri et al. 2020). Teachers were worried about vulnerable pupils and their families and admitted that distance learning should be carefully designed and individualized to not deepen inequality and social divides (Kaden 2020; Kim and Asbury 2020). Additionally, the time management skills and the self-regulation of students troubled teachers (Scull et al. 2020). Teachers were stressed by uncertainty, unclear or shifting educational or governmental directives and other new stressors (Kim and Asbury 2020; MacIntyre et al. 2020; Trust and Whalen 2020). The prioritization of personal needs (e.g., elder care, parenting, homeschooling) was another anxiety and teachers struggled with finding ways to work and teach from home (Johnson et al. 2020; Trust and Whalen 2020). Teachers faced some restrictions in the choices of teaching methods normally applicable in a regular face-to-face class and were concerned about less coverage of curriculum content due to lowering the expected volume of work for students (Johnson et al. 2020; Putri et al. 2020). Teachers experienced a lack of social and cognitive presence and a shortage of human interaction between teachers and students (Ferri et al. 2020).

Parents were worried about children's learning and a lack of learning discipline at home during emergency remote education. One of the difficulties for parents was assisting their children's learning at home; parents spent more time on that and also felt that their own technological and pedagogical skills and knowledge were not sufficient to support their child's learning (Koskela et al. 2020; Putri et al. 2020). Further, parents noticed that several teachers lacked basic technological skills, which challenged remote teaching (Koskela et al. 2020). Parents were also troubled about technology, including unreliability of Internet connections and lack of necessary electronic devices (Ferri et al. 2020; Demir and Gologlu Demir 2021). Parents were concerned about the well-being of their children and excessive use of information and communications technology (Koskela et al. 2020; Demir and Gologlu Demir 2021). Management of daily life with the lack of a peaceful place for work and study for every family member and management of the schedules and needs of every member was another worry for parents (Koskela et al. 2020).

The challenges related to students were connected to limited interaction and socializing among students, which may heighten the risk of feeling isolated (Ferri et al. 2020; Putri et al. 2020; Scull et al. 2020). In addition, when staying at home students can feel stressed, anxious, bored and unproductive, and this can negatively affect their ability to concentrate on schoolwork and lower external motivation to engage in learning activities (Di Pietro et al. 2020; Scull et al. 2020). Emergency remote learning for students was disturbed by the lack of physical spaces at home to study, lack of necessary equipment and adequate broadband connection, lack of digital skills and lack of support from parents who frequently worked remotely in the same spaces (Di Pietro et al. 2020; Ferri et al. 2020; Trust and Whalen 2020). On the other hand, having parents that had to go to work during this time, some students had to assume the role of parents in caring for younger children by, for example, assisting

them with homeschooling (Scull et al. 2020). Emergency remote learning was a bigger challenge for students with special education needs (Putri et al. 2020).

During emergency remote education, school leaders were faced with the task of providing emotional and moral leadership under extraordinary circumstances and handling crisis situations beyond any existing scope of their role (Bubb and Jones 2020; Beauchamp et al. 2021). Principals were challenged to advise, guide and support parents, staff, pupils, governors and a range of external agencies, and deal with their anxiety (Ahlström et al. 2020). They had to make decisions even when they were uncertain and had limited information and solutions were in any case unclear (Bubb and Jones 2020; Ahlström et al. 2020). One of principals' day-to-day challenges was communication with the government where poor or confused messaging increased their workload (Beauchamp et al. 2021).

### *1.2. Positives of Emergency Remote Education*

Teachers noted the importance of strong relationships with trusted colleagues who provided emotional support and opportunities for venting to each other as they navigated shared stressors and, hence, reduced the perceived degree of stress (Kim and Asbury 2020; Huber and Helm 2020). Teachers received support during the pandemic also from social media, e.g., professional Facebook groups, forums (Bozkurt et al. 2020; Luik and Lepp 2020). In addition, teachers appreciated virtual meetings with principals which helped them maintain a sense of cohesiveness, and they had a positive perception of the provision of the resources and the training they needed for remote education (Brelsford et al. 2020). Regardless of previous online teaching experience, teachers kept positive attitudes and reported becoming better at using digital tools and using new teaching methods while moving teaching to online platforms (Bergdahl and Nouri 2021; Gudmundsdottir and Hathaway 2020; Johnson et al. 2020). Teachers asked students for feedback and took students' opinions on the ways of teaching into account more than before (Lepp et al. 2021). Moreover, teachers were able to give more useful feedback than usual and devote more attention to pupils as some parts of their workload (e.g., time spent on class management and travelling to work) decreased (Bubb and Jones 2020). Changes in time management during the emergency situation allowed teachers to be more creative and create relevant tasks (Bubb and Jones 2020; Kim and Asbury 2020). Teachers were surprised to discover better student contact, higher attendance in online classes and the emergence of at-risk students who stood out while working from home (Bergdahl and Nouri 2021; Kim and Asbury 2020).

Parents were positive about teachers' efforts during emergency remote education, especially in keeping contact with students and in giving creative tasks (Bubb and Jones 2020). Parental involvement and role increased during homeschooling and parents gained more knowledge about their children's learning, skills and characteristics (Bubb and Jones 2020; Koskela et al. 2020; Demir and Gologlu Demir 2021). Parents were grateful to their children for taking responsibility for their studies and being very motivated in emergency remote learning, as well as for resources outside the family, e.g., considerate employers and family and support networks (Koskela et al. 2020).

Students agreed that homeschooling facilitated more creative learning than before and they appreciated creative tasks (Bubb and Jones 2020). In addition, students stated that they received useful feedback in each subject that helped them more than usual and they felt teachers had more time for feedback (Bubb and Jones 2020). For some children, remote studying appeared to be even easier than face-to-face learning (Koskela et al. 2020). Students reported that they had more choices in their ways of working and ordering assignments and were positive about a fairer share of teacher attention they gained (Bubb and Jones 2020). Further, students felt that they had become better at using digital tools during emergency remote education (Bubb and Jones 2020).

