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Original article

Valentina Milenkova | **Challenges to Digital Education in a Situation of Social Crisis**

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Abstract. The present article aims to examine the state of mobile learning in Bulgaria, presenting the policy framework in which the education processes themselves take place, and also to show the various platforms and software products that form the basis of mobile learning. Online platforms greatly facilitate and support mobile learning, as they connect individuals regardless of distances or situations. The analysis shows that mobile learning has a place in Bulgarian education and its quality is at relatively high level. Its specifics are related to the technological security, the technical and methodological training and qualification of teachers, as well as the responsibility of families. A specific case is analyzed – the situation with Covid-19 and how the Bulgarian education system is being restructured in the direction of mobile learning under the influence of the new pandemic conditions. Methodology is based on qualitative methods, under the national project "*Digital Media Literacy in the context of "Knowledge Society": state and challenges",* № КП–06–Н25/4, *2018,* funded by National Science Fund – Bulgaria. The main conclusion is that Covid-19 puts Bulgarian education in a situation that requires comprehensive and universal mobile learning, which is in line with the modern knowledge society.
Keywords: Mobile learning; Covid-19; Digital literacy; Online platforms; Distance education

Оригинальная статья

Валентина Миленкова | **Вызовы цифровому образованию в ситуации социального кризиса**

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Аннотация: Настоящая статья направлена на изучение состояния мобильного обучения в Болгарии и национальной политики в рамках

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которой осуществляются образовательные процессы, а также на демонстрацию различных платформ и программных продуктов, которые составляют основу мобильного обучения. Онлайн-платформы значительно облегчают и поддерживают мобильное обучение, поскольку они объединяют участников образовательного процесса независимо от расстояний и ситуаций. Анализ показывает, что мобильное обучение имеет место в болгарском образовании и его качество находится на относительно высоком уровне. Его специфика связана с технологической безопасностью, технико-методической подготовкой и квалификацией учителей, а также с ответственностью семей. В статье анализируется конкретный случай – ситуация, связанная с Covid-19 и то, как болгарская система образования переструктурируется в сторону мобильного обучения под влиянием новых условий пандемии. Используемая методология основана на качественных методах в рамках национального проекта «Цифровая медиаграмотность в контексте «общества знаний»: состояние и проблемы», № КП – 06 – Н25 / 4, 2018 г., осуществляемого при финансовой поддержке Национального научного фонда при Министерстве образования и науки Республики Болгарии. Главный вывод заключается в том, что Covid-19 ставит болгарское образование в ситуацию, требующую всестороннего и универсального мобильного обучения, что соответствует современному обществу знаний.

Ключевые слова: мобильное обучение; Covid-19; цифровая грамотность; онлайн-платформы; дистанционное обучение

Introduction. Mobile learning is a technologically created environment for learning and communication, in which users themselves publish lessons, data, and their experience as well as they communicate each other. The published information can be in different forms: text, images, audio and video recordings. Unlike traditional learning, learners of all ages are actively involved in a two-way process of posting and informing, because people can not only read, watch or listen, but also share, comment and discuss. Online platforms greatly facilitate and support mobile learning, as they connect individuals regardless of distances or situations that do not allow face-to-face learning, as is the case with Covid-19.

This article aims to examine the state of mobile learning in Bulgaria, presenting the policy framework in which the education processes themselves take place, and also to show the various platforms and software products that are the basis of mobile learning. In addition, a specific case is analyzed - the situation with Covid-19 and how the Bulgarian education system is being restructured in the direction of mobile learning under the influence of the new pandemic conditions. The research questions are: is there a place for mobile learning in Bulgarian education? What are the specifics of mobile learning in the Covid-19 situation? What is the quality of mobile learning?

The analysis shows that mobile learning has a place in Bulgarian education and its quality is at relatively high level. Its specifics are related to the technological security, the technical and methodological training and qualification of teachers, as well as the responsibility of families.

The article is focused on showing that Covid-19 put Bulgarian education in a

situation requiring quick and adequate solutions and actions aimed at total and universal mobile learning, which, however, are not accepted and evaluated in the same way by the participating social actors.

Methodology and Methods. Mobile learning has been the subject of political efforts for a long time. There is a series of documents showing the commitment of the government on the need to digitalize social life. In 2014 A National Strategy for the Introduction of ICT in Bulgarian Schools has been developed[1], which should identify ways to modernize the education system, improve access to quality education and increase the use of information technology in formal and non-formal education.

