frontiers in Education

BRIEF RESEARCH REPORT
published: 09 July 2020
doi: 10.3389/feduc.2020.00103

Mandatory Home Education During the COVID-19 Lockdown in the Czech Republic: A Rapid Survey of 1st-9th Graders' Parents

Cyril Brom[1]*, *Jirí Lukavský*[2], *David Greger*[3], *Tereza Hannemann*[1], *Jana Straková*[3] and *Roman Švaříček*[4]

[1] Faculty of Mathematics and Physics, Charles University, Prague, Czechia, [2] Institute of Psychology, Czech Academy of Sciences, Prague, Czechia, [3] Faculty of Education, Charles University, Prague, Czechia, [4] Department of Educational Sciences, Faculty of Arts, Masaryk University, Brno, Czechia

Schools have been closed in many countries due to the on-going COVID-19 pandemic, but education continues online. Little is known about how parents cope with educating their children in this unprecedented situation. Here, we present the results of a rapid survey examining the experience of Czech parents of children in Grades 1–9 (Age ∼ 6–15; $N = 9{,}810$) with respect to home education during the COVID-19 lockdown. This survey was distributed widely, but only online and parents participated voluntarily. Mainly families with an internet connection and interested in their children's education (i.e., the majority of families with school-aged children in the Czech Republic) took part in the survey. The results show that these families tend to cope well with the current educational situation and view the overall schoolwork transferred to homes as useful. Most children spend 2–4 h a day studying, while parents help them at least half the time. Parents mostly explain task instructions, check the work their children have done, and teach new topics. To a lesser extent, they help their children solve tasks. Teachers appear to assign tasks more often than they provide feedback and/or interact with children. Some parents face difficulties, but those are generally not severe. These include, most notably, a lack of time, issues with technologies, and inadequate teaching skills and content knowledge. Altogether, this work maps the current educational situation in a large segment of Czech families and highlights possible pitfalls to be avoided: in the Czech Republic and beyond.

Keywords: COVID-19, education, primary, secondary, distance education, online education, home education, parental survey

OPEN ACCESS

Edited by:
Tom Crick,
Swansea University, United Kingdom

Reviewed by:
Janet Goodall,
Swansea University, United Kingdom
Gina M. Riley,
Hunter College (CUNY), United States

***Correspondence:**
Cyril Brom
brom@ksvi.mff.cuni.cz

Specialty section:
This article was submitted to Digital Education, a section of the journal Frontiers in Education

Received: *18 April 2020*
Accepted: *04 June 2020*
Published: *09 July 2020*

Citation:
Brom C, Lukavský J, Greger D, Hannemann T, Straková J and Švaříček R (2020) Mandatory Home Education During the COVID-19 Lockdown in the Czech Republic: A Rapid Survey of 1st-9th Graders' Parents. Front. Educ. 5:103. doi: 10.3389/feduc.2020.00103

INTRODUCTION

The COVID-19 pandemic has put severe restrictions on people's behavior worldwide (Hale et al., 2020). In-person attendance of schools has been banned in many countries (e.g., UNESCO, 2020). In the Czech Republic, an EU country of 10 million persons, this happened across the entire primary to tertiary education sector on 11 March 2020. Yet, the school year was not interrupted. Education of pupils and students has continued since then: at home and in cooperation with schools, primarily by means of electronic communication.

This unprecedented "exercise" in distance education placed a notable burden on all schoolchildren's parents in the country. Currently, a similar situation is happening throughout the world. On 9 April 2020, UNESCO (2020) estimated that 193 countries had implemented national school closures related to COVID-19, affecting 1.57 billion children and young people: roughly 91% of the global student population. The Czech Republic implemented nationwide school closures as of 11 March 2020; a time when only 22 countries in the world had implemented them (ibid). Although a recently published review (Viner et al., 2020) questions the effectiveness of nationwide school closures and suggests that less disruptive social distancing interventions in schools should be considered, currently schools remain closed globally. Some anecdotal reports in scientific journals on how schools are coping with the situation have been published (e.g., Dai and Lin, 2020; Xie and Yang, 2020). However, as far as we know, there is no scientific report on how parents are handling the present situation with respect to home education.

This paper reports the results of a rapid Czech survey targeting the following questions among the parents of children in grades 1–9 (primary and lower secondary, i.e., compulsory education, age ∼6–15).

1. How long do children study each day; how long do their parents help them each day?
2. Do they view the COVID-home education process as useful or pointless?
3. In what teaching-related activities are parents engaged?
4. Do parents feel they are in control of the situation? What works well for them? What would help them?

The survey was conducted online between 1–9 April 2020. Rather than having a representative sample, it aimed at reaching as large (and broad) an audience as possible in a swift way. This was possible because of collaboration with Czech Television: a Czech mainstream, public television service. It is important to keep in mind that the greatest bias in our sample was caused by voluntary participation in the survey and its electronic administration. Primarily, families interested in their children's education and who have internet connections took part in the research.