School leaders felt positive about the efficient use of time during the emergency situation as they held meetings and training online and there was no time spent travelling (Bubb and Jones 2020). Principals maintained a sense of humour and spread positiv-

ity while sustaining their staff's well-being and providing opportunities for collegiality (Hauseman et al. 2020). They were overwhelmingly positive about their future plans, they felt motivated to make lasting changes to continue to improve feedback to students and keep parents better informed (Bubb and Jones 2020).

### 1.3. Research Aim and Questions

Facebook groups are used for support to deal with challenging situations (Bozkurt et al. 2020). In Estonia, the open Facebook group 'Homeschooling with technology' (URL <https://www.facebook.com/groups/278900333094971/> accessed on 20 August 2020) was created by three members of the Estonian Union of Educational Technologists on March 6. It was the day when the first school in Estonia moved to distance learning. This group became the largest Facebook group in Estonia with more than 8000 members supporting both schools and homes (Luik and Lepp 2020).

It has been found that data from different social media groups can capture information and emotions in relation to social changes (Rainey et al. 2016). This data can provide helpful lessons for the future. Therefore, using the data from the Facebook group 'Homeschooling with technology' from March 6 to April 26, the aim of this study was to describe the challenges and positives experienced by different members and to learn from this for future education. In previous studies only problems and positives related to a particular group of stakeholders have been mapped, for example, negative and positive experiences of teachers (e.g., Bergdahl and Nouri 2021; Kaden 2020; Kim and Asbury 2020) or problems of parents (e.g., Koskela et al. 2020). In our study we explore challenges and positives of all stakeholder groups involved in remote education within one country. Two research questions were posed:

1. What were the problems, expressed by various stakeholders in Facebook messages during this period, that need to be addressed in the future?
2. What were the positives for the different stakeholders, as presented in the Facebook messages during this period, that can be taken forward?

## 2. Materials and Methods

### 2.1. Data Collection and the Sample

There were 872 messages that were posted between March 6 and April 26 in the Facebook group 'Homeschooling with technology'. As a preliminary step, all these messages were coded by two independent researchers according to the sentiments expressed (agreement between the coders Cohens' kappa was 80%). A message was coded as expressing a negative statement if it included words with a negative connotation, such as 'problem', 'bad', 'failed', etc. Positive statements included words 'good', 'succeeded', 'satisfied', etc., while neutrally worded messages were coded as neutral statements (Luik and Lepp 2021). There were 72 messages coded as expressing negative and 58 messages coded as expressing positive sentiments. All these messages were in Estonian.

From all members, 348 posted at least one message in the group. The sample of the study consisted of 94 members who posted at least one message expressing negative or positive sentiments in this Facebook group. Among these, 23 (24.5%) were males and 71 (74.5%) were females. One member made posts under his/her organization's Facebook account. Using Google search and Facebook data, each member was assigned one of eight possible roles: teacher, principal, educational technologist, teacher educator, parent, supporter (people who work in institutions providing learning materials or tools for education), government (members from ministry and its subsidiaries) and others (among them were members whose role could not be identified). To protect the privacy of participants, all messages were saved for further analysis only with the role and without member names. Activity of different roles is presented in Table 1.

**Table 1.** Description of the sample and number of messages by different roles selected for study.

	Number of Members with This Role	Number of Males (%)	Number of Organizations (%)	Number of Messages with Negative Statements	Number of Messages with Positive Statements	Total Number of Messages
Teacher	32	7 (21.9)		29	15	44
Parent	15	5 (33.3)		13	4	17
Educational technologist	12	3 (25.0)		9	17	26
Other	10	2 (20.0)		10	3	13
Supporter	10	3 (30.0)	1 (10.0)	4	9	13
Teacher educator	8	2 (25.0)		4	5	9
Principal	4	1 (25.0)		3	1	4
Government	3	0 (0.0)		0	4	4
Total	94	23 (24.5)		72	58	130

The shortest message with a negative statement consisted of five words and the longest of 1735 words. In total, the file containing the 72 messages with negative statements included 10,482 words. The messages with negative statements also included two screenshots, which had been added to illustrate that one learning tool has server problems. In the case of messages with positive statements, the shortest one consisted of two words (it also contained a video) and the longest of 263 words. The file containing the 58 messages with positive statements included 3158 words. The messages with positive statements contained five pictures (cartoons, photos of situations) and 11 videos.

## 2.2. Data Analysis

For coding the content of these 130 messages, inductive thematic analysis was used to explain in detail the qualitative data. The analysis process followed the steps suggested by Braun and Clarke (2006, p. 87). The first step, familiarization with the data, started with reading the messages, taking preliminary notes, and determining the sentiments of messages to identify messages with negative and positive statements. Using QCamap (<https://www.qcamap.org/> accessed on 15 March 2021) application, the initial codes identifying semantic contents were generated. A thematic unit was selected from the text as part of the text conveying the whole idea and capturing important information in relation to the particular research question. The initial coding was conducted by one author twice. The time gap between the first and the second coding was three months and there were no significant differences in coding. For problem messages, 82 initial codes were created and for positives, the number of initial codes was 39.

These codes were reviewed, collated and the number of codes for problem messages was reduced to 78 and for positives to 36. For example, units with the codes 'a mother takes part in the lesson' and 'family participates in the lessons' were merged in rereading. As next step, the codes with a similar meaning were grouped to build hierarchies and search for recurrent themes. The theme-building was conducted independently by two authors to ensure consistency of the interpretations. In case of differences in theme-building, a consensus was reached after negotiations. Next, the themes were organized in mind maps suggested by Braun and Clarke (2006) according to the roles of the authors. In this process, all these themes were reviewed and refined, and the final thematic map was developed.

