Introduction

Developing 21st century skills is a constant concern in Romania, even though the state actors tend to be less involved. This is verifiably mainly by inventorying the multiple private initiatives (be it private companies, NGO’s or joint partnerships between the two), which tend to involve larger and larger target groups. In fact, private actors were quicker to realize that citizens are more and more living in a digitalized world and, living a completely offline life is merely impossible. Unfortunately, the Romanian educational system is resilient and does not seem prepared to cope with the future challenges that are raised by the constant development of communication means, internet and smart devices. Our analysis shows that, despite some progress, the schools in Romania do not have programs that prepare children for the new digital era.

However, we believe that the quickest group to learn how to live in a digitalized world, are the children. The age at which they first start to use smart devices is decreasing steadily and it is not far-fetched if we concluded, that from a strictly technical point of view, they are often better prepared than their parents, tutors, and, in some cases their teachers. Children live in a world in which using mobile apps and communication and smart devices on a regular daily basis, is something completely natural, and, in this context, the educational system is confronted with many important challenges.

In Romania, COLIBLITE - Community Libraries and digital Literacy skills for MLF (migrant and low-educated families) children, is a KA2 Erasmus+ project (n. 2017-1-NL01-KA201-035271) started in September 2017 and due to finish in August 2020. We have partners in Utrecht, London, Bologna and Modena, while our national partners are the Librarians’ Association and \_\_\_. Basing our approach on the past experience, our aim is to develop a common approach and methodology to develop relevant instrument of promoting 21st century skills in Romania. Given the country’s specific context, that is the existence of an increased number of families whose at least one member works abroad in other EU country, we have focused the attention especially on children originating from these families. The reasons for choosing this target groups are several, but the most important are the following: these children are more likely to use smart devices and internet connections to communicate with their parents who are abroad, and they are more likely to have access to other internet-based application and their time spent using these apps is more likely to be out of the control of their parents. In this approach, in addition to the role of the educational system, a central role should have the local libraries. The local libraries are more flexible than schools, they have a better approach in adapting their programs to the new digital era and they have a strong presence in the MLF communities. Therefore, libraries should become an important asset, together with schools and other private actors in promoting 21st century skills.

Our research comprises three important parts. In the first part, we tried to assess how the 21st century skills are conceptualized in the educational system. In order to do this, we performed a cross analysis of the curricula on various subjects to see how the digital skills are employed, how they are introduced to the children and, not least, how the digital citizenship in a broader understanding is taught in the Romanian educational system. The second part is dedicated to inventorying the most relevant private and state actors in promoting the 21st century skills. The information of the initiative in this field that we provided, is not a mere list, but a valuable instrument in evaluating where Romania stands in promoting the digital competencies and digital citizenship. Finally, the last part of the research is inventorying the conclusions and the recommendations that are based on our findings.

Part 1.

**Chapter 1 Skills of children and youngsters concerning digital citizenship 21st century skills**

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Romania, as an European Union member state, is under constant scrutiny from the European Commission regarding its progress on the field of digitization. Thus, in its 2017 edition, the Europe Digital Progress Report (EDPR) -, which integrates information from the Digital Economy and Society Index (DESI), Romania was ranked last out of 28 member states. (Table 1).

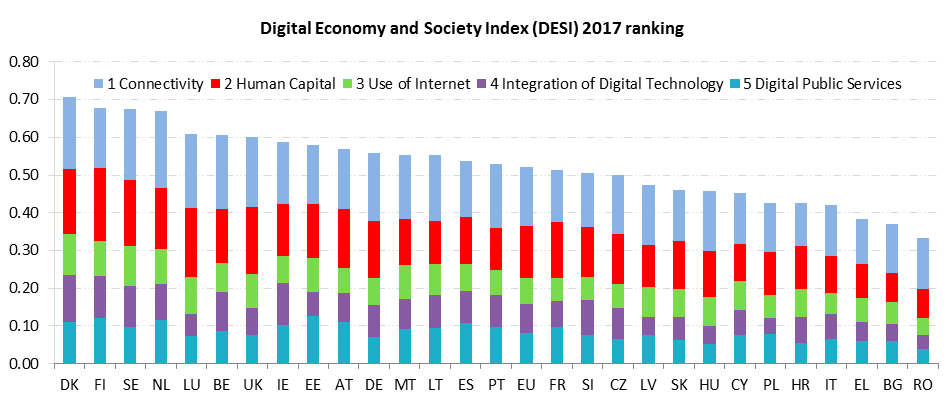


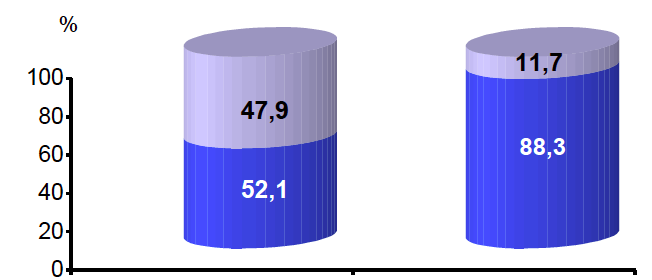
Table 1. Digital Economy and Society Index (DESI) 2017 ranking[[1]](#footnote-1)

The above-mentioned research also assesses the digital skills of the general population, which are included in the Human Capital section. The findings of the study reveal the fact that that, “in terms of digital skills, Romania's performance is below the EU average but it's making some progress with more people getting online and digital skill levels slowly improving. A little more than half of Romanians are regular internet users (56%) compared with 79% in the EU. 28% of Romanians possess above basic levels of digital skills versus 56% across the EU”[[2]](#footnote-2). The research identifies as the most significant agents of progress for the digital skills “the private sector initiatives, rather then the public policies”[[3]](#footnote-3)

A more up-to-date Eurostat research[[4]](#footnote-4) confirms the same last position of Romania considering the regular Internet users – 61% - as compared with the average of 81% in EU. Still, if we will compare the dynamics of the data during the last two years Romania may be considered a frontrunner with a jump of +5% in 2017 as compared with the average of 2% of EU as a whole.