This report has three contributions. First, the data describes (with some limitations) the current educational environment in the Czech Republic. This description offers grounds for proposing evidence-based ways to improve the current situation. Second, it is a starting point for cross-country comparisons. Because the Czech Republic was one of the first countries to ban in-person school attendance (UNESCO, 2020), this starting point can actually be useful in that it highlights possible pitfalls and suggests improvements that could be made in other countries before more country-specific data is available. Third, despite the long existence of distance education (Harting and Erthal, 2005), and its many online variants and growing popularity (see e.g., Means et al., 2013; Kennedy and Ferdig, 2018; Simonson et al., 2019), this educational method currently serves mainly as a supplement in the context of formal schooling. The current situation instigated during the COVID-19 pandemic can help scale up distance education techniques. However, one must first systematically map what is currently happening among various stakeholders in the educational process: including parents. This survey presents the initial step in creating such a systematic map.

METHOD

The Situation in the Czech Republic

The first COVID-19 case was detected in the Czech Republic on 1 March 2020 (Komenda et al., 2020). The government swiftly put in place, among others, the following measures (GOV, 2020):

- quarantines for Czech citizens returning from "locations with a high prevalence of COVID infections" beginning 7 March;
- a ban on public gatherings of >100 persons as of the evening of 10 March;
- full closure of primary and secondary school institutions for in-person attendance and partial closure of universities on 11 March and full closure of universities on 16 March;
- declared a state of emergency on 12 March;
- closed non-essential shops, bars etc. on 14 March;
- imposed a curfew as of 16 March (with the exception of work commuting, essential shopping, walks in parks and a few other activities);
- almost full closure of national borders for personal travel purposes as of 16 March;
- imposed an order to wear masks outside home, including for children >2 year old as of 19 March;
- ban on meetings of >2 people (except of family members/workers) in public places since as of 23 March.

Pre-school education was not restricted by the central government, but municipalities opted to begin closing kindergartens between 11–20 March.

The restrictions have been relatively well accepted by the Czech public (e.g., Ipsos, 2020; Kantar, 2020), but they have also created a certain degree of insecurity and concern among Czech residents (e.g., Ipsos, 2020). Most notably, they have jeopardized many jobs and have put some parents under considerable stress and on a path leading to financial crisis. For instance, some low income contract workers lost their jobs due to closed businesses.

Schools were supposed to start distance education. Implementation of this process was in the hands of schools and individual teachers. A small-scale representative survey (PAQ, 2020; N ∼ 400 1–9 Grader's parents), which focused on life in general during a pandemic, its economic impact and distance education, suggested that, in the second half of March, the process mostly included sending assignments several times a week: via email or a web learning platform. Less frequently, teachers used interactive forms of address: such as chats or calls. Meanwhile, Czech Television, NGOs and other institutions swiftly made new learning resources available online. For instance, Czech Television, in collaboration with the Ministry of Education, started daily broadcasts of model lessons for primary schools (for Grades 1–5) on 16 March. The Czech School Inspection carried out a survey by phone (CSI, 2020) to find out what form of distance education the school prefers, how it communicates with pupils and what obstacles it has to

overcome. It addressed 4,861 school principals from primary and secondary schools during the first half of April and found out that principals from about 75% of schools estimate that all, or almost all, of their pupils communicate with their teachers online. In about one-fifth of schools, ¾ of students are in touch with their teachers, and only in 2% of schools are only one-half of pupils in online contact with their teachers. A majority of teachers did not use electronic means of communication in their teaching before the COVID-19 school closures, and the new situation represents a big challenge for them (ibid).

Sample

Participants were recruited primarily via calls for participation on Czech Television's main webpage starting 1 April 2020. The next day, dissemination of the survey began via social networks: this among teacher- and parent-related groups. The survey was mentioned in mainstream online media on the evening of 5 April. A Facebook advertisement targeting parents with secondary education only was launched on the evening of 5 April. The survey was closed on 9 April at 1 p.m.

The advantage of this procedure was the large number of respondents; the disadvantage was the sample's limited representativeness. Information on children's home education as part of compulsory education (Grades 1–9) was provided by 9,810 respondents: 84% were mothers, 13% fathers, 2% grandparents and the rest were other relatives or family friends. Altogether, there are currently 978,980 children in Grades 1–9 in the Czech Republic (MoEYS, 2020). The composition of the sample in terms of settlement size generally corresponds to the parent population of school-aged children (adults aged 30–49)[1]. In the sample, respondents with university education are significantly overrepresented. In our sample, in 61.3% of families at least one parent attained tertiary education, while the estimated share of such families in the country with children taking part in compulsory education is 40%[2].

