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A Comparative Investigation of Distance Learning and Classroom Learning during COVID-19 in Belarus

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Introduction

In our daily lives, we continually consider problems relating to COVID-19. It has affected all nations in spite of level of life, faith or gender. As a result, there are no exceptions with education.

In an attempt to gain information about the disastrous influence of this epidemic on education I turn to this work «A Comparative Investigation of Distance Learning and Classroom Learning during COVID-19 in Belarus». The main aim of the study is to do a comparative research of teacher-student surveys between online live teaching and traditional off-line, and explore the experiences and attitudes of children visiting primary and secondary school and the influence of the lock down on teachers.

To be more clearly, the objectives of the surveys are as following:

1. To study key messages which contribute to education planning.
2. To create conditions for parents in supporting educational programme.
3. To form the key problems for parents in supporting their children's learning.
4. To compare the nature and type of communication between home and school.

Research Hypothesis: It is hypothesized that the efficient and correct use of online education can help develop teaching remarkably, with the adoption of the combination of online and offline learning.

This investigation meets the following research questions:

1. What are the most important topics explored in the studies on online teaching and learning in teacher education?
2. What online practices associated with social, cognitive and teaching issues have been demonstrated in the context of teacher education?
3. What questions need to be examined in further research?

In order to give extensive answers to these questions, a certain amount of studies has been reviewed and analyzed. All the results are presented in this paper, firstly from a descriptive perspective and secondly from analytical.

The structure of the work is: introduction, theoretical part, which consists of three sections, practical part, conclusion and a list of references.

The theoretical chapter holds 3 sections.

In the first section «The impact of the crisis on education» we outline the effect of COVID-19 on the learning process with important consequences not only in the short-term, but also in the long-term.

In the second section the most important recommendations on how to address the crisis in Belarus are listed.

The third section «Age-specific health education» is based upon suggestions on how to engage students of different ages on preventing and controlling the spread of COVID-19 and other viruses.

The second chapter is a practical part of this work. It represents the first investigation, conducted in gymnasium №1 in Zhodino between April 20 and May 31, to detect the effects induced on students by the switch of the educational processes from physical to fully virtual caused by the Coronavirus epidemic.

The last section «Conclusion» includes a synthesis of the whole work, that draws the major points together and relating them to one another.

Chapter I

Section I. The impact of the crisis on education

If you look at the history of human life, you can see that humanity suffered several outbreaks. In the same way these diseases are all induced by quixotic pathogens that are transmitted by animals to humans [1]. For this reason the health connection between animals and humans became a prominent research topic.

To achieve confidence in future lives a lot of countries around the world closed their borders and isolate their state. It was followed by fear and anxiety around the world, and to support their people, countries decided to stop education activities, and apply to the distance education method. It was observed that the student population, which has been away from school in more than 188 countries affected by the pandemic, corresponded to 91% of the total global student population. [2]

As you know, the world has already met up with tremendous threats in realizing the promise of education as a basic human right. Despite the development of general collaboration at early grades in lots of countries, a big amount of children were restricted from schools. As a result, learning was far from being confirmed. Some 387 million or 56 per cent of primary school age children worldwide were estimated to lack basic reading skills [2].

The intensive effort was made to support educational methods in countries that were affected by the epidemic shifting the content and relevant materials to the digital domain. The term «distance education (DE) » was coined in the 1892 University of Wisconsin Catalog, and first mentioned in an article authored in 1906 by the administrator of the same university, William Lightly [Kaya, 2002, p.3].

Use of the research process in making objective observations in learning caused COVID-19 is rather common, important views about its possible impact can be gained from findings of important studies. Theories are not created just to summarize and integrate existing data; the adoption of distance learning is the clue to the continuation of education. It follows that some disagreements can be put forward to explain this. On the one hand, it is quite clear that isolated pupils tend to spend less time in learning compared to when schools are open. On the other hand, a lot of children cramped at home due to COVID-19 may feel stressed and depressed, thus it will be difficult for them to concentrate on homework. Thirdly, the lack of in-person contact makes pupils less motivated to involve in learning activities. It follows that such loss reflects the reduction in academic performance of pupils. This suggests that less time is spent in learning if to compare to the typical schooldays.

The transfer from offline to online learning caused by COVID-19 is likely to affect negatively those children, in primary and lower secondary schools, who have higher difficulties in adapting to the new learning environment. More sensitive pupils, for example those from less prosperous families, are especially likely to lag be-

hind during this disastrous period. These pupils don't really have a suitable home learning environment. Moreover, they may not receive as much support from their parents as their more advantaged peers. In more affluent families, parents are more likely to be able to work from home and can manage private online education. Pupils of small or large families, in the same way as with special needs or disabilities are also likely to suffer from the epidemic and adapt to the new changes.

Actually COVID-19 and the move to remote learning and teaching are not the only factors to cause greater imbalance in cognitive abilities. In fact, students' isolation from their friends and teachers may result in spread of psychological problems. During the lock down, pupils from underprivileged families expected to feel ill at ease at home. In addition, grown-ups are as likely as not to be in the best situation to support their children in these conditions.