One of the engines of this progress may be the pressure coming from the last digital generation: the number of the families with children and with a computer at home is strikingly bigger then the families without children that own a computer – as the National Statistics Institute publishes in 2017[[5]](#footnote-5):

**The structure of homes considering the existency of children and equiped with a computer**



families without children/52.1% +computer families with children/88.3 +computer

The same research reports that 91.8% of the families with children are using the Internet from home as compared to 54.9% of the families without children[[6]](#footnote-6). Another relevant figure is the percentages of 91% of the students (teenagers in the last levels of the secondary school or high school and university students) are Internet users.[[7]](#footnote-7)

For the COLIBLITE project these results speak about the digital gap between generations, which looks like being the biggest in Romania as compared to the other member states.

Since one of the concepts of major interest in the COLIBLITE project is the digital citizenship, a relevant behavior is the use of Internet for interactions with the authorities; in 2017, in Romania, only 12.6% of the internet users did have a digital relation with the local or national authorities. These last two findings speak about the need for a activities targeting the digital gap between generations and the need to promote the competence for digital citizenship for the Romanian populations.

Research. In July-August 2018, ActiveWatch applied a questionnaire on eleven parents of children who are attending programs developed by the local library of Zalau, a city in the Northern part of Romania. Another questionnaire was applied on 20 children attending programs of the same library. The two research instruments were designed to assess the habits of children and parents in using the 21st century technology, what are their needs and main sources of information, as well as the devices that they used. The results of the applied questionnaires will be presented in the annexes 1 and 2

**Chapter 2. Reference frameworks/definitions about digital citizenship + 21st century skills in the country** The following section will relate exclusively to the conceptual framework different protagonists involved in the digital education process are using; in particular, the position of the concepts COLIBLITE is targeting – “digital citizenship”. In order to assess the situation of Romania, we identified the main actors and players in those areas that are involved in developing 21st century skill: education, public policy, non-profit and CSR. The results of our assessment are classified as following.

2. 1. International protagonists. The actors that are playing an influential role for the Romanian digital development are international institutions.

2.1.1. The European Union, via its different structures, is, probably, the most efficient promoter of progress and modernization for the Romanian institutions. One of the most recent instruments it generated is the Digital Education Action Plan the European Commission sent to the European Parliament in January 2018[1]. It defines three priorities:

* “ Making better use of digital technology for teaching and learning
* Developing relevant digital competences and skills for the digital transformation
* Improving education through better data analysis and foresight ”

These educational targets are supposed to enable the European citizens to live a successful life and have a successful career in an era of rapid digital change. Our analysis addresses the relevant topics, that is developing digital competences and skills in a world that is marked by a rapid digital transformation.

The concept of digital competence is defined in the Digital Action Plan as “the confident and critical use of digital technology and covers the knowledge, skills and attitudes that all citizens need in a rapidly evolving digital society.” For further to details regarding the content of the digital competence, the policy paper refers to The European Digital Competence Framework for Citizens [2] (DigComp). DigComp identifies 5 areas for the key components of digital competence: 1) Information and data literacy, 2) Communication and collaboration 3), Digital content creation: 4) Safety and 5) Problem solving. The conceptual framework of DigComp is constantly being updated, now having reached the 2.0 edition, where the newly introduced terms are presented in a glossary. A comparison between the two versions are presented in a table (Table 1, below) – which is a very useful tool in understanding the framework as a dynamic instead of a photographic structure. 

Table 1: Competence areas versions, comparison of concepts redefinitions

The COLIBLITE central concept of “digital citizenship” is to be found in the “Communication and collaboration” area. From a semantic perspective, the update of this category from “communication” to “communication and collaboration” makes room for an improved concept of “digital citizenship”. Here is a comparative view of the versions: “Engaging in online citizenship: To participate in society through online engagement, to seek opportunities for self-development and empowerment in using technologies and digital environments, to be aware of the potential of technologies for citizen participation”(version 1.0) and “Engaging in citizenship through digital technologies: To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.” (version 2.0) As one can see, both descriptions of the concept – the technical one and the social one – tend to become more essentialized. Still, there is one more accent to consider: in the renewed version, the title of the category was enriched with the term “collaboration”. The concept “Communication” alone was considered as insufficient for covering the deeper social relevance of this competence: it is not only about communication, but about the protagonist as part of a society, a society that is becoming more and more digital both in communication and in activity.