The strategy is aimed at creating a unified information environment serving school education, higher education and science. The expectations for the implementation of the Strategy are that the lessons become more interesting and attractive, to motivate students in order to attain higher achievements in learning the content, acquiring new useful skills – presentation skills, teamwork and more. Additional funds from the budget have been provided for ICT school infrastructure, e-learning platforms, wireless networks in schools, e-lessons, etc.

More specific measures are set out in the Strategy Implementation Plan. Since 2015, active IT training in schools has been regulated. The first trainings were conducted in the first and fifth grade in 2016-2017, continue in the seventh grade in 2017-2018, and the goal is to be expanded in the next educational levels.

The reform of the higher education system is aimed at increasing efficiency and updating the labor market. A list of 32 priority professional areas has been identified, which give priority to funding in public universities. Areas related to science,

technology, engineering and mathematics (STEM), in particular ICT and mathematics, are included.

An evaluation of the state of digitalization is made in the EC report from 2020, the information about Bulgaria structured in five chapters (DESI report)[2].

The 2020 report shows the importance of digitization and its integration in social life, because in a situation of health crisis, it is digital technologies that have contributed to the sustainability of the work process and especially to the maintenance of education and training activities. The EC evaluation report is that Bulgaria is the last 28th position in the EU for 2020. In 2018 the country was in the penultimate place, and in 2019 it is again last. The index shows that in Bulgaria there is the weakest development in most categories: general connectivity, basic digital skills of the population, low percentage of online trade, digital integration of public services and business. The overall result for Bulgaria for 2020 is 36,4 out of 100 compared to the EU average of 52,6. The results for 2019 were 33,8 for Bulgaria and 49,4 for the EU average, respectively. It should be emphasized that the country's overall score has risen to 36,4, but it ranks lower in the rankings because it lags behind other EU partners.

From the point of view of human capital, the report emphasizes that the level of skills in the field of digital technologies of Bulgarian citizens is among the lowest in the EU. Citizens with basic digital skills make up only 29% of the adult population in the

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[1] National Strategy for introducing of ICT in Bulgarian schools, available at: https://www.president.bg/docs/1352306506.pdf (Accessed 1 December 2020).

[2] DESI report, the part for Bulgaria, available at: https://euractiv.bg/section/%D0%BD%D0%BE%D0%B2%D0%B8-%D1%82%D0%B5%D1%85%D0%BD%D0%BE%D0%BB%D0%BE%D0%B3%D0%B8%D0%B8/news/%D0%B1%D1%8A%D0%BB%D0%B3%D0%B0%D1%80%D0%B8%D1%8F-%D0%BF%D0%B0%D0%BA-%D0%B5-%D0%BF%D0%BE%D1%81%D0%BB%D0%B5%D0%B4%D0%BD%D0%B0-%D0%BF%D0%BE-%D0%B4%D0%B8%D0%B3%D0%B8%D1%82%D0%B0%D0%BB%D0%B8%D0%B7%D0%B0 (Accessed 14 December 2020).

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country, compared to the EU average of 58%. Only about 11% have above average skills.

Use of Internet services is another major set of criteria assessed by the EC Index. The results there are not very encouraging either. Bulgaria continues to be in 27th place in terms of the use of Internet services, with the overall result well below the EU level. 67% of Bulgarians use the Internet (in the EU the average is 85%), and 24% have never used it. In terms of connectivity, according to the EC report, Bulgaria is doing relatively well, especially in terms of wide access to high-speed and mobile broadband networks. It has made significant improvements to the criterion of e-government, which has more and more users.

The results in the EC report show that efforts are being made in the country, there is progress on the criteria, but the EU average has not yet been reached. It can be summarized that the measures and actions contribute to creating conditions for the development of digital literacy of the Bulgarian population and mobile learning. Information technology has entered en masse and avalanche in the daily lives of children and young people, which reflects on the expectations of students in all forms of education. The information growth itself creates a favorable environment for learning and personal enrichment by applying specific practical actions for organized implementation of mobile learning in secondary education. They include:

- targeted investments for the purchase of computers and furnishing classrooms in secondary schools;
- organized training of teachers to work in an online environment and use different platforms;
- writing textbooks and manuals for both teachers and students and for general use;
- financing the creation of computer programs for educational purposes;
- organization of optional or regular classes in informatics, like "Fundamentals of

Informatics", "Computer Science", "Computer Culture", etc.