The greatest bias in our sample is caused by the voluntary participation in the survey and its electronic administration. It is safe to suppose that mainly families interested, at least to some extent, in their children's education and who have internet access and some experience with digital technologies took part in the survey, so the data speaks of these types of families' experiences. Most Czech children have access to information technologies in their homes[3]. There are, however, families that are not willing or able to assist their children in at-home education. NGOs working with disadvantaged families have provided anecdotal information on the difficulties of children in these families. School principals reported (CSI, 2020) that they are trying to reach those children via phone or through the contactless delivery of learning materials. There is currently no survey to describe the situation thoroughly. Unfortunately, the present research does not include these families either. It is hard to reach low income families via online survey. However, during the period of school closure and the national quarantine related to the COVID-19 pandemic, it was impossible to collect data by means of personal contact.

Materials and Procedures

To maximize the number of respondents, the survey was created such that it did not present too big a burden for parents in these complicated times. It was designed to be answerable within 5–8 minutes. It included only 21 questions (19 closed form; 2 open form) for answering the research questions described in its *Introduction* and for providing basic socio-demographic data. The numbers of possible answer-options were kept relatively low. This resulted in certain lack of detail, especially as concerns the description of families' socio-economic backgrounds and their current family structures. However, this is warranted due to the current situation and the necessity to provide swift insight into family situations.

The survey was administered online using Google forms. It is presented in full in **Supplement 1**. The survey was divided into three sections:

- (A) How much time do children and parents spend on education at home and how useful is schoolwork assigned to students; questions in this block were structured so as to allow for comparisons of the situation before and after school closure;
- (B) What activities parents do while helping children with their schoolwork. This section also included the two open format questions allowing parents to freely state what complicates study at home and, conversely, what would help them. Finally, parents were asked to evaluate how they felt they had handled home education with their child;
- (C) Socio-demographics: data on the child's gender and school grade, family composition, the parents' highest education level achieved, size of their municipality, and to what degree have measures put in place relating to the coronavirus impacted the respondents.

We wish to remark that

- Parents were instructed to focus on a single child attending a primary or a lower secondary school (Grades 1–9 in the Czech Republic). If they had multiple children, they were told to select one whose education they dealt with the most or about whose educational experience they wished to speak the most.
- Parents were to take into consideration only schoolwork (including homework assignments, online meetings, communication with teachers, etc.). They were not to factor in participation in clubs or other extracurricular activities.

[1]Census data for this age group shows that 38.4% of inhabitants reside in settlements with <5,000 inhabitants, 17.9% in settlements between 5,000 and 20,000 inhabitants, 20.9% in settlements between 20,000 and 100,000 inhabitants, and 22.9% in settlements with 100,000 inhabitants or more. The corresponding numbers for our sample are 33.9, 20.1, 16.6, and 29.4%.

[2]In the PISA survey (2018), the highest parental education levels were as follows: 21.4% ISCED3C, 42.5% ISCED3A/4, 36.2% ISCED5/6. PISA focuses on children at the end of their compulsory education (15-year-olds), while our target population is younger (ages 6–15). In recent years, the share of university graduates in the youngest age groups has been increasing. We therefore expect the share of university graduates to be slightly higher in the population of parents of children currently enrolled in compulsory education.

[3]According to PISA (2018), 89% of fifteen-year-old students have a desktop, a laptop or a tablet available in their homes. 98.9% of students have an internet connection (98% have a mobile phone with internet access).

- As concerns time spent on schoolwork, parents were to estimate the average number of hours per single school day. If their child studied over the weekend, they were instructed to include those hours in their counts for workdays.

Data Analysis

Quantitative data was analyzed in R 3.6.2 (R Core Team, 2019). We present data separately for families with at least one parent attaining tertiary education (versus other families); and we group grades into three bins: 1–2, 3–5, and 6–9. The reason is that we expect differences between these bins, since typically in Grades 1–2 children have one main teacher, in Grades 3–5 additional teachers are introduced especially for foreign language instruction, and several subject-specific teachers are introduced in Grades 6–9. Also curriculum demands and the number of school subjects grow considerably between Grades 2–3 and further between Grades 5–6. Finally, primary education involves Grades 1–5 in the Czech education system, and lower-secondary education involves Grades 6–9.

Altogether, 8,166 parents provided at least one answer to one of the two open questions. This paper summarizes those statements based on an analysis of frequently recurring topics.

Ethics

Data was collected without any personal information. Furthermore, adult participants were informed that only aggregated data would be presented; not the data of individual participants (even anonymized, raw data can aid in the identification of responses of individual participants). Because only aggregated data would be presented, no personal data was collected and, due to the urgency to provide feedback to schools and other stakeholders, ethical committee approval was waived.