## 3. Results and Discussion

### 3.1. Problems of Various Stakeholders

All role groups, except members from government institutions, posted at least some messages that were coded as negative (Figure 1).



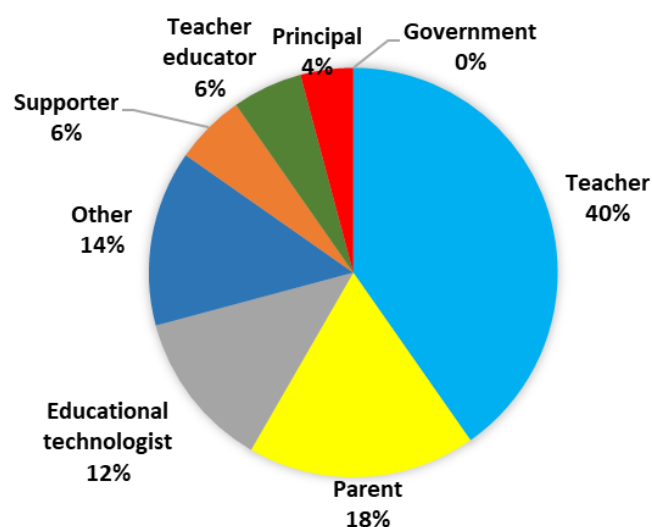
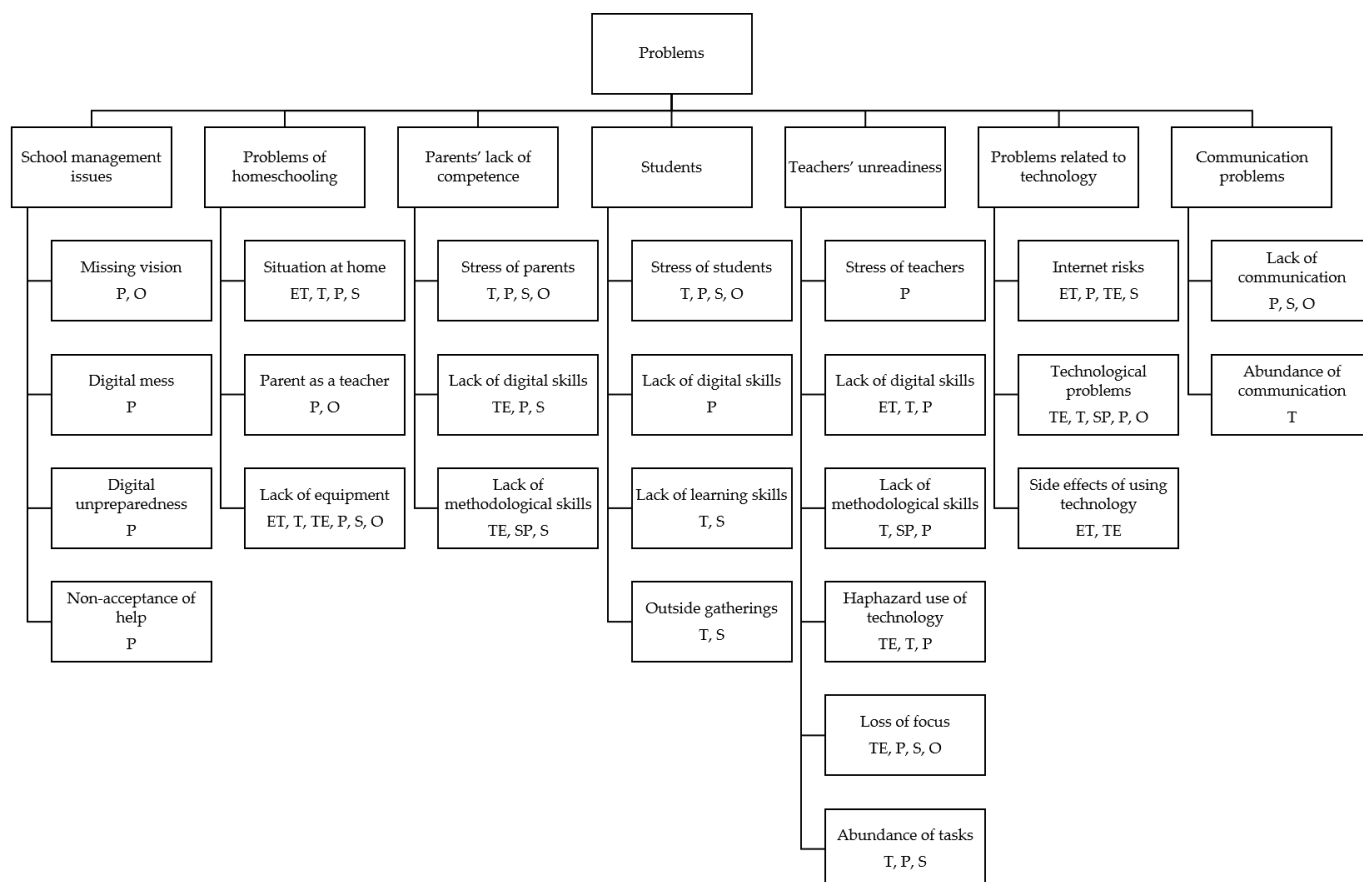


Figure 1. Distribution of messages expressing negative sentiments ( $n = 72$ ) by roles.

Using qualitative thematic analysis, seven main themes emerged describing the problems identified in the Facebook messages (Figure 2). Some themes did not appear at all in the messages from some of the roles. Out of the seven main themes describing problems in Facebook messages, only two were found in each stakeholder group: teachers' unreadiness and problems related to technology.