2.1.2. The World Bank is an important protagonist for the development of the digital competencies in Romania via one of its international programs. The World Bank’s SABER program “supports activities to help policy makers make informed decisions about how best to use information and communication technologies to meet educational objectives by improving the availability of policy-related data, information, and knowledge on what matters most in using ICTs to improve the quality of education”[[8]](#footnote-8) The program describes its conceptual framework in the above cited publication. The SABER approach is based on a larger Weltanschauung, as to be helpful for the development of national wide policymaking. For the present research, we will quote the definitions the World Bank’s project is using for relevant concepts:

ICT literacy: “In the early stages, this usually means an aptitude with basic software applications; later, it is about developing higher order skills associated with more complex 'digital literacies' (especially related to how ICTs can be used to support student learning”[[9]](#footnote-9)

[1] https://ec.europa.eu/education/sites/education/files/digital-education-action-plan.pdf

[2] https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework.

2. National Protagonists

2.2. Public institutions.

2.2.1. The Ministry of Education. Conceptual Framework in the EU in the educational system

Although in the Romanian educational system there are clear references regarding the digital competences (in some curricula they appear listed amongst the 8 fundamental competences), the Romanian Ministry of Education has not adopted a clear definition of the term. Moreover, the references regarding the digital skills/ 21st century skills are not in accordance with the European documents, mainly with the DigComp 2.0: The Digital Competence Framework for Citizens.

Ever since the digital competences/ 21st century skills have come to be under constant scrutiny at the European level, it became evident that the digitization process of the society triggered dramatic changes in several economic and social areas. Thus, the digital competences have become an important instrument in tackling poverty, in ensuring social inclusion and in creating sustainable and inclusive growth. According to the European policy document, “almost half (44.5%) of the EU population aged between 16 and 74 has insufficient digital skills”[[10]](#footnote-10) while the Digital Skill index by country in carried out in 2015 ranks Romania last, with less than 40% of the population. Given the fact that Romania is struggling with low rates of digital literacy, it has become evident that one of the main actors in the process of creating 21st century skills should be the public institutions. In the next segment we will assess the degree in which the Romanian educational system is prepared to be an important actor in the process of increasing the rate of digital literacy.

The main public educational institution is making efforts to adapt its strategy to the EU Strategic framework – Education and Training 2020. The Ministry’s experts declares[[11]](#footnote-11) that “the general competencies for the Informatics and Technology for Information and Communication discipline (for the secondary school) are consistent with the key competencies presented as targets in the Europe 2020 for Education and Formation strategy”. The Ministry is detailing its vision about the digital competency using the concepts of “TIC literacy”, “algorithmic thinking development”, “creativity in problem solving”. For a more comprehensive view of the Ministry’s understanding of the digital competency, we proceeded to a detailed analysis of the curriculum for several levels of the school educational system.

To assess the conceptual framework of the digital skills in the Romanian educational system we used the DigComp 2.0 Conceptual Reference model. The main competence areas covered by this model are: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving[[12]](#footnote-12). Each of these areas are described extensively in the second dimension section of the document, particularizing each formerly mentioned item. As mentioned in the document, this is meant to be a tool to improve the citizens’ digital competence, to help policy makers to formulate policies that support digital competence building and to plan education and training initiatives to improve digital competence of specific target groups.

In the Romanian educational system, the first contact with the digital competences that occur in school environment is traceable in the primary school. Although ITC subjects are introduced later in the school curricula, at some of the subjects in the primary grades, there are mentions of competences that are relevant for our research theme. Thus, in the first grades, the school curricula aims to train children in the basic use of technology. Therefore, some subjects such as language and communication, history and geography encourage children and teachers to use computers and technology in teaching and learning activities. The main competences learned are text editing and formatting with the use of computers and other technologies (smart phones, tablets etc.), problem solving with the use of computer games etc. At history classes, students and teachers are encouraged to use computers in simulating historical battles or in searching relevant data on the internet. The optional curricula tends to broaden the students’ competences, as there are used relevant concepts such as digital literacy and ITC. Moreover, the optional subject Architecture and Constructed Environment, introduces children in aspects regarding the creation of digital content (model simulation, planning, photo and video editing on a given subject with or without editing software etc.). Children are also encouraged to use smart technologies to track routes that are of interest for the subject. However, this subject is optional and we do not have data regarding the extent at which schools and teachers incorporate it in their school curricula.

In the middle school curricula, the competences are broadened, according to the age and needs of the students. For example the language and communication subject focuses on issues such as creating content using various instruments, including digital instruments. The subject also introduces concepts such as digital book and continues to teach text writing and editing using the computer. For the first time in a curriculum, students are introduced in issues regarding on how to use the internet responsibly. Other subjects (such as foreign languages, mathematics, geography, history etc.) also recommend teachers and students to use the computer and other digital instruments in learning and teaching activities. Suggested activities include and are not limited to: finding information in the digital environment, using various apps in communication (email, whatsapp, sms etc.), creating databases (history), using various apps to emulate physical phenomena, processing geographical data etc. More advanced topics on digital content creation are taught during Music and Drawing classes. Here, the students are encouraged to use digital tools and software to create, generate, process and edit sounds and images.