The increased imbalance in both cognitive and non-cognitive abilities that is likely to appear during COVID-19 pandemic may have important results both in the short-term and in the long-term. Some works even discover that children's cognitive and socio-emotional skill levels are good foretellers of the situation in the future. Consequently, there is the risk that the short-term inequality caused by COVID-19 may even grow over time, leading to more economic inconsistency in the future.

The impact of the epidemic on education leads at least to two main problems. On the one hand, important steps should be taken to help more sensitive pupils deal with pressure they met with during the lock down. On the other hand, there is a chance that educational establishments may not be able to work person-to-person during the academic year, another way of online teaching and learning should be established. It is important to figure out that: 1) it demands alteration in most methods of teaching, 2) it requires a revision in the programme, 3) younger children may have problems in adapting to this model, 4) the arrangement of many school buildings, may not be suitable for online teaching.

The following elements should be part of a well-organized system combining online and offline teaching and learning activities:

Free web connection: access to the internet at a decent speed is basic principles for any online teaching and learning strategy.

1. Adopt proper learning surroundings.

2. Rethink the role of broadcasting education: educational broadcasting can be a useful complement to online programmes as it delivers teaching to those who do not have access to the internet and equalizes teaching methods and material across schools within a country or region.

3. Make accessible the new learning techniques for all pupils: digital technologies can provide useful support to them, especially if they are an essential part of a rational and encircling process.

4. Assist educators: they should know how to adjust to a situation in which they can communicate only online with excellent pupils who are inclined to lose their motivation when shifting to online learning. It is very important to upgrade teachers'

digital skills, as well as to ensure that they are well-trained in the pedagogical approaches best suited for online learning and blended models.

5. Guide parents to help their children: parents are an essential element of the process, especially for younger pupils facing the challenges of online learning. Parents should be involved in the building-up of the strategy and in its fulfillment as they need to fully understand what is taught.

Section II. Learning to learn during COVID-19

School lock down has brought a great number of diversities that led to serious confusion in evaluating pupils. To maintain stability in education most countries put off the exams for an indefinite period, in some, they have completely been removed, while in others they have been restored by prolonged evaluating or alternative techniques, such as online testing for final exams. Pupils' achievement can be easily tracked of.

The next brief reference suggests the following 9 key recommendations to education establishments in Belarus on how to address the crisis.

1. Account for all staff and pupils, particularly those who were engaged in any mobility programs away from their home institutions, and support to the extent possible the return of staff and students to their home countries. While ensuring the continuity of teaching and learning is a key task, guidance and counseling need to be maintained during the crisis.

2. Share educational materials and resources among institutions. Many countries provide open-access resources; make sure they are known and available.

3. It's better to take timely decisions on the academic calendar, grounded on epidemiological situation and accessible information. Address to them clearly, so that all of them understand you perfectly. At least, be prepared to reevaluate and adapt quickly to quickly developed changes.

4. Provide additional support to those pupils who are especially affected by the crisis, to the extent possible. Try to plan adjustable measures to bring students back in reality as soon as possible and help them not to fall behind. Governments are encouraged to ease requirements for course completion and extend pupil funding adjustment.

5. Institutions should stop dismissing their staff as long as it is reasonable. The end of the crisis will give a more acceptable moment to consider personnel needs. It might be difficult to bring back educators lost by institutions and academia in some circumstances.

6. Interact with present and potential international staff and pupils, take care of their special needs and where decisions cannot be taken right away, provide affability and ease decision-making. Countries are encouraged to extend visa arrangements. Institutions even want to consider some additional measures to support student learning efforts.

7. Resume pre-tertiary decision makers to find suitable solutions in countries where university access is based on exams. To ensure continuity of learning, it might be advisable to replace these exams with incessant rating or find a suitable online option, where the conditions permit, and ease access to these resources. Adoption to tertiary institutions will need to be altered to the new conditions.

8. Protect public financing for education. Reducing funding for teaching and learning, research, and innovation will maltreat post crisis economies in a hastily manner.

9. Arrange a moderate restarting, figuring the areas that would need to be examined at the earliest possibility, and studying the protection (such as masks and number of people in the building), would be rather helpful in speeding up the system of restarting.

From the very beginning of the epidemic, Belarusian teachers were immediately puzzled with achieving distance learning methods, however without any acceptable instruction, experience, or supplies. It happened at every level of education. Thus, teachers, as specialists, have moved to online and video practice, but it was too difficult for them to cope with the latest task. Web-enabled meetings and SMS means have become useful tools and new ways of communicating with their learners and the education society.

At least a big amount of teachers need psychological help themselves when they meet the demands of their students. If we don't follow this advice, it may lead to the disastrous consequences. The crisis has been a sign of the fundamental role of teachers on the formation of the educational process.

Section III. Age-specific health education

Teachers and pupils should understand main, age-specific material about coronavirus disease with its symptom and difficulties, how it is spread and how to prevent distribution. It is very important to protect children and educational means. Protection is unavoidable to prohibit the spread of COVID-19 in school surroundings. Nevertheless, special caution must also be admitted to escape marking pupils and educators who may have been disclosed to the virus. Indeed, it is very necessary to keep in mind that COVID-19 does not separate people by their age, nationality, faith and the way they lead their life. We should bear in mind that education surroundings should be complementary, self-effacing, general and comprehensive to all. What is more, procedures adopted by schools can stop the arrival and escalation of COVID-19 by teachers and pupils as it may have been open to the virus.