RESULTS

Generally, in our sample, results do not depend much on parents' education levels. However, there are differences across children's grades, as further detailed below. A full data breakdown with respect to parental education and children's grades is given in Data[4].

How Long Do Children Study Each Day and How Long Do Their Parents Help Them?

The estimated time children spend on their home education differs among families (**Figure 1**). For 72% of the entire sample, they study between 2–4 h a day, and older children tend to study longer. 66% of parents spend at least half of this time helping their children (see **Supplementary Figure 2.1** for details).

Overall, parents think their children would need slightly more time to complete schoolwork ($M = 26.3$ min; $SD = 76.0$ min; **Supplementary Table 2.1**). This corresponds to the fact that 43% of parents think that the current amount of schoolwork is big, 45% think it is about right, and only 13% think it is small. The amount of work is more often perceived to be large among parents of older children (**Supplementary Figure 2.2**).

Do Parents View COVID Home Education to Be Useful or Not?

In general, parents view current home education to be useful: overall (**Figure 2 Left**) as well as in comparison to the usefulness of homework assignments before school closure (**Figure 2 Right**).

[4]https://osf.io/u7a2e/

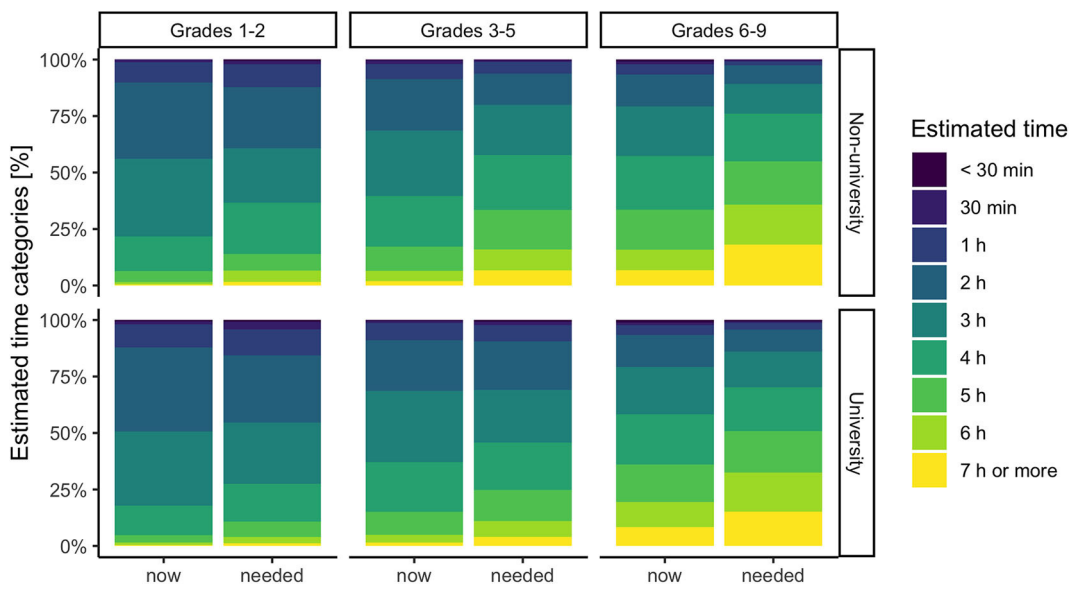

FIGURE 1 | The time children spend on their home learning *now* vs. the time they would have *needed* to complete schoolwork before: parental estimates (Q3 and Q5 from the survey). Breakdown based on the child's grade and the parents' highest level of education obtained.