Starting with the middle schools, students study ICT subject one hour per week. The new curriculum for this subject was adopted in February 2017, which means that it became available starting with September 2017. The general competences targeted by this curriculum are: (1) To use the ICT responsibly and efficiently, (2) To solve various problems by using intuitive methods of information processing and (3) To elaborate creative mini-projects regarding various social, cultural and personal aspects, by correctly crediting the information and respecting the copyright. Each of the above-mentioned competence is divided into three subtopics that are studied by pupils starting with the fifth grade until the eighth. All of the topics are focused mainly on technical issues, with some aspects that are linked to digital citizenship and 21st century skills. For example, in the fifth grade, children start by learning about the history of ICT, about how to identify the hardware components, and how to use algorithms in order to solve day to day problems. In the sixth grade, they are introduced in issues like creating an email account and on how to communicate by applying the netiquette. Other relevant topics that are approached by this subject are related to internet safety, protection against viruses, copyright issues etc.

Starting with high-school, the ICT curricula becomes more and more specialized. As in the Romanian educational system students get to choose their majors at high school level, the curricula are also different according to their options. The most specialized curricula are those for students who have chosen sciences as their majors (mainly mathematics and ICT studies). The general competences targeted by the discussed curriculum are: To identify the connexions between ICT and society; to identify the data that are involved in a problem and the relationship between these items; to elaborate the algorithms necessary to solve a problem; to apply the fundamental algorithms in the data management process; programing and code writing. All the items taught during this cycle are technical, other items mentioned in the DigComp guide being ignored.

Regarding the students who have chosen human sciences as their majors (philology, foreign languages, philosophy etc.), the main competences approached are those that enable students to work with computers. Therefore, during the first grades of the high-school cycle, the students are introduced in issues regarding advanced text formatting by using relevant software, while in the last two grades (11th and 12th) they are introduced in advanced web design. The approach on these subjects is almost entirely technical. It is worth saying that these programs date from the year 2009 and have not been upgraded ever since.

2.2.2. Public libraries network.

The vast number of public libraries and their relative flexible system of management leaves room for an important diversity of programs. This is also true for the digital competence education programs that are addressing a large number of topics. The concepts used to define the competencies are tied to the common denominations of the e-tools involved (“Google drive”, “Facebook and Skype”, “Scratch (programming tool for kids)”, “Word, PowerPoint & Prezi”), the real life problem solving nature (“financial education”), real life safety problems (“bullying”), communication and collaboration (“e-mail”),or digital content creation (“data basis operating and creation of new content”).

2.3. National protagonists

2.3.1.Private companies

Big operators in communication and IT industry - Orange Foundation, Microsoft Romania - are investing in the digital skills development of the population. They are funding educational programs focusing mostly in specific areas of digital competence: starting with very basic skills and continuing with browsing, searching and filtering data; programming.

Microsoft Romania launched in 2018 a program dedicated to students to prepare the beneficiaries to become programmers.

Orange Foundation runs a multi annual program - Digitaliada - aiming to promote e-learning tools in schools. The competencies addressed are included in the area of Information and data literacy category.

2.3.2 Not-for-profit non governmental organizations (NGOs)

Save the Children Romania is one of the most active and efficient actors in education for digital competence for children. The organization is focusing its interventions on safety problems; it explicitly addresses personal safety, cyber-bullying and hate-speech. To read these in the DigiComp’s conceptual framework, the concepts describing Save the Children Romania educational activities are covered by the general competence area of Safety with the subspecies Protecting personal data and privacy and Protecting health and well-being.

**PART 2 -** *Initiatives on the theme by broad domains/actors from the national to local level*

Chapter 3. The national education system.

The national education system is making important efforts to introduce in the general curricula the ITC competencies. 2017 was an important academic year since, for the first time, the disciplines targeting these competencies were included as compulsory in the middle school curricula – for the 5th and 6th grade. In the next years, disciplines dedicated to ITC competencies will be included in the curricula for the rest of the grades up to the 12th one. The Ministry of Education started this year (2018) a huge training process for about 5500 teachers to have them prepared to cover this new educational task. Experts[[13]](#footnote-13) in this topic identified two major problems of this positive effort. One is addressing the process itself: the new disciplines became compulsory before making sure the human resource is ready to cover the task; this is why the educational system is under a huge pressure these days. The other problem is relevant for the content: from a general view, the new disciplines are answering more the teachers’ needs than the students’ ones. This situation may be the consequence of the fact that the teachers called by the Ministry of Education to teach ITC are the existing corps of teachers teaching “informatics”. For them, the educational contents closer to their competences are the technical ones – “informatics” - they used to teach in the last 10 years. “This new ITC education curricula seems to be mostly oriented to prepare the students for future IT jobs than to teach them to use the digital tools in the every day life”[[14]](#footnote-14)

Another condition, which might postpone some of the expected progresses in digital competences of the Romanian students, is the access to Internet. The Ministry of education (in office in 2017) made, in July 2017, a public statement about a two years term until all the (public) schools in Romania will have Internet access. He added that only 66% of the schools did have (at the time he made this statement) access to Internet[[15]](#footnote-15).

Still, the educational system marks an important progress in promoting digital competence at a national scale.

More, the national educational system is an important vehicle for projects promoted by third parties. Apart the centralized - via the curricula - program of development of the ITC competencies, the educational system is frequently addressed by other entities as partner for small and medium scale projects with the same aim. These projects may involve one or more schools or teachers from different schools etc. These projects may be initiated by structures belonging to the national educational system – i.e. the regional inspectorates, or the Ministry of Education itself – as well as by other public institutions, companies or by NGOs. The impact of these projects – assessed as number of students reached – is depending on the budget’s volume. From this point of view, the leading role belongs to the projects funded by the national budget via the public institutions – like the one described above. If we bring the quality of the projects in discussion, smaller sized initiatives might become important. The diversity of competences that are building the global digital competence is better represented by these projects – as the following chapters will illustrate.