The digitization and use of computers and information technologies covers the entire education system: from kindergartens, through secondary, higher education and postgraduate levels. The formation of basic digital skills begins at an early age, and for the acquisition of digital qualification, the most effective is the school age, when students have reached a certain level in which they easily acquire new skills and knowledge, open to innovation as thinking young people. In addition to accessible and diverse forms of knowledge dissemination, the network environment requires new skills such as: information retrieval, navigation, sorting, resource assessment and network and publication security (Milenkova, Peicheva, Marinov, 2018).

Mobile learning involves the use of new multimedia technologies and the Internet to improve the quality of teaching through access to resources and services. Mobile learning helps to adapt education systems to the new requirements of the European knowledge society and it is an opportunity for increased convenience, diversity and efficiency. In this context, it is important to take into account the serious work of the teacher in preparing lessons using technology. It is true that mobile learning involves the use of home or mobile devices by students in order to perform various tasks, but the preparation of the lesson itself requires reorganization of various activities and in general the successful implementation depends largely on the teacher. Pedagogical practices based on online platforms themselves require testing in the specific context and the decision to use them is the result of the teacher's assessment of how a tool or platform will be useful in online classes[3].

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[3] Students' digital skills, available at: https://teacher.bg/ %D0%B 4%D0%B8 %D0% B3% D0% B8%D1%82%D0%B0%D0%BB%D0%BD%D0%B8-%D0%B8%D0%BD%D1 %81%D 1%82 %D1

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The *Khan Academye platform* is helpful in conducting mobile learning. It has over 8000 video lessons in school subjects, but also various modules oriented to the general culture such as: history of civilizations, music, fine arts, economics and business, trade, finance and more. The platform is free and the content is translated into Bulgarian. The platform supports the implementation of interdisciplinary links between English and other subjects studied.

Classdojo is a platform that has direct applicability when conducting a lesson in real time. It can be used in primary school because it allows parents to participate and to receive feedback on children's achievements. Parents together with students define the rules of the learning process and how many points a certain type of learning activity brings or takes. When there are clearly defined rules, achievement is seen as a reasonable consequence of learning. Participants find it easier to adapt to the rules because they can see how their activities are measured and what is expected of them to participate fully in the learning process.

Word has a number of features that are not fully known and implemented; one of them is related to the improvement of writing skill and as a way to seek the assessment and opinion of others. This can be achieved if students have *OneDrive* and keep their writing in it. The next step is to send the written work to the teacher, or write it in real time, together with other classmates – each from his own computer at home as a common activity. Feedback from others is obtained when teacher and other students write comments on a single paragraph or on the entire text. The aim is to create a virtual environment in which the creative process of discussing, editing and improving the writing takes place. And this is important because students perceive it as normal to receive criticism and improve.

%80%D1%83%D0%BC%D0 % B 5%D0% BD%D1 %8 2%D0%B8-%D0%B8-%D0%BF%D0%BB %D0% B0%D 1% 82% D1% 84% D 0%B E% D 1% 80% D0%BC%D0%B8-%D0%B7%D0%B0/___(Accessed 14 December 2020).

OneNote is a neglected and unknown tool of Microsoft for the Bulgarian school, but in fact it is quite convenient and effective. One Note is a program that can replace a student's notebook. Thanks to the program, the daily life of adolescents can be better organized, including the planning of classes and preparation for them, the way of structuring free time.

Along with the listed digital opportunities and software, the Bulgarian school also uses various platforms for conducting classes and sharing lessons in formal and non-formal education. These are Moodle, Zoom, Google classroom, Blackboard and others. The advantage of digital technologies is related to the reformatting of the entire educational environment. This applies both to teachers as a style of thinking, behaving, organizing teaching and testing, and to students, given the strengthening of individual work and responsibilities. Mobile learning has and other implications related to the criteria for teacher professionalism, such as new requirements for collecting, processing, illustrating information and giving feedback to students. In general, mobile learning stimulates the development of curricula that are applied to all ages; it is of great importance for the acquisition of skills to cope with the world around us, as well as for the development of digital education and culture (Milenkova, Manov, 2019: 96-102).

Covid's situation has created a serious challenge – the need for secondary and higher education to move to an online environment. In these conditions, mobile learning in its various forms and variants has become a reality in the last year. During the Covid-19 pandemic Bulgarian educational system meets the challenges posed by the need to restructure training and universal penetration of e-learning. The access to online training was the most discussed issue and is still so throughout the period of restrictions and quarantine. Without any doubt, first this started with the regulations/ normative regulations/orders. The forthcoming analysis focuses on the main dimensions of mobile learning in the Covid-19 situation in Bulgarian conditions.