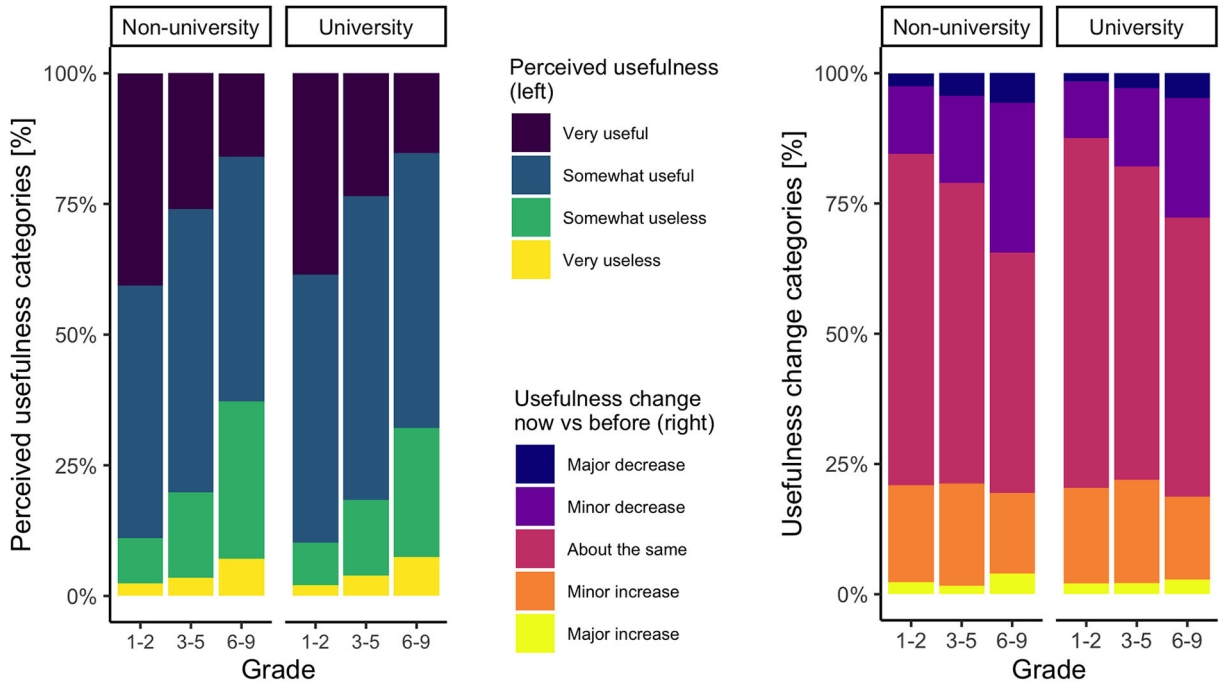

FIGURE 2 | The perception of usefulness of current schoolwork (Q9 and Q10 from the survey). **(Left)** Actual answers by parents. **(Right)** Change in perceived usefulness: homework before the COVID-19 lockdown vs. current schoolwork. Decrease means that the perceived usefulness is currently lower. Breakdown based on the child's grade and the parents' highest level education obtained.

In What Teaching-Related Activities Are Parents Engaged?

Parents appear to spend most of their time checking the quality of completed assignments. This activity is followed by explaining task instructions and teaching new topics. They help their children complete task assignments less frequently (**Figure 3**).

Do Parents Think They Are in Control of the Situation?

Overall, 91% of parents think they are more or less coping well with the home education situation (Points 1–3 on the scale "1 [very well]" – "5 [very poorly]"). The situation appears to be slightly worse for older children (**Figure 4**).

Based on answers to the open question "What complicates learning the most," there appear to be some recurring difficulties parents face. (1) Lack of devices: Some parents lack devices they could provide to their children for studying in the current situation. For example, because of parents' home office situations and lack of multiple computers, several family members (including children who are studying) need to use the same device at the same time (especially because some online sessions or TV programming are pre-scheduled). (2) Lack of time: Some parents tend to not have enough time to help with schoolwork while grandparents and/or family friends are not able to help due to the lockdown. (3) Lack of expertise: Some parents mention that they cannot replace teachers due to a lack of expertise: both as concerns content knowledge and didactics. For instance, parents mentioned repeatedly that they have difficulties motivating their child to study.

As concerns the question "What would help the most," parents frequently mentioned the following: (1) A smaller amount of assigned tasks: Focus only on key subjects would be welcomed. (2) Teacher presence: Some parents would like the teachers to have a more direct presence during home education. For instance, they would like teachers to lead online lessons more often, talk directly to the children, assign tasks to them, and explain task instructions rather than just send electronically task assignments. (3) Interactivity: Some parents wish that teachers would provide more feedback on work done. Points 2 and 3, together with quantitative data from section In What Teaching-related Activities Are Parents Engaged?, suggest that there are situations where teachers assign tasks, but as the next step, parents must explain instructions and check the quality of task completion. However, we also noticed opposing comments. For example, a few parents reported that they would welcome as much freedom (i.e., little interference from teachers) as possible in their home education.

DISCUSSION

We have presented the results of a large survey examining how Czech families cope with educating their children at home during COVID-related school closures. The results show that families are, more or less, coping well with the current