Note. T - teacher, P - parent, ET - educational technologist, O - members with other roles, S - supporter, TE - teacher educator, SP - principal.

Figure 2. Themes and subthemes of problems.

### 3.1.1. Teachers' Unreadiness

It was interesting that parents, teacher educators and teachers themselves noticed that **digital skills** of teachers are not as high as would be needed for distance learning. Even more, parents, teachers and principals wrote that there is a **lack of required methodological skills**. It was written that teachers do not understand the differences between direct teaching and remote teaching and therefore the information and guidelines are not sufficient, and tasks are not appropriate. Teachers agreed that the situation was new for them and they were learning, too.

*Both teachers and students learn how to cope. As you are sitting in front of your screen, you need to guess what the other person might feel or do while looking at their screen.*  
(Teacher)

Similarly in several previous studies, challenges related to teachers' unpreparedness as a lack of digital and methodological skills needed for remote teaching were reported by teachers (Ferri et al. 2020; Putri et al. 2020; Trust and Whalen 2020) and parents (Koskela et al. 2020). However, a previous study among Estonian teachers indicated that our teachers have sufficient digital skills (Lepp et al. 2021). On the contrary, our study results indicate that a lack of skills among teachers was noticed not only by teachers and parents but also by educational technologists and principals. These stakeholders work together with teachers, making them more likely to be aware of this problem, too.

Lack of skills, both digital and methodological, necessary for remote teaching could cause the other problems mentioned under this theme: that teachers use technology in a **haphazard manner**, employ different tools without understanding what these tools allow to do, give **too many tasks** and **lose focus**, prioritizing mostly assessment.

*We have some teachers looking for different platforms, while others suggest a whole variety of all kinds of solutions. Perhaps teachers could provide a more specific description of what they want. Describe how they would like to conduct the lessons, what should be the outcome, and how the process should be organized. It is likely that there is no one-size-fits-all solution, and several tools need to be used simultaneously. But in order to choose these tools it is first important to understand how they would be used.* (Parent)

Some parents accused teachers of lacking understanding, giving too much homework and do not taking into account the situation at home. Members with other roles complained that teachers are not interested in the situation at home and do not help parents to manage homeschooling. Some teachers admonished others not to give too much homework to students, because it increases the workload of parents, too.

*Come on, dear teachers! Do not assign a week's worth of tasks for one day. You cannot plan the same volume of activities for homeschooling as you would for school, while retaining the previous volume of homework. This is my request! And on top of that, we Zoom, we Skype and ... go crazy with technology. Let us keep some flexibility in assessment and create a reasonable workload, which would be manageable for a child that is working independently.* (Teacher)

These three subthemes (haphazard use of technology, loss of focus and abundance of tasks) were novel findings compared with previous studies. However, these subthemes were not noticed in the messages by educational technologists and principals. It might be that educational technologists and principals, who both belong on the school management team, were trying to be more supportive of teachers as was found previously (Luik and Lepp 2021) instead of criticizing their choices.

It was interesting that only parents wrote in their messages that, besides parents and students, **teachers are stressed** as well. Surprisingly, this was not mentioned by any teacher, educational technologist, or principal, whereas in previous studies (Kim and Asbury 2020; Trust and Whalen 2020) teachers have complained about being stressed. These results might be due to the data collection method—perhaps teachers and other school staff did

not want to write about teachers' stress and increased workload in an open Facebook group.

### 3.1.2. Problems Related to Technology

As distance learning depends on technology, issues about technical problems, internet risks and side effects of using technology were covered in the Facebook group messages by all stakeholders. Teachers, parents, teacher educators, principals and members with other roles wrote about the **technical problems** they faced and these were quite variable. In some cases, the platform or learning management system was overloaded and did not work. In other cases, there were problems related to creating accounts or logging. Additionally, teachers reported about cases when they did not get data from the learning platform or could not share materials properly with students.

*Well, at least in my case, eSchool is not cooperating and I get constant errors. I have spent an hour without being able to write a message to students or open the teachers' chat, and I even struggled with an error trying to view a lesson description. (Teacher)*

**Internet risks** were mentioned in the messages by educational technologists, teacher educators, parents and supporters. For example, some parents observed that using certain digital tools might cause data leakage. It was interesting that teachers did not mention internet risks, as was reported by [Bozkurt et al. \(2020\)](#). The two first-mentioned role groups were also worried about **side effects of using technology**, such as screen fatigue.

*That is, any technology has some side effects that need to be taken into account. Zoom calls deplete people of energy. (Educational technologist)*

Excessive use of technology related to children's well-being was identified as an issue of concern for parents in the study by [Koskela et al. \(2020\)](#).

### 3.1.3. Problems of Homeschooling

All stakeholders, except principals, wrote about problems related to homeschooling. It was problematic for parents to do their own work while trying to support and motivate their children at the same time. They wrote that they do not have time for teaching their children. Teachers, educational technologists and supporters recognized the same problems.

Parents also complained that if the entire family is at home it is difficult to **organize homelife** in a way that enables all members have their own responsibilities and do their own work, as was found also previously by [Koskela et al. \(2020\)](#). Sometimes, what was needed was reorganizing of everybody's work and making timetables for everyone.

*Of course, he remembered nothing of the rule that you should not disturb your parents while they are working. And no other family member except me remembered the rule that in the morning we should allocate tasks: someone would be responsible for the family meal for the day, someone would clean the table and wash dishes or do laundry. ... By Monday evening, we were all quarrelling with each other and decided that the best idea is to start anew. (Parent)*

Some parents wrote that it is a problem when all family members work at home and there are several children who need their own quiet room for studying. Other parents still had to go to work or worked abroad and their children had to learn independently and also prepare lunch for themselves. In some cases, older children even needed to take care for their younger siblings. The same issues have been reported in previous studies by parents ([Koskela et al. 2020](#)) and also teachers have been worried about vulnerable students and their families ([Kaden 2020](#); [Kim and Asbury 2020](#)). In our study, educational technologists, teachers and supporters also wrote about this problem in the group.