The recommendations are listed below on how to involve children of different ages to stop and direct the expansion of COVID-19 and other viruses. Actions should be taken grounded on the specific needs of children.

Preschool

1. The main target is how to behave not to fall ill: to cover coughs and sneezes with the elbows and washing hands regularly.
2. It is very important to wash hands practicing the suggested 20-second period
3. Think of reward for timely hand washing.
4. Use toys to show symptoms of COVID-19 and what to do in case they fall ill and how to take care of someone who is sick.
5. Tell pupils to sit further from one another, to keep distance at a flap of their wings, they will have enough space not to tap their classmates.

Primary school

1. Remember to listen to pupils' interests and answer their questions in a suitable manner; don't overload them with extra information. Encourage them to express and explain their feelings. Tell them about the different reactions they may practice and explain that these are typical things.
2. Accentuate that pupils can do a lot to preserve their health if they follow your advice:
 - offer the approach of social distancing (stand further from classmates, escape huge crowds,)
 - concentrate on how to behave not to fall ill, to cover coughs and sneezes with the elbows and washing hands regularly.
3. It is vitally important to explain pupils the main points of the blockage of COVID-19. Try to show through exercises how the virus can spread. For example,

pour colored water in a special bottle and spread over a piece of a paper. Watch the effect.

4. Prove why it is relevant to wash hands for nearly 20 seconds with soap and water:

- put a small amount of glitz in pupils' hands and let them wash them with water only, pay attention how much glitz is left, after that tell children again to wash for 20 seconds with soap and water.

5. Ask pupils to look through the texts to analyze the situations showing different kinds of behavior; tell them to give their best solutions how to cope with special cases:

- For instance, a teacher comes to school with a cold, coughing and sneezing. He shakes hands and goes to lessons, without washing them. What is wrong in his actions?

Lower secondary school

1. Make sure to listen to pupils' concerns and answer their questions.

2. Pay attention that pupils can do a lot can do a lot to preserve their health to keep themselves and others safe:

- offer the approach of social distancing (stand further from classmates, escape huge crowds,)

- concentrate on how to behave not to fall ill, to cover coughs and sneezes with the elbows and washing hands regularly.

- mention that they can module healthy habits to their families.

3. Inspire pupils to prohibit social stain:

- explain various attitudes they may meet on their way and discuss them with pupils. Inspire them to express their emotions.

4. Make up pupils' organization dealing with public health problems.

5. Introduce important healthy habits into all subjects:

- Science can enclose the study of viruses, their transmission and the importance of vaccinations;

- Social science can concentrate on the history of epidemics and their growth;

- Human science can allow pupils to be problem-solvers and efficient promoters.

Upper secondary school

1. Remember to listen to pupils' interests and answer their questions in a suitable manner; don't overload them with extra information.

2. Figure out that pupil can do a lot to prevent the spread of the disease on others:

- announce the notion of social distancing;
- explain pupils how to behave not to fall ill: to cover coughs and sneezes with the elbows and washing hands regularly;
- explain various attitudes they may meet on their way and discuss them with pupils. Inspire them to express their emotions.

3. Introduce important healthy habits into all subjects:

- Science can enclose the study of viruses, their transmission and the importance of vaccinations;
- Social science can concentrate on the history of epidemics and their growth;
- Human science can allow pupils to be problem-solvers and efficient promoters.

4. Make up pupils' organization dealing with public health problems:

- PR lessons can be useful for pupils to be problem-solvers and efficient promoters.

Chapter II. Practical part

The second chapter is a practical part of this work. It performs the investigation, organized in gymnasium №1 in Zhodino between April 20 and May 31, to expose the effects of the epidemic on students and teachers by moving on to the distance learning.

Teachers' survey was planned from the outlook of teaching experience before class, in class, after class and correlation of offline and online courses.

The study involved 102 pupils attending the following 4 forms (4 «V», 6 «A», 6«V», 8«B») of the gymnasium. The results show that, in spite of the fact that pupils feel depressed without their common surroundings and person-to-person studies; the rapid shift to indirect setting has been undoubtedly adopted. This scheme shows that the greatest part of the pupils is ready for virtual educational procedures, mainly formed on combined educational activities.

The main aim of the survey is to investigate the experiences and standpoints of children visiting primary and secondary school and the influence of the lock down on teachers.

To be more clearly, the objectives of the surveys are as following:

1. To study key messages which contribute to education planning.
2. To create conditions for parents in supporting educational programme.
3. To form the key problems for parents in supporting their children's learning.
4. To compare the nature and type of communication between home and school.

After having collected the views of the participants, the replies were grouped under concrete points with the analysis technique. A quantitative research method was used. Realizing the cutbacks and curbs of the lock down period, all the investigations were carried to be available for parents to accomplish on a computer, phone or just using Viber. Obviously, fulfilling personal surveys for primary and secondary schools was an important approach, the voice of parents is pivotal if we really decide to overcome the problems caused by COVID-19, and make our way to success.