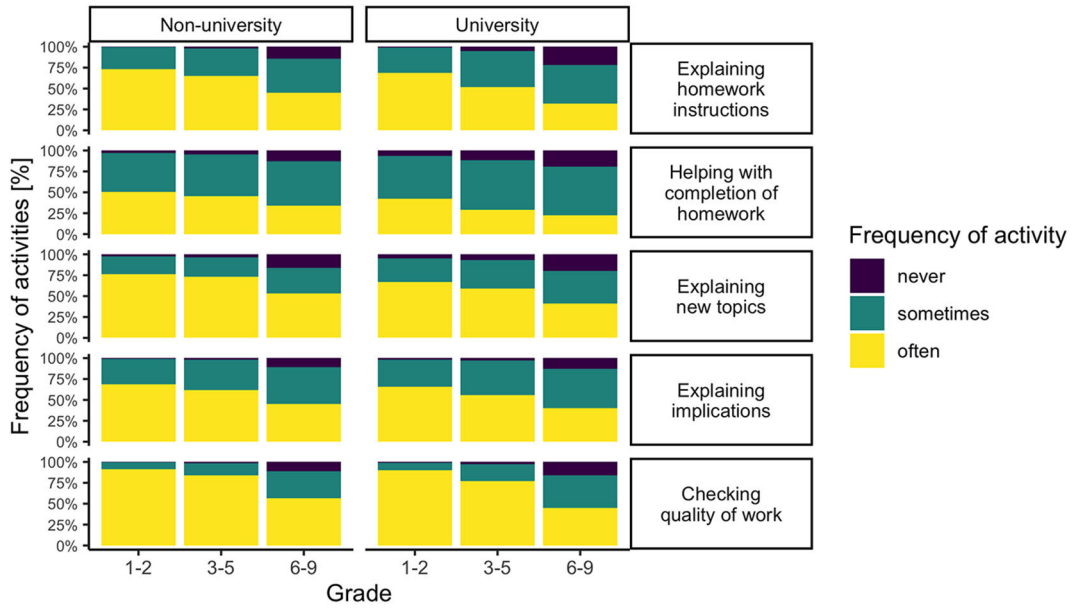

FIGURE 3 | Parental estimates of the frequency with which they work on five different educational activities: explaining homework instructions, helping with completion of homework, explaining new topics, explaining implications and other contexts, and checking the quality of the child's work and whether the answers are correct (Q11 from the survey). Breakdown based on the child's grade and the parents' highest level of education obtained.

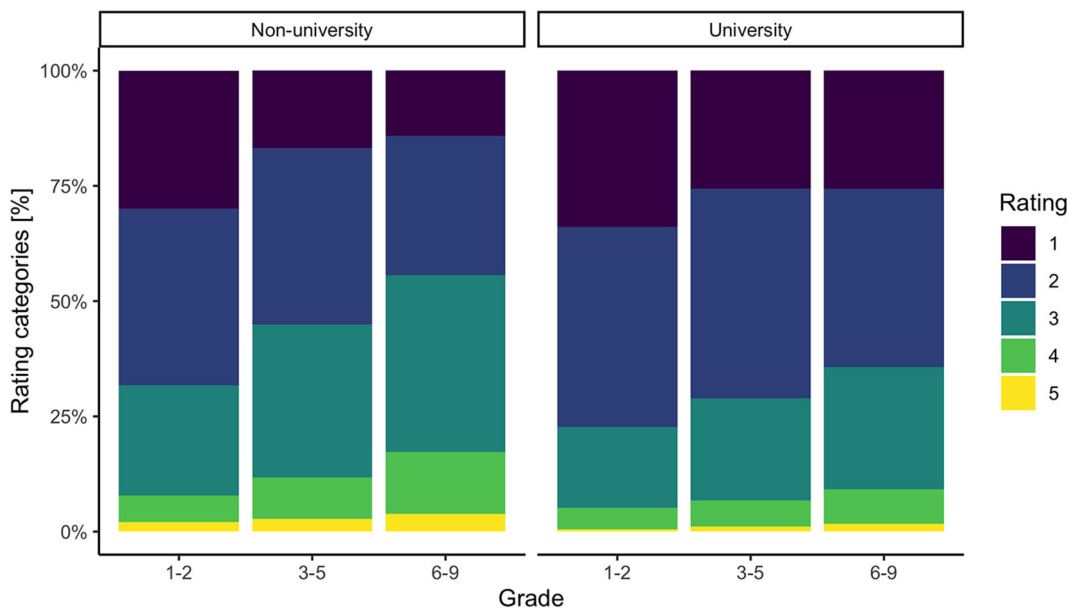

FIGURE 4 | Parental perception of how well the family is handling the home education situation (Q14 from the survey). The scale was as follows: 1—very well; 5—very poorly. Breakdown based on the child's grade and the parents' highest level education obtained.

educational situation. However, on average, they would need a bit more time for home education. Despite some issues with technologies and a possible lack of teaching skills among some parents, families tend to view the overall schoolwork transferred to homes as useful. Most children spend 2–4 h a day studying, while parents tend to help them at least half that time. However, there is large heterogeneity among families, reflecting different school requirements, different possibilities in households, and probably also parents' different opinions on education. Similar times spent studying and levels of general

satisfaction were reported in the previous Czech small-scale, but representative, parental survey by PAQ (2020). Technical difficulties were reported in the CSI survey (2020) among school principals.