**Chapter 4 - Initiatives by libraries**

The national network of public libraries comes next, in dimensions, to the national educational system. The quasi-totality of the localities, cities or villages, have at least one public library. But, as compared to the Educational system, the libraries have benefited of the Biblionet, a Melinda and Bill Gates foundation program[[16]](#footnote-16): in 5 years, 2.283 libraries out of a total of 2853, were equipped with IT technology, internet access and the librarians were trained to use it.

This makes out of the public libraries network an powerful vehicle for digital competence building projects. The projects are initiated by the libraries or in partnership with other organizations. The diversity of initiatives is extremely large, a situation that speaks about the opening and flexibility of the structure.

Librarians from six Romanian counties answered a poll, describing the projects - and the activities involved – they organized during the last 5 years to develop digital competencies for their clients of all ages. Attached (annex 1) is a form containing the data they sent. The projects are relevant for one or more of the main areas of competence as defined by DigComp, quoted above. Here is a short list with some examples of activities.

**Information and data literacy** : “traditional vs electronic books” – debate; “*enter* the library” – presentation of the digital facilities accessible in the public libraries; “EdukAtion4All/ Searching on Net”; “One cick far from education” – educational softwares were presented; “**„**LADY CAFÉ - motivating activities for women 45+” introduction in IT basics; “LinkINjob: job hunting with the help of librarians”; “IZIlit” – training for applications that facilitate access to literature (guide to contemporary Romanian literature)

**Communication and Colaboration:** “The library – a support for life/ The third age in focus” – workshops for facilitating the online communication competencies; “LinkINjob: job hunting with the help of librarians”; “E-tiquette, please!“ – workshop for online and offline good manners; “Digital market – rules and rights” – high school students learn about intelectual rights etc.;

**Digital content creation:** “Movie maker training session”; “Image processing training session”; “Silver stories/ Digi tales” – Digital stories production training for social inclusion campaigns; “LADY CAFÉ - motivating activities for women 45+” – training for digital stories production; “Digital cultural heritage Nord+” – digitization of the written cultural heritage; “Digital Europe” – workshop about intellectual rights;; “Code Kids”, “Coder Dojo”, “Robotics” – children trained for coding programs;

**Safety**: “Secure PC”, “Secure Net” etc.: training programs for PCs security; most of the above mentioned programs included personal data protection trainings;

**Problem solving**: “Need Help? Free Software” – training for using free digital tools to solve different problems; “What is Dasy” – info and training sessions for blind users of the Dasy application;

Most of the projects are relevant for more than one of the areas of competence.

The national libraries network is, considering its national coverage and managerial flexibility, important both as vehicle for dissemination of the digital competencies and a fertile ground for innovation in educational solutions.

**Chapter 5 - Initiatives in youth work/by private and third sector organisations**

5.1 Private companies

The big operators in communication and IT industry we mentioned above - Orange Foundation, Microsoft Romania - are active actors in the process of digital competencies development.

In 2018 Microsoft Romania launched a call for funding NGOs as partners in implementing educational projects to develop digital competencies. The whole program is focused on technical competencies - “Digital content creation” -, more specifically, competencies for coding. Other educational activities – like media literacy or other digital content – are not eligible for funding. The projects should include kids from disadvantaged families.

Microsoft, via it’s “Partner for Education” program, contributed, as partner, to adapt for Romania the “Children in Safety on Internet” (“safernet”)[[17]](#footnote-17) program – an online educational package. The consortium included the Ministry of Education, the Ministry of Interior Affairs, and a group of NGOs, the most important being “Salvati Copiii” (“save the Children”)

Digitaliada, the Orange Foundation’s program, is run by the foundation itself. Started in 2016, the program addresses rural schools, selected via a competition between teachers, who are supposed to produce educational applications. The 40 schools selected during these 3 years receive a complete set of technical support for a digital lab with tablets, laptops, projectors and software to assist mathematics and TIC educational activities. The content is oriented towards technical competencies. The whole program is targeting the economically disadvantaged children from rural sites.

Orange is also developing programs dedicated to train 10-13 years old children for coding competencies (“Super Coders”)[[18]](#footnote-18) and programs dedicated to the parents (“Digital Parenting”)[[19]](#footnote-19). This last mentioned program gives access to a digital platform with tutorials for parents organized following the age level of their children and, also, organizes conferences for parents; it is focused mainly on safety topics – risks, cyber-bullying, security etc..

These 2 companies are supporting the programs with the most visible and coherent activities, the impact being proportional to the allocated budgets.

Smaller initiatives also do exist, one kind of more frequent activities being the parenting conferences. Private initiatives of this kind are organized as a half day long program; the paying parents are offered interventions followed by interactive sessions held by of a group of expert panelists. Considering the conditions, these interventions are reserved for persons with an at least upper-middle economic condition.

The input coming from the private commercial sector is influencing the agenda of the educational programs for understandable pragmatic reasons. The digital competencies targeted by these programs belong to the technical and safety areas, and less to the content related competencies.