Each survey combines mainly closed questions and a few open-ended questions that gave parents an opportunity to consider their responses, there was a little variation in the wording of a few questions, following a certain sketch of each school type.

Figure 1 shows the level of awareness suggested by parents in relation to the educational programme, with the biggest proportion (64%) reporting they were very familiar with the curriculum, 31% were somewhat familiar or unsure, and only 5% stated that they were not at all familiar with the Educational programme.

In a succeeding question, most parents (54%) reported they were somewhat confident in supervising their children's learning Exact Sciences, with only 7% stating that they were not at all confident about Physical education. **Figure 2** shows the varying levels of confidence in supporting different subject areas. Overall, parents

expressed confidence in supporting Social Sciences (24%). They felt less confident supporting Human Sciences, with only (15%) stating that they were *not at all confident* in this subject area.

Parents were asked about the information and resources provided by their children's school at the time of closure, the materials they were currently using to support their children and any challenges associated with this (**Figure 3**). Survey responses revealed that initial information provided by schools gets the biggest proportion (47%). The majority of parents stated it was very important or important for them to be able to keep in touch with teachers. Most parents (38%) were continuing to receive regular communication from teachers and felt they could contact their child's teacher if they needed to.

Only 10 % of parents reported that they were unable to contact their child's teacher, and a further 5% were unsure. Reasons for contacting teachers included: clarifying learning tasks, seeking advice on suitable reading material, sending samples of pupil learning, informing teachers if their child was struggling on the use of online resources and general teaching advice.

While many parents spoke positively about learning through applications and online activities, others described difficulties in navigating so many online resources. Often, there were insufficient devices at home, particularly if the household had more than one child and parents needed a laptop to complete their own work. A small but significant proportion (29%) of parents stated they couldn't explain the subject to their children when they can't understand something (**Figure 4**). At the same time 33% of parents experienced difficulties in keeping their children's attention during this period of school closure. The most common challenge was trying to balance working from home and supporting their children's learning, with 14% of those currently working from home experiencing difficulties organizing their own work. Another 10% couldn't cope with completing the subject content in reasonable time.

The survey was carried to find out how parents were linked both with schools and entire society and to reveal the importance of this arrangement.

Just over half of parents considered their role in home-schooling to be teaching their children as much as possible during this period; one tenth of the interviewed decided that learning through play was more important than schoolwork and a further 10% indicated that supporting their children's education at this time was not their main priority. Many parents expressed the importance of prioritizing mental and emotional well-being, particularly to reduce their children's fear and anxiety during the uncertainty of lock down.

Isolation also impacted on parents' own mental health. Over a quarter (28%) of parents found managing their mental health to be somewhat difficult, with a similar proportion (27%) describing it as difficult or very difficult.

Open questions on parents' experiences provided significant insights into their main concerns surrounding their children's well-being and education. Key issues that emerged included:

- Parents with children in Primary school were concerned about plans for transfer tests; this uncertainty had led to anxiety among both parents and their children.
- There were concerns over inequality in learning experiences and a fear that their children could fall behind others on the return to school.
- Anxiety was expressed about children's social isolation and there were suggestions for weekly live video links so that children could talk and interact with their classmates.
- There was uncertainty over next steps in after lock down, particularly how the education system may go forward.

Despite the difficulties posed by the isolation, there were also reported benefits in spending this time with their children, including talking and listening together, enjoying new activities, learning together and finding out new things about their children.

Teachers and pupils were satisfied with the organization of online learning, with a score of 10 out of 10, as the mean value teachers' score was 7.5, while pupils' was 8. Figures show that both teachers and pupils paid much attention to distance learning. Most of the educators studied special related material, write teaching plans. The number of people taking part in online learning was higher than that of offline. In addition, it took more time to prepare for online lessons than to traditional ones. Similarly, pupils also concluded that educators of the online learning applied more importance to the training, and they were more pleased with the learning tools, than during traditional lessons.

Regardless of how educators were committed to online education, teachers' assessment score of distance learning was lower than that of classical one. Most of the teachers were convinced that traditional approach was more efficient in educating pupils, than online methods.

Likewise, pupils thought that distance learning was not as perfect as traditional one if to take classroom communication. Children wanted to share opinions and discuss their personal feelings.

As a whole, pupils and teachers assumed that online learning is a continuation of traditional methods of teaching. Constructive and relevant approach may help to enrich the teaching effect.