НАУЧНЫЙ РЕЗУЛЬТАТ
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In methodological aspect, the *qualitative method of document analysis* used. An analysis of the political documents related to the pandemic period in 2020 in the Bulgarian context, as well as the specific measures aimed at the education system and personal training has been made. The regulations for online learning and the platforms that are recommended to be used in the conditions of distance education have presented. The analysis also includes various opinions shared by parents, teachers and principals regarding the Covid-19 situation and the implementation of digital learning in a locked down environment.

Research Results and Discussion. In the Bulgarian case, this topic is related to the specific measures and rules for organizing educational activities. The policy documents have focused mainly on ensuring the safety conditions for children and educational materials in schools and kindergartens. At the beginning of March 2020 in the effort to contain the spread of Covid-19 pandemic, in line with broader social distancing and lockdown measures all universities, schools and kindergarten were closed in Bulgaria. The focus is on the ways in which national policy participants identified immediate and long term policy problems in e-learning and how they responded at different stages of the pandemic.

At the first phase of the pandemic outburst, with the wide spread closure of schools, Bulgarian policy makers were faced with two main challenges: *first ensuring the nutrition and e-learning needs of all students, but especially that of vulnerable students.* Ensuring access to education was made by flexible solutions at the Bulgarian schools and universities. This process starts e-learning with Order No РД09-704 for distance learning in electronic environment[4]. In April 2020, the Bulgarian Minister of Education and Science reported that 89% of all students were effectively included in the e-learning process, while for the remaining 11% as well as for students with learning difficulties[5]. Several measures were undertaking for supporting teachers, students and parents in distance learning process. An e-learning hotline was opened for receiving questions and recommendations related to e-learning.

The National Electronic Library for teachers was created to enable teachers to share educational resources, personal experience and innovative practices[6].

Private organizations and NGO's donated devices for children from vulnerable groups to ensure their inclusion in the e-learning. The Bulgarian Social Assistance Agency donate 104 tablets that were distributed to poor children. The Ministry of Education and Science reported that it had reached an agreement with mobile operators for providing internet connection to students at preferential prices and had changed the rules for school financing allowing schools to cover the expenses for internet of students whose families did not have the resources to pay for internet at their homes[7]. It can be concluded that the access to educational process was ensured for Bulgarian schools.

The second challenge that meet the Bulgarian policy makers in education was related to providing systemic responses for the long term educational, social and economic challenges generated by the pandemic. In the beginning, however, the crisis prompted a global haste to produce the fastest and most fitting policy responses to ensure safety above continuity of educational provision and access to education for all students. By looking at the first response to the crisis the analysis of the policy documents explores the first meaning-making attempts related to educational inequi-

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[4] Order for e-learning at a distance. Order No РД09-704, available at: http://www.danybon.com/obrazovanie/oesr-naredba-10/ (Accessed 4 December 2020).

[5] Minister of education /BNR interview, available at: Covid-19 in Bulgaria: Day 78 – News (bnr.bg) (Accessed 4 December 2020).

[6] National online library, available at: https://www.mon.bg/bg/news/3893; https://e-learn.mon.bg/ (Accessed 1 December 2020).

[7] Ministry of education, press release, available at: https://segabg.com/node/130750 (Accessed 4 December 2020).

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ties and the struggles over proposed short and long-term solutions. In Bulgaria, following this first phase the Government tend to make use of crises by putting forward radical, controversial and social reforms. The extraordinary condition of the COVID 19 pandemic, most importantly the effects of social distancing and lockdown measures, offer ample opportunity to understand the dynamic relationships between the educational policy responses and the structural, systemic and historical inequities characterizing educational provision in Bulgaria.

The third challenge is concerning the shifting to emergency remote teaching that meant facing, almost overnight, the challenge of developing adequate infrastructure of educational technology and digital pedagogy which can be suitable for whichever chosen continuation strategy. This challenge impacted educational systems and organizations worldwide in the most diverse ways, ranging from expanding the use of well-articulated infrastructure already in place and use to having to invest into educational technologies suitable for remote teaching for the first time, facing cultural resistance to the widespread use of technologies for educational purposes, the luck of funding immediately available, and great socio-economic separates affecting the most students, parents and families living in the most marginalized communities.