*Often, life makes its own corrections, and it came as a terrible surprise that sometimes an 8th grader needs to watch her younger siblings for the entire working day until parents come home. If the mother is a nurse and the father works abroad, then the situation is*



*quite bad. The 8th grader is already too tired for learning when the mother finally comes home late in the evening. (Teacher)*

Parents and members with other roles wrote in their messages that it is hard to take **the role of a parent and a teacher** at the same time. Lack of learning discipline at home has been reported previously, too (Koskela et al. 2020; Putri et al. 2020). Our results indicate similarly that children do not accept parents as teachers and sometimes behave badly, hoping that the parent would give up teaching.

*Two hours of “Don’t you do anything, I will do it myself ... How can I do this, why don’t you teach me?”—very intense homeschooling with occasional door-slamming and accusations, “You don’t love me at all!”, but the work was completed in the end. (Parent)*

All stakeholders, except principals, wrote about problems related to **lack of equipment** at home. There might be several schoolchildren at home, but not enough technical equipment for each of them to conduct video lessons at the same time. If there is equipment, internet speed and connection limits can be a problem. Similarly, in the previous study parents (Ferri et al. 2020) and students (Di Pietro et al. 2020; Trust and Whalen 2020) have been worried about the lack of necessary electronic devices.

### 3.1.4. Parents’ Lack of Competence

The theme of homeschooling is related to the theme of parents’ insufficient competence, which is something that almost all stakeholders, except educational technologists, wrote about. Teacher educators, parents, principals and supporters wrote in their messages that the role of the teacher cannot be placed on the shoulders of parents, especially if the parent has **not enough skills**. Like in the previous study (Koskela et al. 2020; Putri et al. 2020) parents worried that they do not have enough technological and pedagogical skills for supporting children at home. Principals wrote about lack of methodological skills and concluded that, as a result of this, parents are not able to teach their children. It was interesting that parents wrote that they lack the skills to use different tools, which are needed, but they did not complain about not having the skills to support children in the subject. Teacher educators and supporters talked in their messages about the lack of both the methodological and digital skills. Surprisingly, teachers did not report that problem.

Parents themselves, but also teachers, supporters and members with other roles, observed **psychological problems** among parents: they can be stressed, some of them have lost their jobs, and some have financial difficulties. All these make it even more difficult for parents to support their children. While previous studies have mapped parents’ problems, the stress of parents has not been reported previously.

*Many parents and children are currently struggling and sometimes it is difficult for us to picture their situation: If a parent has lost their job and income; If a parent needs to go to work while also worrying about children at home; If a parent has a job with a high risk of infection; If a parent feels that they no longer have the skill or strength to teach and educate their child; and so on and so forth. Inevitably, we are all stressed. (Supporter)*

### 3.1.5. Student-Related Issues

Problems related to students were mentioned by parents, teachers, supporters, and members with other roles. All these groups wrote that students have become tired and **stressed**. Similarly, the results of previous studies (Di Pietro et al. 2020; Scull et al. 2020) have indicated the stress of students and also parents’ worry about the well-being of children (Koskela et al. 2020). The novel result was that supporters and teachers complained about students still not staying at home and **gathering in groups**. Students’ feeling of isolation has been found in previous studies (Ferri et al. 2020; Scull et al. 2020). In our study, supporters and members with other roles observed that students feel insecure and miss contact with peers and leisure activities, too.

*Children are also stressed but it manifests differently for them—through protest, introversion, inexplicable fears, mood swings, bursts of anger, bouts of crying, sleep disorders,*

*etc. They listen to the news and to parents' conversations, but they understand them in their own unique ways, which are often worse than we think. (Supporter)*

Interestingly, only parents wrote about students' **lack of digital skills**. According to parents, students can use traditional tools but they are not prepared for video conferencing, screen-casting and the other tools needed for remote learning and only parents are aware of that because they see how students struggle at home. Unfortunately, teachers lack such information and a previous study (Lepp et al. 2021) has also indicated that, in the opinion of teachers, Estonian students had good technological skills even in this pandemic situation.

*In spite of Generation Z's smart skills, they need extensive guidance when it comes to using learning platforms, even with tasks such as adding attachments to emails, not to mention file-formatting and so on. (Parent)*

Parents also wrote that if students do not cope in different platforms, it will also increase their stress. However, teachers and supporters were worried about students' **lack of learning skills**, that students are not able to learn independently, especially younger ones, and about students with learning disabilities. That remote learning poses a higher challenge for students with special education has been found also in a previous study (Putri et al. 2020).

### 3.1.6. Communication Issues

Like the theme about students, communication problems were mentioned by four stakeholder groups: teachers, parents, supporters, and members with other roles. However, their problems were a little different. Teachers complained that every student and parent wants to communicate individually, that they had to use so **many** tools (Skype, Messenger, school management portals, a video conferencing tool, etc.) to meet the needs of students and parents, and also that parents want to communicate outside of working hours.

*I get simultaneous messages through all the channels from multiple people—I have currently 5 unanswered questions on Skype—after online groups are set up, all groups will need messages about where and how to ask questions and what are the 'office hours' when questions can be answered, etc. (Teacher)*

Time-consuming communication as a problem for teachers was also reported by Putri et al. (2020). On the other hand, parents wrote that it is hard to communicate with teachers and students **need more** direct communication with teachers, which has not been reported previously. Most messages about communication issues came from members with other roles. They complained that teachers use too many channels for communication, that they are not interested in how parents are coping with homeschooling, and that there is not enough communication between the teachers and parents in general.