Figure 1: How familiar are you with the Educational Programme? (%)

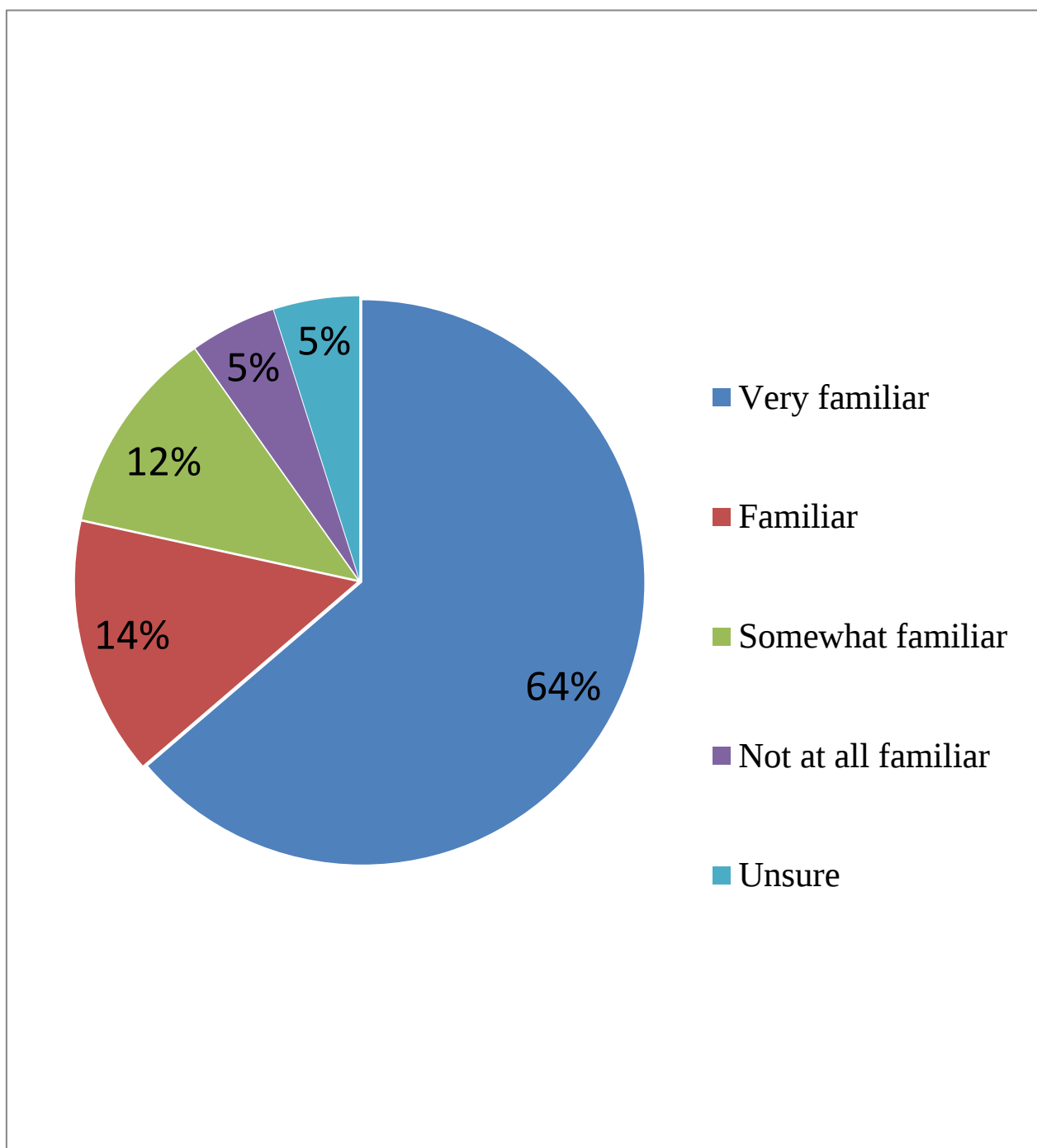


Figure 2: How confident are you in supervising your children's learning in each of the following? (%)