In summary six are the main indicators followed in the policy documents research of the country. And these are:

- Educational provision – In terms of policy making during the pandemic data indicate that the agenda-setting role was played by the government. Government documents predominantly served a regulative and delegate purpose. Other participants typically reacted to this actions were national NGO's, parents' organizations and teachers' unions. The health and hazards are central aspects of the debate since the reopening in the schools in September 2020 in Bulgaria.

- Access to education – the issue of access to education at the onset of COVID 19 pandemic resonated with conceptualizations and approaches to inequity issues in the policy discourse before the pandemic. It highlighted categories of vulnerable groups and manifestations of vulnerability and ethnicity (Nakova, 2018) in reference to distance educational access.

- Educational technology – the analyzed policy documents indicates that disadvantage communities are excluded from online teaching (due to the luck of stable internet connection, digital proficiency etc.) and that their professional disadvantage will likely to exacerbate as a result of the crisis. The state documents for example exclusively express that schools (Ministry of Education) can lend digital devices to families to support e-learning[8].

- Digital competence of teachers and professionals- digital competence was generally conceptualized as ability to use available digital technology for educational purpose (teaching, learning and assessment). It became visible in close proximity to discussing learning roles to teachers, students, and parents in the context of shifting to online education.

- Curriculum – a focus on emergency were noticed on matters of curriculum, fragmentation and short term scope, unpacking specific curricular focus points polarizing a various political actors engaging with the topic: refugees, migrants and asylums-seekers on vocational education and on regulating upcoming national examinations in both procedural and learning contents aspects

- Teachers learning and professional development – Crisis as opportunity for improvement and innovative solutions and for improving teachers' and students' digital competence and skills. In the communication of the government, this issue frame is completely independent from the issue of digital poverty.

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[8] Projects supporting Romani community education in Bulgaria, available at: https://www.caritas.eu/caritas-serves-most-vulnerable (Accessed 4 December 2020); Services supporting education for refugees, migrants and asylum seekers, available at: https://dv.parliament.bg/DVWeb/showMaterialDV.jsp?idMat=147150 (Accessed 8 December 2020).

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During the period from 30.10 to 4.11.2020 Parents Association together with the Institute for Research in Education conducted an online survey among parents about their attitudes towards the shifting of students to distance learning in an online environment in the conditions of emergency situation due to the Covid-19 crisis[9]. Over 20,000 parents from all over the country participated, 38,2% from the capital, 40.7% from the district centers, 17,9% of small towns and 3,2% of villages. The most active were the parents of students up to 4th grade – 53,3%. The opinions of parents with higher education prevail – 73,5%, those with secondary education – 24,6%, and those with primary education – 1,6%. Fathers are 10,6% of participants and mothers – 89,4%. For 97,2% of the participants in the survey, the language spoken in the family is Bulgarian, for 1,2% – Turkish, for 0,8% – Roma[10].

In general, the clear positions FOR and AGAINST distance learning are distribute as follows: 47,4% of all participating parents are entirely for face-to-face training, and for online distance learning of all students are 22,2% of the respondents. The idea of going online training for individual stages is supported by 14,2% of the parents, and 16,2% are for a mixed form of training (combining face-to-face and online training according to a specific scheme).

Parents living in rural areas (villages and small towns) mostly support face to face training, where more than a half of the respondents have chosen this option 54,6% and 53,8%, respectively. In the regional cities and the capital, where large schools are concentrated, this percentage decreases to 49,8% and 41,3%, respectively. The mixed form of education combining face – to – face and online learning in a specific scheme has the most supporters in the capital (17,6%), with a decrease in the size of the settlement decreases

and their percentage – 16,8% in the regional centers, 12,6% in the small cities and 11,9% in the villages (Nakova, 2012).

The distribution of parents' preferences for online education is also influenced by the age of the child. The highest number of respondents supporting the present form is among the parents of children in the initial stage – 52,8%, and the least – among the parents of high school students: 43,6% of them want all students to stay in school. One in 5 parents of children in primary school believes that all students should shift to online education, as in junior high school this percentage rises to 23,7%, and in high school it is 22,3%. The question of the main priorities on the organization of the learning process caused the greatest difficulty among parents, as they had to choose only two of these options. However, the limited choice gave opportunity to focus on key priorities at the discretion of the parents participating in the survey.