Quantitative data indicates that parents are mostly involved in explaining task instructions, checking work completed, and teaching new topics. To a smaller extent, they help their children solve tasks. Complementary to that, our analysis of open questions suggests that teachers perhaps most often assign tasks, but to a smaller extent actually explain tasks and/or actually teach subjects. Parents, however, seemingly would have preferred that teachers engage in the latter two activities more often. For parents lacking multiple devices, this would mean that their single device cannot be used for other activities (work, study of another child, entertainment etc.). These parents appear to prefer shorter, interactive session with the teacher, during which the homework would be solved with the teacher and no further (or very limited) homework requiring the device would be assigned. Consequently, interactive sessions with the teacher would be more efficient compared to studying without the teacher, shortening the time the device is needed.

This premise is corroborated by the results of the PAQ survey (2020), which found that teachers more often assign tasks than explain them and that parents tend to be more satisfied when teachers actually interact with the child rather than just assign tasks. Also the CSI survey (2020) revealed that teachers mainly use minimally interactive media tools for electronic communication with children (such as emails or web platforms), while highly interactive media tools (such as videoconferencing) are used less often. So, there appears to be a room for improvement in this regard.

Overall, somewhat greater difficulties were reported for older children. This is hardly surprising. It might be due to a lack of coordination among the higher number of teachers in higher grades. One-third of school principals in the CSI survey (2020) reported that there is a lack of intentional communication on demands among schoolteachers. However, it might also be related to the more demanding teaching content in higher grades. At the same time, results were not impacted much by parents' education levels. This could be connected to the biased research sample: parents who responded to the survey, no matter whether they attained a university degree or not, probably care about their children's education and try to cope with the situation as best they can. Parents of students absent from online education processes and communication with schools were also absent from our survey. Nevertheless, the small-scale, representative PAQ survey (2020) found negligible differences between parents with completed vs. unfinished secondary education as concerns Grade 1–5 children and only a small difference as concerns Grade 6–9 children (parents with lower education levels were more satisfied and worked more often with their children).

The results also indicate heterogeneity in teacher approaches, family situations and parent opinions. Whereas teacher approaches can be harmonized, family situations and parent opinions cannot: No approach would suit everyone.

Limitations

This report's key limitation is its lack of representativeness. Specifically, the survey reached only a fraction of people with low socio-economic backgrounds and was not designed to target children with special needs. It was not possible to reach all segments of the population in large numbers in a timely manner, especially due to the countrywide lockdown. Even so, the survey's results can be generalized to a notable fraction of the Czech population. Plus, these results paint a similar overall picture as does the PAQ parental survey (2020) and the CSI survey among school principals (2020). Another limitation is our survey's brevity. For example, open questions provided initial insights into the situation, but a more in-depth survey with specific questions targeting possible problems could provide additional information.

CONCLUSIONS

As concerns educational stakeholders in different countries, our findings indicate what aspects of home education they may need to attend to. This includes issues such as the relative amount of types of activities teachers are currently engaged in (assigning tasks vs. explaining vs. frontal teaching), the total amount of schoolwork or availability of resources, and teaching skills in families. Of course, the differences between the initial situation in the Czech Republic (section The Situation in the Czech Republic) and in each country in question must also be carefully considered. Complementary surveys from other countries and cross-country comparisons would be useful.

The fact that teachers need not only to assign tasks, but also to offer more interactive learning activities is hardly surprising to proponents and practitioners of online distance education (cf. e.g., Simonson et al., 2019). However, it is a safe bet that most primary and secondary school teachers, at least in the Czech Republic, are unfamiliar with distance education principles (cf. Pulham and Graham, 2018). So, now, they improvise and learn by trial and error. Should the school lockdown last longer, the challenge would be to adapt best practices of existing online distance education to the primary and secondary schooling systems and systematically, yet swiftly, prepare schoolteachers for *truly wide-scale* online teaching. However, the question as to what extent teaching with information technologies will further increase the already existing differences between children who have these technologies and those who do not should also be considered.

DATA AVAILABILITY STATEMENT

Aggregated data is uploaded on the following OSF repository: https://osf.io/u7a2e/. Individual participants' data cannot be presented for two reasons: a) participants were informed that only aggregated data would be presented; b) even if no direct personal information is included in the data, it can aid in the identification of individual persons' responses based on socio-demographic information. More detailed analysis of data is

possible upon request, which should be directed to Cyril Brom, brom@ksvi.mff.cuni.cz.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

All authors designed the study and the survey. Quantitative analysis was performed primarily by JL, with some help from DG. Analysis of open questions was performed primarily by RŠ and JS, with some help from TH. All authors helped interpret the data. CB drafted the manuscript, primarily with the help of DG and JS. All authors commented on the manuscript. Figures were created by JL.

FUNDING

CB and TH were supported primarily by a PRIMUS/HUM/03 grant from Charles University. JL was supported by RVO68081740 grant from Czech Academy of Sciences. DG was partially supported by PRIMUS/20/HUM/009 grant from Charles University.