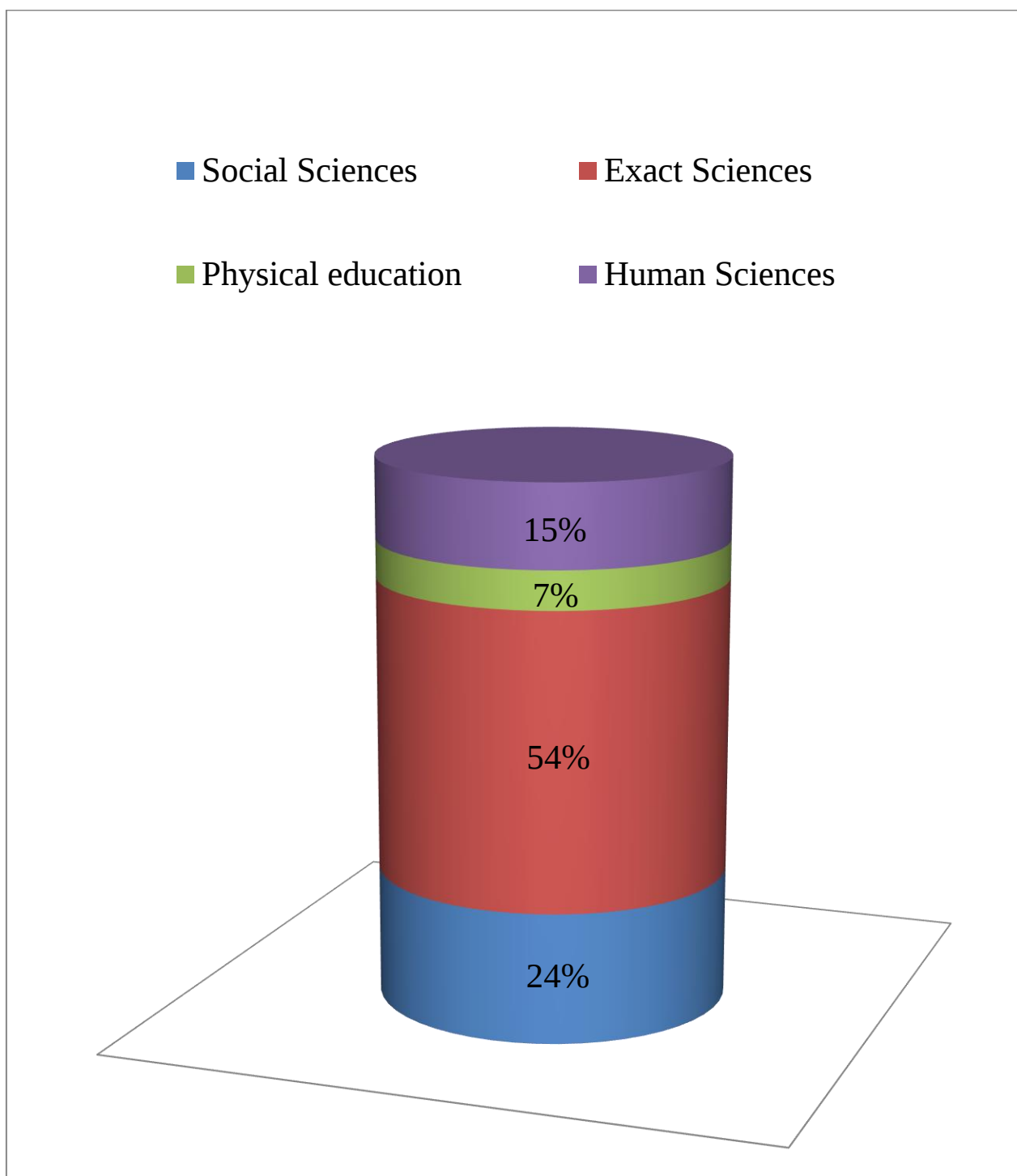


Figure 3: What resources have you been using to support your children's learning? %