Almost half of the parents (49%) identified "Ensuring quality education" as a priority. At the same time, 30,2% indicated "Protecting the health of children" and more 29,8% – "Limiting the spread of the infection". For 17,7% the leading is the "Socialization of children at school". It is interesting that more parents mentioned "Protecting the health of teachers" (14%) than "Protecting the health of family members" (12,2%), and it is important to note that in order to be included in this statistic, this priority was chosen by the parents as one of the two leaders over all the others. Only 8% of the participants in the survey chose "Parental Employment" as a priority.

The biggest challenges for distance learning according to the parents are: "Difficulties of my child to master the learning material to the same extent as in the present learning" – 47,9%, process at a distance" – 38,5%, "Interaction between teachers and students" – 37%, "My child's ability to communicate with his classmates" – 34,6%, "The workload of parents with responsibility for children's learning" – 33,3%, "Technical problems related to the electronic platforms used" – 29,9%, "Opportunities for teachers to

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[9] Available at: https://www.mediapool.bg/golemite-gradove-udalzhavat-onlain-obuchenieto-za-uchenitsite-news314317.html (Accessed 10 December 2020).

[10] Regarding the attitudes to "others", see Nakova, 2019; Nakova, 2017.

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organize an effective distance learning process" – 28,8%.

In conclusion the survey data shows that parents' attitudes towards the transition to distance learning in an online environment vary significantly depending on the age of the child, the place where the family lives (rural or urban area, small town or village, capital), the priorities of the parents and a number of additional factors, so it is impossible to deduce a single solution that is satisfactory to all parents. This necessitates a flexible approach based on local solutions, according to the specific situation of the different schools.

In November 2020 over 70% of the Bulgarian parents want face to Face training. According to the Education trade union at the Podkrepa Labour Confederation[11], by contrast with parents Bulgarian teachers and directors do not agree to continue face-to-face training. They were asked the question: "Do you think that in such a pandemic situation, educational institutions should work in a regular form or should move to e-learning at a distance?".

79,4% of the 4,270 teachers and directors answered that the entire education system should temporarily switch to e-learning at a distance, and 76,8% even said that the school environment was unsafe for work[12]. Their main argument is that it is currently very difficult to create an organization for the learning process, given the fact that many teachers infected with COVID absent. Many teachers are worried and have taken a patient chart for a week or two. Their substitutes are overloaded.

The survey showed that in 10% of educational institutions there is no staff for a medical person, another 25% also do not have medical staff because they are employed medical workers of retirement age, and most of them are afraid to work on the first line and leave.

We can conclude that there is a contrast in attitudes of the teachers and the directors in Bulgarian schools in the first wave of COVID-19 comparing with second wave COVID-19. In the beginning (March 2020) the most important issue was related with the access of education, educational technology and digital training of teachers, while after retuning in school the most discussed topic was this concerning the health of teachers and students.

Conclusions. In summary, it can be said that Internet and online platforms based on interactivity, individualization and new technological opportunities with free and easy access, are an excellent environment for learning and self-learning, for the increased potential of each person. The field of online services and those related to the storage and organization of databases is expanding.

Information technology increases the scale and dynamics of data collection and management, allowing users to actively participate in the creation, sharing and combining of knowledge, to expand cooperation with each other in different websites through mobile learning. The essence of the whole education is changing. At the forefront is the need for both the transfer of certain knowledge and the formulation of important and significant for society and the individual skills and competencies. In the new digital environment personal adaptation to the changing conditions of learning and life takes on particular significance.

Equipped with the latest interactive platforms, learners have the advantage not only of being subjects of the learning process, receiving and storing information, but also of being active participants in the new digital environment to express their proactive, selective activities.

According to the teachers, thanks to the digitization of training, the possibilities for organizing the pedagogical interaction, regardless of time and space, as well as the

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[11] Teacher's and parent's attitudes, available at: https://www.vesti.bg/bulgaria/658-ot-uchitelite-iskat-distancionno-obuchenie-ot-utre-6117079 (Accessed 10 December 2020).

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number of the participants in it, the subject of pedagogical communication, etc., expanded. As a new information reality, the digital learning environment creates the conditions for using e-mail, newsgroups, forums for project-based learning, interdisciplinary work.

The COVID-19 pandemic demonstrated the undeniable importance of people's digital skills, the digitization of the education and the need for a reliable and fast internet connection. During the health crisis, networks faced a significant increase in demand. The COVID 19 pandemic necessitated a rapid and comprehensive reform of education and mobile learning.

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