ACKNOWLEDGMENTS

The authors would like to thank Czech TV, particularly Renata Týmová, Head of the Department of Research at Czech TV, for help with the survey distribution. CB thanks Tereza Stárková who came up with the idea for the survey. Preprint of this manuscript has been archived on: https://psyarxiv.com/fbhn3.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2020.00103/full#supplementary-material

REFERENCES

CSI (2020). *Czech School Inspection*. Available online at: https://www.csicr.cz/cz/Aktuality/Vybrana-zjisteni-Ceske-skolni-inspekce-k-distancni (accessed April 17 2020) [in Czech].

Dai, D., and Lin, G. (2020). Online home study plan for postponed 2020 spring semester during the COVID-19 epidemic: a case study of tangquan middle school in Nanjing, Jiangsu Province, China. *Best. Evid. Chin. Edu.* 4, 543–547. doi: 10.15354/bece.20.rp005

GOV (2020). *Government of the Czech Republic*. Available online at: https://www.vlada.cz/cz/media-centrum/aktualne/vyhlaseni-nouzoveho-stavu-180234/ (accessed April 17 2020) [in Czech].

Hale, T., Webster, S., Petherick, A., Phillips, T., and Kira, B. (2020). *Data From: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government*. Available online at: https://covidtracker.bsg.ox.ac.uk/ (accessed April 17 2020).

Harting, K., and Erthal, M. J. (2005). History of distance learning. *Inf. Technol. Learn, Perform. J.* 23, 35–44.

Ipsos (2020). Available online at: https://www.ipsos.com/sites/default/files/ct/news/documents/2020-03/ipsos_koronavirus_ceska_republika_16.3.2020.pdf (accessed April 17 2020) [in Czech].

Kantar (2020). Available online at: https://ct24.ceskatelevize.cz/domaci/3065188-opatreni-zavedena-v-cesku-kvuli-koronaviru-se-daji-zvladnout-mysli-si-podle-pruzkumu (accessed April 17 2020) [in Czech].

Kennedy, K., and Ferdig, R.E. (eds.). (2018). *Handbook of Research of K12 Online and Blended Learning (2nd Edn.)*. Pittsburgh, PA: Carnegie Mellon University: ETC Press.

Komenda, M., Karolyi, M., Bulhart, V., Žofka, J., Brauner T., Hak, J., et al. (2020). *Data From: COVID 19: Prehled Aktuální Situace v CR. Onemocnění Aktuálně* [online]. *Praha: Ministerstvo zdravotnictví CR*. Available online at: https://onemocneni-aktualne.mzcr.cz/covid-19 [in Czech] (accessed 17 April 2020).

Means, B., Toyama, Y., Murphy, R., and Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teach. Coll. Rec* 115, 1–47.

MoEYS (2020). *Ministry of Education, Youth and Sports of the Czech Republic. Statistical Yearbook of Education for School Year 2019/2020. Chapters B, C.* Available online at: http://toiler.uiv.cz/rocenka/rocenka.asp (accessed April 17 2020) [in Czech].

PAQ (2020). *PAQ Research*. Available online at: https://www.paqresearch.cz/post/zivot-behem-pandemie-ekonomicke-dopady-a-distancni-vzdelavani, 17-24 (accessed April 17 2020) [in Czech]. doi: 10.1007/s11298-020-7933-9

PISA (2018). *Data from: PISA 2018 Database*. Available online at: https://www.oecd.org/pisa/data/2018database/ (accessed April 17 2020).

Pulham, E., and Graham, C. R. (2018). Comparing K-12 online and blended teaching competencies: a literature review. *Distance Educ.* 39, 411–432. doi: 10.1080/01587919.2018.1476840

R Core Team (2019). *R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria*. Available online at: https://www.R-project.org/ (accessed April 17 2020).

Simonson, M., Zvacek, S. M., and Smaldino, S. (2019). *Teaching and Learning at a Distance: Foundations of Distance Education (7th Edn.)*. Charlotte, NC: Information Age Publishing.

UNESCO (2020). Data from: COVID-19 Educational Disruption and Response. Available online at: https://en.unesco.org/covid19/educationresponse (accessed April 17 2020).

Viner, R., Russell, S., Croker, H., Packer, J., Ward, J., Stansfield, C., et al. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: a rapid narrative systematic review. *Lancet Child Adolesc. Health*, 4, 397–404. doi: 10.1016/S2352-4642(20)30095-X

Xie, Z., and Yang, J. (2020). Autonomous learning of elementary students at home during the COVID-19 epidemic: a case study of the second elementary school in daxie, Ningbo, Zhejiang Province, China. *Best. Evid. Chin. Educ.* 4, 535–541. doi: 10.15354/bece.20.rp009

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.