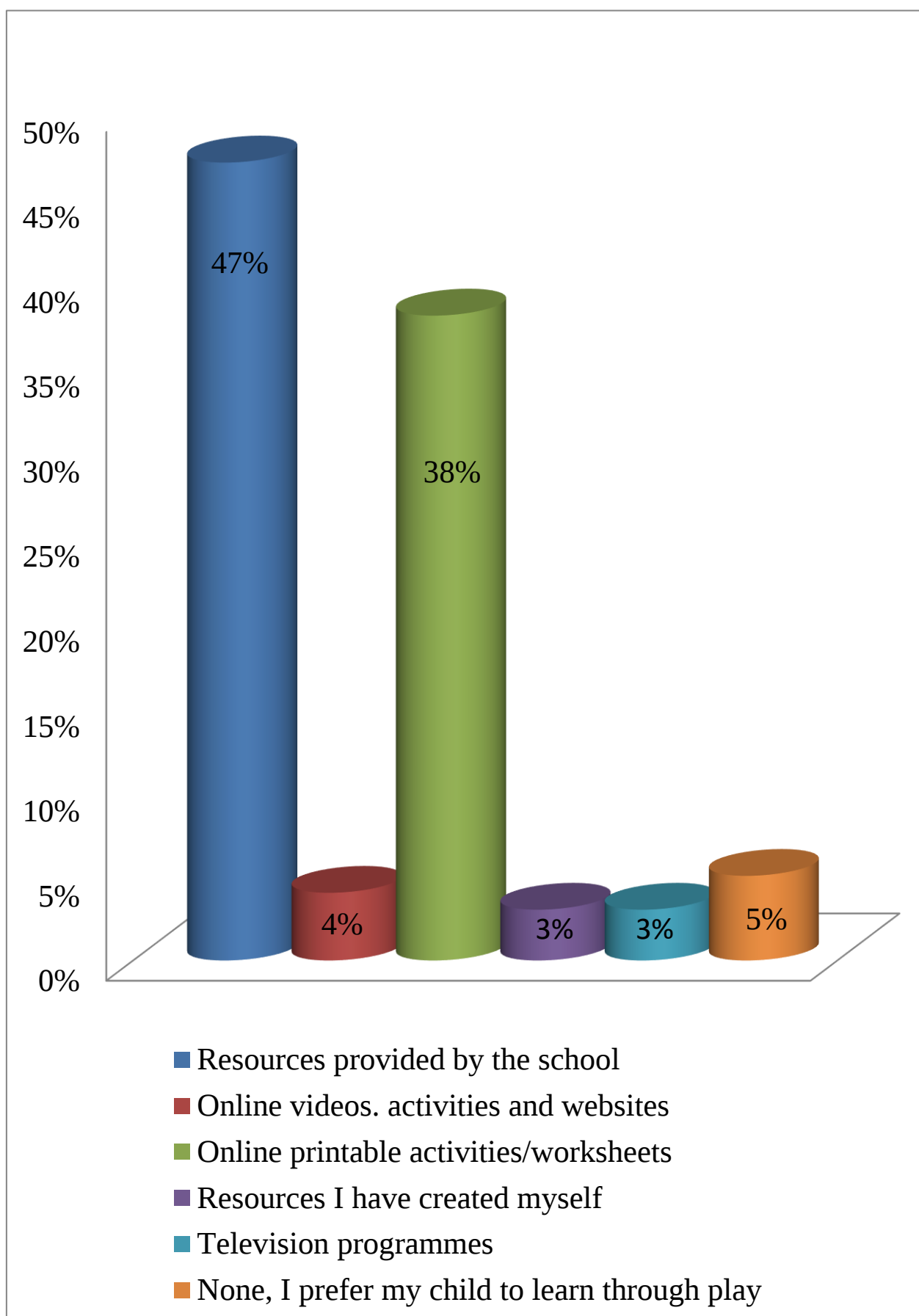


Figure 4: Have you experienced difficulty in any of the following areas? (%)

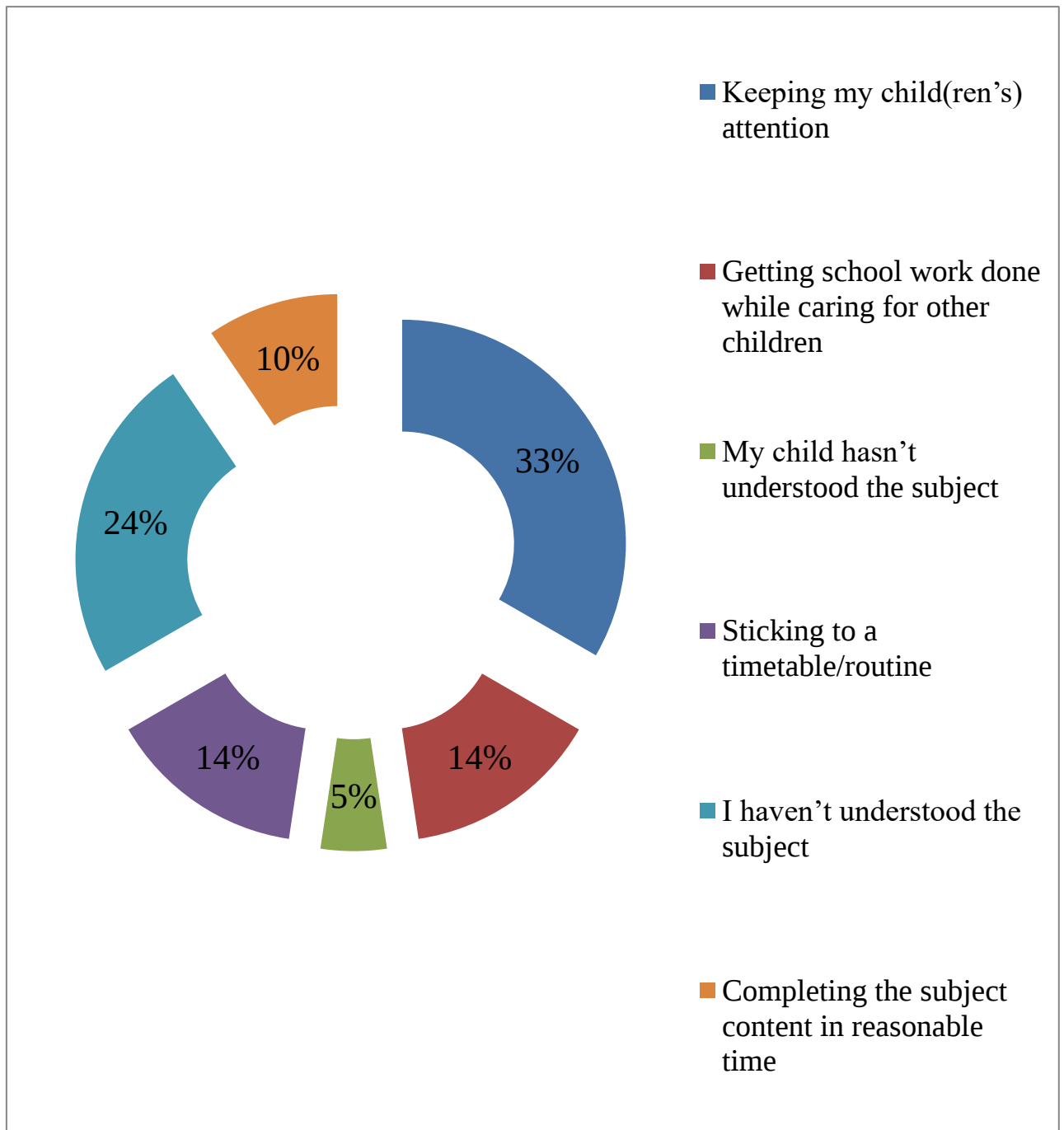
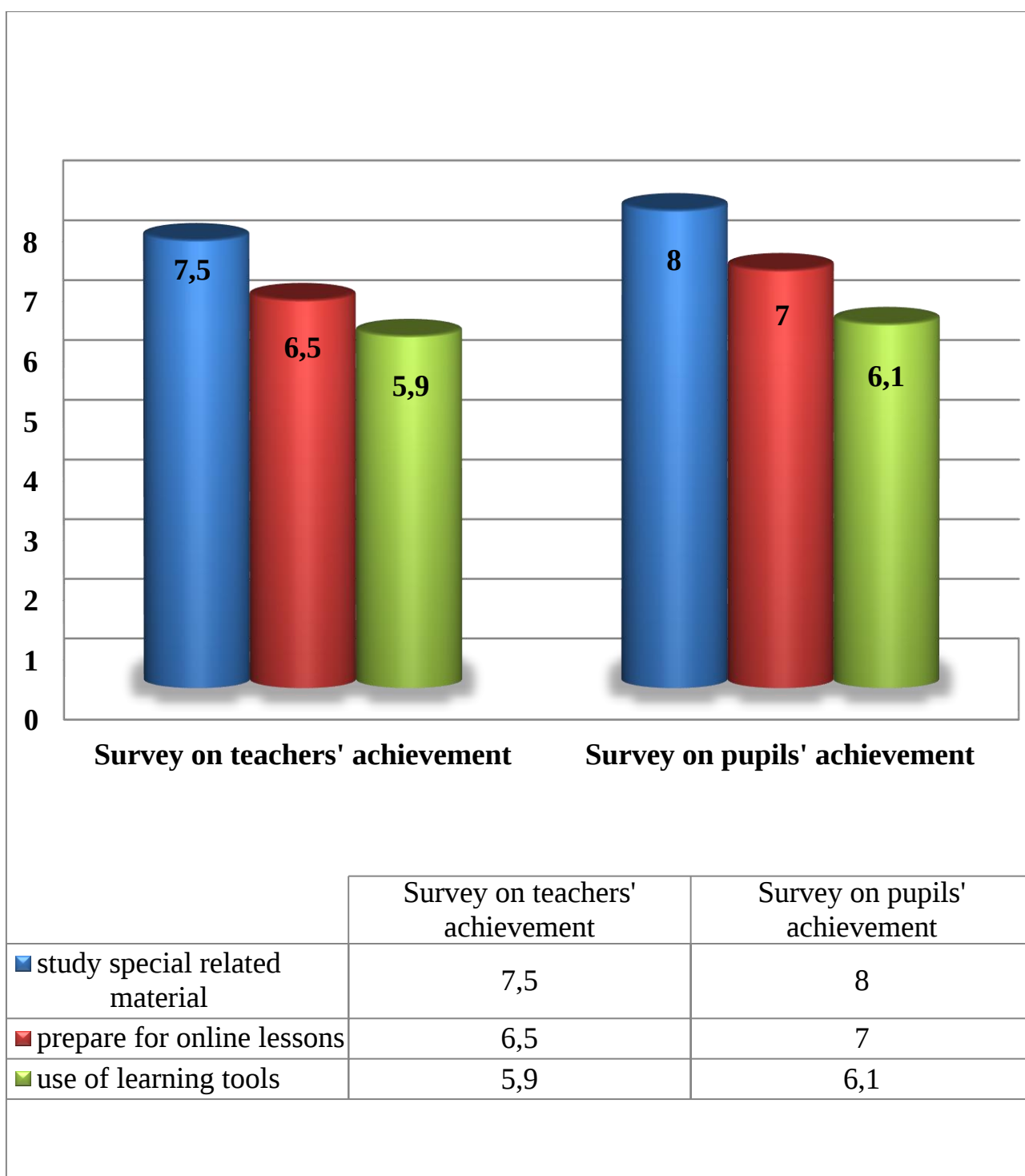