*Ask questions and listen! At this difficult time, ANY additional support is vital for families! It is essential to try to calm people on a phone or a Skype voice call! (Member with other role)*

In addition, members with other roles accused teachers of insufficient cooperation between teachers. They also wrote that parents do not ask children about how they feel and how they cope with this situation, either, and that teachers give too few group work assignments, thereby limiting the opportunities to communicate with peers. As such, members with other roles mentioned a lack of communication at all levels.

### 3.1.7. School Management Issues

Only two groups of stakeholders (parents and members with other roles) wrote about school management issues. Parents were worried about digital readiness of schools and wrote that schools are **not well prepared** for distance learning. Some parents commented that they do not accuse teachers, but school principals need to take a leading role in providing support for teachers and homes. As digital skills of teachers and students were not promoted enough before the distance learning period, schools have to organize

courses for teachers and students. Additionally, a **lack of vision** and absence of rules were mentioned by parents and members with other roles as problems of school management.

*For teachers to have the necessary qualifications for digital operations, using systems and teaching students to use these systems, it requires a harmonized vision and approach on the part of school management, and implementation of one specific kind of technology. (Parent)*

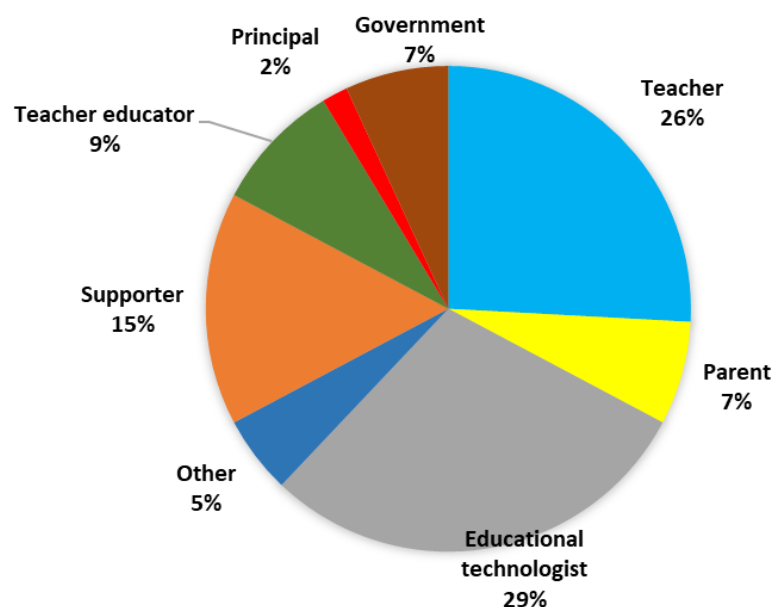
If the school has its own vision, rules and guidelines, it helps both homes and teachers. In addition, parents were worried that every teacher chose a preferred learning platform and tools on their own, which resulted in a lot of different tools being used in the same school. Excessive use of information and communications technology has also been mentioned previously by parents (Koskela et al. 2020). Our results indicate that this situation was even more troublesome if there was more than one child in a family and each child had to use different tools. Therefore, parents suggested that the choice of platforms and tools should be coordinated at school. The term '**digital mess**' was used by several parents.

*What happens when a teacher substitutes for another teacher who has fallen ill? ... Does the new teacher even have access to the platform and resources used by the previous teacher and skills to use that platform? This could result in a situation where students are asked to familiarize themselves with yet another platform where they have to upload their stuff. (Parent)*

Interestingly, parents also wrote that school **does not accept help** from parents who have good IT knowledge and could willingly help school and teachers. As parents mostly accused principals for not solving these problems, members with other roles also looked at teachers.

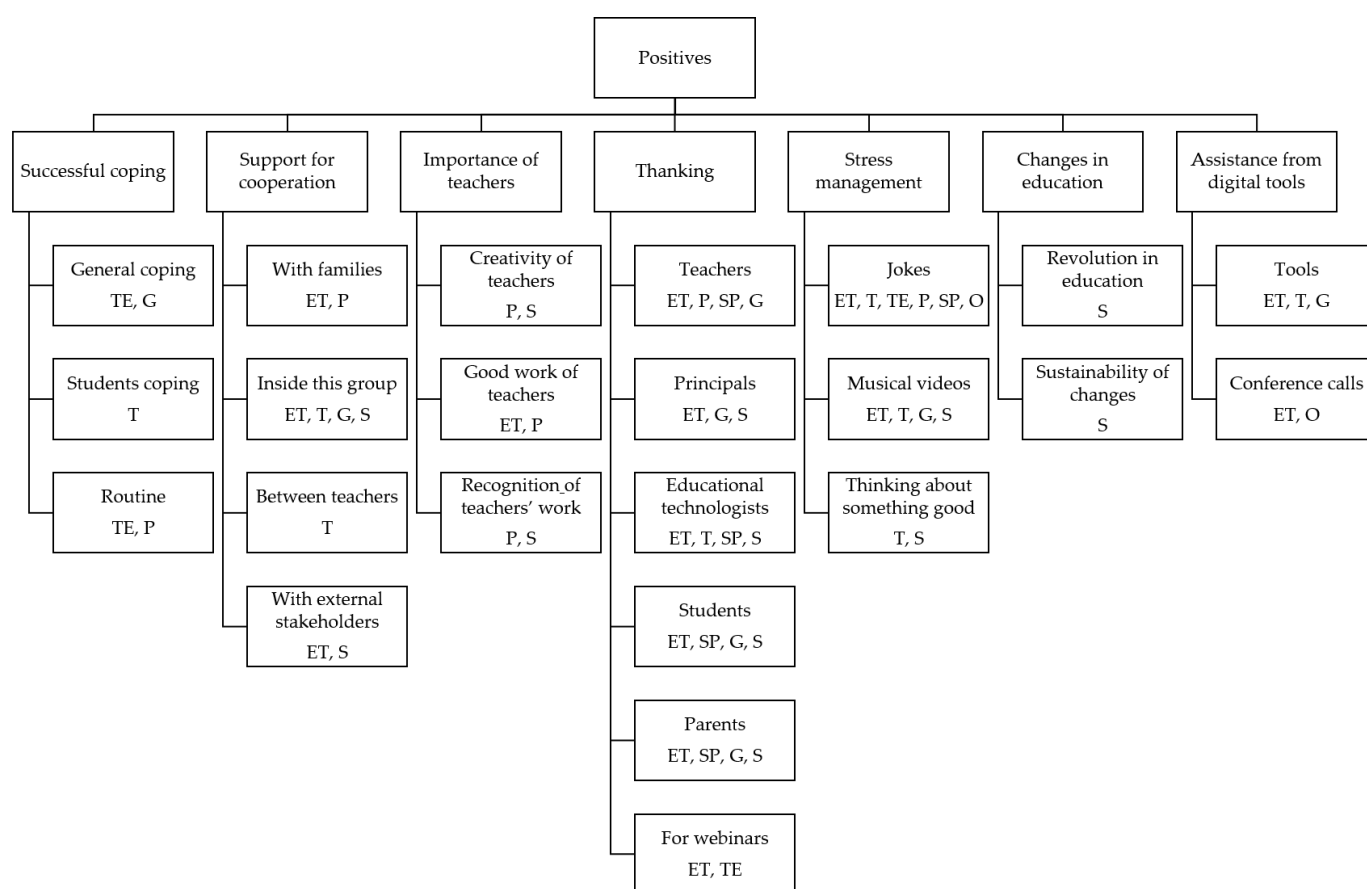
### 3.2. Positives of Various Stakeholders