5.2 Private not-for-profit & non-governmental organizations (NGOs)

5.2.1 International NGOs

The civil sector’s involvement in the education for digital competence programs is significant both for impact and content. The most visible protagonist is the Romanian branch of the international foundation Save the Children. Via it’s “Ora de net”[[20]](#footnote-20) program, the organization is “promoting the creative, useful and safe use of the Internet by kids and teenagers”. The project started in Romania in 2008 (under a different name – sigurinfo.ro); during these almost ten years, the program reached 360,000 kids and 95,000 parents and teachers. The program’s experts work with an ample (about 5000) network of volunteers, teach the teachers and the parents, offer counseling and a reporting hotline for safety problems. Save the children works in partnership with public institutions – Ministry of Education and with the Ministry of Interior (the severe cases of digital security reported are transmitted to the relevant departments of the Police)

Child Helpline Romania is member of Child Helpline International, a network active in 160 countries. In Romania, apart their other activities, they ran an anti-bullying campaign that included as a dedicated topic, cyber-bullying.

5.2.2. National NGOs

The small size – we mean budgets, scale of the impact of the projects - of these organizations makes the mapping of their activities difficult. One category of organizations are those that are addressing social problems and open, when needed, their activities agenda to digital education. The Progress Foundation[[21]](#footnote-21) illustrates this type of actor: the NGO was created almost 20 tears ago in a small Transylvanian town; it worked with disadvantaged people (Roma, seniors). The organization developed a partnership with public libraries to run a project addressing children’s (10-14 years) coding competencies; the 380 children were living in disadvantaged communities (rural sites) form 7 different Romanian counties. The success of the project brought in, as partner, the Orange Foundation. One other of Progress Foundation’s projects - Silver Stories[[22]](#footnote-22), implemented in partnership with an international consortium - reached a national range. The project included Digital Storytelling as a tool for digital communication (“The term Digital Storytelling describes a simple, creative process through which people with little or no experience of computers, gain skills needed to tell a personal story as a two-minute film using predominantly still images that can be streamed on the web or broadcast on television”)[[23]](#footnote-23).

Another group of NGOs are developing media literacy programs: *ActiveWatch* started since 1996 this program; it managed to introduce in the curriculum for optional disciplines for high school, the Media Competence topic; a handbook and teachers guides were published. The discipline is targeting the enhancement of the students’ awareness about the professional misconduct of the journalists, about disinformation techniques, bias in reporting, negative stereotypes about vulnerable groups etc.; the NGO is monitoring the public space in Romania for the quality of the public speech – i.e. the condition of free speech and the hate-speech cases. It runs projects in schools with students and/or with teachers. *The Centre for Independent Journalism* and *Mediawise* society are running similar media education programs, with special focus on new media.

Considering this group of protagonists – the list is not exhaustive, the abovementioned ones were just those easier to find – one can state that the areas of digital competence addressed are of a greater diversity than the previous ones.

The table below will present in a synthetic form the categories of protagonists presented.

Chapter 4. Conclusions

Synthetic evaluation of the main protagonists in digital education - Romania

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Actor/cylinder** | **Vision & policies** | **MLF parent involvement** | **Digital competence of professionals** | **Cooperation with neighbourhood organizations** | **Age groups being targeted** | **Existing digital citizenship and 21st century skills activities.** |
| Ministry of education | EU Commission strategy, in process to be adapted to local realities; planning via curricula; target ICT competencies | No specific activities in the general strategy; inclusive policies do exist; | The teachers need to be trained in competencies they are already asked to train the students | Open to individual partnerships; the general strategy encourages the partnership with the community’s actors | 6 - 18 | ITC competencies development in progress;  media competence small scale activities |
| National public libraries | No centralized strategy/ autonomy of the county networks in connection to the local administration.  Still, a quasi- general development of ITC infrastructure and technical digital competencies can be noted as a consequence of the Biblionet project of the Bill & Melinda Gates Foundation.  Opening to communities;  National exclusive  National partner  Local initiatives | Where fitting the local strategies, libraries are opened to third part ‘s inclusive oriented initiatives &/or rural communities engaged; | Significant number of librarians trained ITC competencies | Open to cooperation with neighbourhood org. | 6 – 80+ | Small scale, great diversity of activities; ITC competencies development are more frequent (CODE KIDS). |
| IT & Communication Companies /foundations (Orange, Microsoft) | Assistance for ITC/programming competencies development; | -even if not a priority; rural sites are recommended | Involve third party partners as resource of trainers competence | no | 6 - 18 | Medium |
| International NGO’s (“*Save the children*”, “*Child helpline Romania*”) | Safety/security topics: safe internet, cyber-bullying; hate-speech | Not a priority for *Save the Children*, nor for *Child helpline* in the anti cyber-bullying campaign | High level competence in the specific topics | No; children and teenagers are addressed via the schools, public libraries, directly via digital platforms; telephone | 6-18 | Large numbers (thousands) of beneficiaries |
| NGO’s | Media literacy, Digital citizenship are the main targets | Small scale, Isolated initiatives | Good level of competence for the specific objectives; TOT solutions are used to address larger numbers of beneficiaries |  | Children and parents, professionals (teachers, librarians, NGO’s members/ volunteers) | Media competence development activities; small scale other activities |

Romania has a longer road to go for reaching the actual average level of digital competence of the EU member states. At a top management level, Romania does have a development strategy (National Strategy on the Digital Agenda for Romania 2020) that covers the major role that the use of information and communication technology should play in the different socio-economic sectors of the country. For the education system there are laws that contain specific statements on development of digital skills. One might, therefore, expect a high level of conceptual coherence when defining digital competence.