Figure 5: Survey on students' achievement.



Conclusion

This research aimed to identify important topics explored in the studies on online teaching and learning in teacher education. Based on a quantitative analysis the experiences and perspectives of children and their parents attending primary, secondary and upper secondary schools, it can be concluded that there is a positive acceptance and an equally positive attitude toward didactic technologies and distance learning. Such productive conceptions together with the increase of digital skills have resulted in modification of pupils' perspective about their future. The results indicate that:

1. The increase of the percentage of distance learning activities, in fact, should go in parallel with an increasing level of pupils' independence that is with the development of skills, rather than simply with the age.
2. Teachers should pay more attention to the transformation of knowledge and abilities in competences.
3. For informed and productive online teaching and learning it is important to learn more about its potential and use. As such, it is essential to go beyond online practices and develop quality online teaching and learning that result from careful design and planning.

Based on these relevant recommendations it is very important to ensure that all young people have the opportunity to succeed at school and develop the knowledge, skills, attitudes and values that will allow them to contribute to society. Moving forward, there is a unique opportunity to study pupils' attitude relative to their family and environmental circumstances. Better understanding of this relationship will provide insights that contribute to cooperative planning and decision-making over the longer term and ensure that services meet the educational and wider needs of children and their families.

By all counts, and with proven results, it is no wonder that the current crisis has tested our ability to deal with large-scale disturbance. It is now up to us to build the common heritage of a more adaptable society.

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