All role groups posted some messages, which were coded as positive (Figure 3).



**Figure 3.** Distribution of messages expressing positive sentiments ( $n = 58$ ) by roles.

Seven main themes describing positives in the Facebook messages were identified (Figure 4). As in the case of problems, there was uneven distribution of themes between role groups. Stress management was the only theme that was represented by at least one message from each group of stakeholders.



Note. T - teacher, P - parent, ET - educational technologist, O - members with other roles, S - supporter, TE - teacher educator, SP - principal, G - members from governmental institutions.

Figure 4. Themes and subthemes of positives.

### 3.2.1. Stress Management

**Jokes**, including cartoons and videos, were shared by educational technologists, principals, teachers, teacher educators, parents and members with other roles. The observed period also included the April Fools' Day, and several stakeholders took the opportunity to share some jokes, many of which were related to the coronavirus situation or to distance learning.

*The results of a recent study reveal that the novel coronavirus can also be transmitted through fixed-line broadband connections. The users of mobile broadband need not worry, but they are advised to keep a distance of at least 100 meters from any cell towers. (Educational technologists)*

Students and teachers together with principals created **musical videos** for different audiences. For example, teachers from one school wrote a poem and presented it in a video intended for parents. A school orchestra posted a musical video for all domestic heroes. Teachers and supporters also wrote messages advising others to **think about something good**. For example, to choose their own mood animal or to play something. Emotional support from colleagues is appreciated by teachers according to the previous studies, too (Kim and Asbury 2020; Huber and Helm 2020).

### 3.2.2. Thanking

It was delightful to see that all role groups, except members with other roles, did not forget to thank the others. Educational technologists thanked all counterparts—**teachers, principals, parents, students** and other educational technologists and they expressed their gratitude for webinars, too. Members from governmental institutions also appreciated the

work of teachers, principals, educational technologists, students and parents. Principals said nice words to teachers, educational technologists, students and parents.

*Fortunately, we have a lovely team of people at our school, willing to do interesting things. Many thanks to them, on this side of the front line! It is good to be in your company! And thank you also to the other side, children and parents, who have held out bravely and have done a lot for their children! (Principal)*

Parents were grateful to teachers, while supporters thanked principals, educational technologists and parents. However, it was interesting that teachers mainly thanked only **educational technologists**, and teacher educators expressed thanks only for **webinars**. As a previous study (Brelsford et al. 2020) has indicated that teachers appreciate the provision of resources and training they need for remote education, this might also be the reason why our teachers thanked educational technologists, as they received help from them (Luik and Lepp 2021).

### 3.2.3. Assistance from Digital Tools

Positive messages expressing success due to using some digital **tools** or **web-conference calls** were written by educational technologists, teachers, members from governmental institutions and members with other roles, which was a fresh finding.

*In my opinion, Google Meet is working well and students really want to communicate. Thus, video calls are a mighty weapon:) (Educational technologist)*

### 3.2.4. Successful Coping

This theme emerged in messages by teachers, teacher educators, parents and members from governmental institutions. However, they wrote about this theme from different perspectives. Teacher educators and members from governmental institutions wrote about **general coping** and encouraged all stakeholders, saying that we will muddle through.

*This unprecedented situation for all of us has probably tested the strength and adaptability of teachers, students, parents, and principals alike. While there have certainly been many unexpected situations and big challenges in this past week, it is also a comprehensive proof that we are capable of handling it. (Member from governmental institution)*

Teacher educators and parents wrote that a **routine** has emerged, and it has helped them cope with this situation. Teachers shared messages about how their students successfully deal with distance learning. **Coping of students** has been reported previously as a discussion topic among teachers (Bergdahl and Nouri 2021; Kim and Asbury 2020) and parents (Koskela et al. 2020). However, it was interesting that educational technologists and principals did not write about coping.