Still, at the contact with the real life, since there is a low (the lowest in EU) level of access to IT technology, the need to develop the basic technical competencies are prevalent. A comprehensive and integrative conceptual model for the digital competence is not considered at this stage in the Romanian public educational system. More, there is no reference to the concept of digital citizenship.

For the rest of the protagonists of the digital competence educational programs the lack of coherence is even larger, since they have very specific and pragmatic defined targets. The different digital competences are not defined in the context of a system of competencies. The areas that are the most frequently a topic for the digital education programs are those relevant for the technical support (TIC competencies) and those concerning the safety; the areas relevant for the digital content seem to be less frequent topics of interest. This seams to be true mostly for the bigger protagonists - the public education system and the big private commercial and not-for-profit international foundations. The smaller NGOs look more flexible and are addressing a larger diversity of areas; when these organizations meet, as partners, a flexible, well equipped technically and with a personnel with a good expertise – i.e. the public libraries network - the impact of the digital education programs reaches relevant levels.

Annex 1

**The Results of the Interviews with Parents**

In order to assess the needs of the parents whose children are regular internet users, the project team designed an interview guide to be used by the librarians who work in the project. The interview contains closed questions, with several items, as well as open questions, where the respondents had the liberty to give their own answers.

The parents who answered the questions had children aged between 5 and 18, as the age of 18 is the legal age in Romania where children become full adults. All the parents declared that their children are regular internet users, as this was a condition to continue the interview. Regarding the devices that children use to access the internet, the smartphone is most widely used (9 mentions), laptops (8 mentions) and tablet (7 mentions) ranking second and third. Desktops proved to be the least widely devices in order to access internet. According to the answers of the participants, children started to use internet capable devices at the age of 7.

All the respondents (11) declared that their children used the smartphones in order to communicate with their parents and friends. Eight respondents declared that their children used the smart devices for sending written text messages, the same number as those who responded that the smartphones were used for taking photos. Seven answers stated that their children used the smartphone for surfing on the internet.

Regarding the most widely used smartphone applications, Whatsapp was designated as being used in seven cases. Facebook messenger is the second widely use application (6 answers), while Instagram was third (4 answers). Other used application was Facebook (3 answers).

Regarding the effects that the 21st century technology has on their children, 4 of the responds considered that its influence is mainly positive, while 2 of them considered that it is mainly negative. Two respondents considered that the influence is neither positive, nor negative, while one respondent answered that he/ she could not evaluate whether the effects are positive or negative. Two answers were not validated. Regarding the reasons why the respondents gave the previous answers, they were invited to respond freely. Parents who considered that the effects of the 21st century technology is mainly positive, answered that children have a fast access to various information, although it is also important to discuss more about which sources are valid and which are not. Other parents said that it is a positive fact that children can communicate more easily with their friends and family, while other parent said that he/ she did not notice negative changes in his/ her children behavior due to using the internet.

Parents who stated that the effects are mainly negative complained about how much time children spend using their devices, while others talked about the fact that there is a risk of accessing websites with inappropriate content for their age.

Regarding their own habits, all the responding parents declared that they were active and regular internet user, therefore they did not have to rely on their children in accessing and finding information online.

Of 11 respondents, 7 declared that they regularly check the websites that their children access, while 3 of them do not check them. One respondent answered that he/ she sometimes checked the websites that his/ her children accessed. Four parents declared that it happened that their children accessed websites with inappropriate content for their age, while 7 declared that they never came across a situation like this. It is worth mentioning that two of the parents who declared that their children did not access sites with inappropriate content, also declared that they never checked their children browsing history. Regarding the measures taking when learning about their children accessing inappropriate websites, parents answered that they discussed the issues with their children and the risks related to their emotional development.

One parent declared that his/ her child was a victim of cyber bullying. He/ she found out about this situation by checking his/ her child’s conversation on whatsapp. The measures taken implied exiting the whatsapp group and talking to the child’s teacher about this situation, while at the same time offering emotional comfort.

Seven parents out of 11 mentioned the fact that at least on one occasion they restricted their children’s access to internet, while 9 parents declared that they were regularly discussing with their children their online behavior. Regarding the use of online environment, the most widely received answers were that children were using it for spending their free time (11 mentions) and for gathering information for their school activities or other activities (10 mentions). Communicating with family and friends (10 mentions) was another widely received answers, along with creating digital content (coding, photo albums, films etc) which was mentioned by 7 respondents. The least mentioned activities were problems solving (5 mentions) and participating in civic actions (3 mentions).

**Annex 2. The Results of the Interviews with Children**

In order to assess the needs of the children who are regular internet users, the project team designed an interview guide to be used by the librarians who work in the project. The interview contains closed questions, with several items, as well as open questions, where the respondents had the liberty to give their own answers. In total, 20 children participated at the interviews.