*It is nice to see students doing excellent work! Instead of a test, I gave them the assignment to compile a concept map on invertebrate animals, showing their groups and characteristics. Some of the submissions I received were much more detailed than I had expected! (Teacher)*

### 3.2.5. Support for Cooperation

Cooperation as a support mechanism for various stakeholders was highlighted in messages by several role groups. Educational technologists and parents wrote about caring and supportive cooperation between schools and **families**. As with previous studies (Bubb and Jones 2020; Koskela et al. 2020) where increased parental involvement has been reported, our study revealed that parents were pleased that remote teaching gives them an opportunity to learn with their children. The participation of family members in lessons was also recognized by educational technologists.

*We are lucky to have such a school with supportive teachers, and prompt and calm communication. Our class teacher encouraged parents to share their experiences and provide feedback. (Parent)*



Teachers stated in their messages that cooperation **between teachers** and sharing of helpful materials, tips and guidelines is a positive. Educational technologists and supporters also appreciated cooperation **with external stakeholders**; for instance, many companies were offering free tools or creating materials for schools.

*It is now 40+ Nordic educational technology companies that have joined the Estonian initiative of providing their remote learning solutions free of charge at least until the end of the school year. There are some very cool tools, from mathematics to musical education, as well as for creation of study resources based on augmented reality. (Supporter)*

Effective cooperation **inside this Facebook group** was mentioned in messages by educational technologists, teachers, members from governmental institutions and supporters, which was similar to previous studies (Bozkurt et al. 2020; Luik and Lepp 2020). Educational technologists also constantly emphasized that open communication, which is free of charge, and consideration for others should be good practices for this group.

### 3.2.6. Importance of Teachers

Even though many of the messages that mentioned problems and had a negative tonality were related to teachers and their work, several members of this group also recognized the difficulty and importance of teachers' work and the high professional level of our teachers. Nevertheless, it was interesting that principals and members from governmental institutions did not write about this theme.

Educational technologists and parents wrote about **how well our teachers do their work**. The same has been reported previously in connection with parents (Bubb and Jones 2020). They wrote positive messages commending teachers for taking into account the individuality of every student and for really working hard. Parents and supporters shared tasks given by teachers and emphasized the **creativity of our teachers** in giving tasks, which are challenging and interesting for students. Creative tasks are appreciated according to a previous study as well (Bubb and Jones 2020).

*I would like to share with you the cool homework that my primary school child was given in physical education. He has to perform two tasks: spend at least one hour outdoors every day and write down what activities he does during this time, and then there is the step hunt in which he has to walk from his house to a specific object, write down the number of steps and afterwards add up these numbers. An excellent example of integrated learning. (Parent)*

A novel result was that parents and supporters also wrote about **recognising teachers' work** and finally understanding how difficult the work of a teacher is, now that they have to be part-time teachers themselves.

*But the most important lesson for us all is that the role of teachers in our lives is much more significant than we thought. 'When this crisis is over, the attitude towards teachers will hopefully have changed, and people will have learned to appreciate them,' my husband said optimistically. (Parent)*

### 3.2.7. Changes in Education

Interestingly, positive messages about this situation having a beneficial and **sustainable effect** on education even beyond the crisis were written only by supporters; it is something that has not been reported previously. They noticed that this crisis forced the teachers who had been reluctant to use digital tools to use these tools and to develop their own digital skills and named this a **revolution in education**. In addition, they wrote that all parties can now recognize the kinds of activities that can be effective in remote learning. Supporters expressed hope that this will be sustainable, too.

*Thank you to all teachers, students, and also parents who, during this time, have adopted solutions offered by Estonian companies in the field of education! They are all very*

*suitable for continued use in the future, even after we return to normal (school) life.*  
(Supporter)

#### 4. Conclusions

This study contributes to a better understanding of challenges and positives experienced by different stakeholders at the beginning of the coronavirus situation, which can be helpful in the future. Several problems reported by different stakeholders occurred due to the unexpected change, for which the educational system was not prepared. For example, there were no regulations on how to manage distance learning; teachers and students lacked the required skills, which may have caused further problems related to technology and communication. Homes and parents were not prepared. However, the observed Facebook group proved to be very helpful, providing emotional support and also spreading best practices. It is worth mentioning that, even during the short time period of the study, messages about successful coping emerged and this situation was described as a revolution in education, indicating that quick lessons were learned for conducting distance learning in the future.

Teachers' unreadiness was reported by all stakeholders, except members from government institutions who did not post any messages coded as negative. At the same time, educational technologists, parents and supporters valued the work of teachers and emphasized their important role, indicating that the same aspect can sometimes be seen both as negative and positive. Based on these findings, it is essential for researchers not to focus only on problems of remote education as has been done in several previous studies (e.g., [Ferri et al. 2020](#); [Putri et al. 2020](#)), but to cover the positive aspects as well.

Some lessons learned could be highlighted from our study. Our results indicate that the digital competencies of students and teachers need to be developed, and the same is true also for parents. Together with supporting parents' methodological skills, it would be good to elaborate some portal for parents, with instructions for mainly used digital tools and some methodological tips for homeschooling. Guidelines for managing distance learning with rules and regulations in schools are needed, which helps all counterparts. From positive aspects, we would like to stress the school's cooperation with different organizations. This period indicated that schools and homes have many supporters who could provide effective learning materials, which might reduce teachers' workload. In addition, we hope that this period changed teachers' minds and they continue to take advantage of digital tools and continue collaboration and give creative tasks for students.

One of the limitations of this study is the qualitative nature of the data and the fact that the data is based on one Facebook group, which does not allow generalization. The second limitation is that the data was collected within a short period of time and at the beginning of the emergency situation. The sentiments and content of the later posted messages could be different. In further research, it would be important to develop scales corresponding to the identified themes and also to use quantitative analysis methods. As students were not included in the sample of this study, students' opinions could be used as another valuable source information to understand the problems and positives of remote learning.

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