The children who answered the questionnaire were aged between 9 and 18, the age distribution being the following:

|  |  |
| --- | --- |
| **Age** | **Number of respondents** |
| 9 years old | 3 |
| 10 years old | 2 |
| 11 years old | 3 |
| 12 years old | 3 |
| 13 years old | 1 |
| 15 years old | 2 |
| 16 years old | 3 |
| 17 years old | 1 |
| 18 years old | 2 |

Regarding the most widely used devices, according to the respondents, 18 of them declared that they regularly used the smartphone in order to access the internet, the second widely used devices being the laptop with 10 mentions. The tablet and the desktop ranked 3rd and 4th, with 7 mentions and 6 mentions respectively.

The most popular application is, by far, Youtube, with 11 respondents mentioning the fact that they regularly access it. All the other apps scored much lower in mentions: Instagram (5 mentions), Whatsapp and google (3 mentions) and Facebook and snapchat with 2 mentions each.

Regarding on how the children use the digital environment, the most frequent answer (20 mentions) was that they were using it for free time and entertainment. 12 respondents declared that they searched information, while 12 were communicating by using the online environment. The least frequent answers were those mentioning problem solving and participating at civic actions (3 answers each)

How children use the online environment (multiple choice question) ?

|  |  |
| --- | --- |
| Item | Frequency of answers |
| Free time and entertainment | 20 |
| Information gathering | 13 |
| Communication | 12 |
| Producing digital content | 6 |
| Problem solving | 3 |
| Participating at civic actions | 3 |

It is worth mentioning that children choose to receive information on digital competences mainly by themselves and from tutorials (14 mentions), or from friends and colleagues (12 answers). Only 6 respondents declared that they received information on digital skills in the school environment, while 8 responded that they received them from their parents.

Where do children get information on digital skills from? (Multiple choice question)

|  |  |
| --- | --- |
| Item | Frequency of answers |
| Tutorials, by themselves | 14 |
| Friends, colleagues | 12 |
| Parents | 8 |
| School environment | 6 |

Regarding the area of digital competences, the children were asked to share information whether they confronted themselves with problems in various fields and if they had a strategy to cope with them. The chosen fields were: privacy/ exposure of personal information, digital traces (browsing history), protection against illegitimate attempts of hacking the operating system and controlling the duration of exposure to an LED screen (laptop, smartphone, tablet etc.)

The respondents were able to indicate several aspects in which they confronted themselves with problems, as mentioned in the following table:

|  |  |
| --- | --- |
| Item | Frequency of answers |
| Privacy/ exposure of personal information | 14 |
| Controlling the duration of exposure to an LED screen (laptop, smartphone, tablet etc.) | 9 |
| Digital traces (browsing history) | 8 |
| protection against illegitimate attempts of hacking the operating system | 5 |

Regarding protection against false information, 6 respondents claimed that they were deceived at least once by false information, the remaining 14 declaring that the never confronted with such a situation. However, 10 out of 20 respondents claimed that they frequently ask themselves questions about the reliability of the information they receive on the website, while 8 respondents said they do this sometimes. Two respondents said that they rarely ask questions about the reliability of the information they receive online.

Seven out of 20 respondent claimed that they witnessed situation of cyber bullying.

1. https://ec.europa.eu/digital-single-market/en/scoreboard/romania [↑](#footnote-ref-1)
2. ibid. [↑](#footnote-ref-2)
3. ibid. [↑](#footnote-ref-3)
4. <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tin00091&plugin=1> [↑](#footnote-ref-4)
5. <http://www.insse.ro/cms/sites/default/files/field/publicatii/accesul_populatiei_la_tehnologia_informatiei_si_comunicatiilor_romania_2017.pdf> page 14 [↑](#footnote-ref-5)
6. ibidem page 17 [↑](#footnote-ref-6)
7. ibidem page 25 [↑](#footnote-ref-7)
8. Trucano, M. 2016. SABER-ICT Framework Paper for Policy Analysis: Documenting national educational technology policies around the world and their evolution over time. World Bank Education, Technology & Innovation: SABER-ICT Technical Paper Series (#01). Washington, DC: The World Bank. [↑](#footnote-ref-8)
9. ibid. [↑](#footnote-ref-9)
10. [↑](#footnote-ref-10)
11. in a written answer to the questions we addressed the Ministry [↑](#footnote-ref-11)
12. [↑](#footnote-ref-12)
13. M.I., researcher in the Institute for Education, interviewed, 2018 [↑](#footnote-ref-13)
14. ibidem [↑](#footnote-ref-14)
15. https://www.agerpres.ro/social/2017/07/28/ministrul-educatiei-toate-unitatile-scolare-vor-avea-internet-in-doi-ani-trebuie-si-supraveghere-video-14-49-43 [↑](#footnote-ref-15)
16. https://www.gatesfoundation.org/How-We-Work/Quick-Links/Grants-Database/Grants/2007/09/OPP48211 [↑](#footnote-ref-16)
17. <http://www.safernet.ro/lectii/html/etusivu.htm> [↑](#footnote-ref-17)
18. https://www.orange.ro/responsabilitate-sociala/super-coders/index.html [↑](#footnote-ref-18)
19. https://www.orange.ro/responsabilitate-sociala/internetul-pentru-copii/index.html [↑](#footnote-ref-19)
20. https://oradenet.salvaticopiii.ro/ [↑](#footnote-ref-20)
21. http://www.progressfoundation.ro/about-us/ [↑](#footnote-ref-21)
22. http://arts.brighton.ac.uk/projects/silver-stories [↑](#footnote-ref-22)
23. ibidem [↑](#footnote-ref-23)