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Mobile learning in Romania, a failed experience?

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Abstract

Some specialists in education sciences doubt the presence of computer resources in formal education: an almost general feeling that they might represent the Trojan horse wheeling in superficiality, ignorance and lack of discipline (Alessandro Barrico's barbarians), destroying the 'serious' vein of schools, but aren't there computers in schools? Isn't there an IT infrastructure widely used in education? When the administration takes over, they make a special room, and they put the computers in that room and they have a computer period with a computer teacher. Our study starts from the hypothesis that the usage of mobile learning in class will intensify learning; starting from this idea, we planned to analyse how much the teachers from a specific region of Romania have at their disposal, the resources and competencies needed for mobile learning and in what measure they are really using those resources and competencies in a systematic manner in the educational.

Keywords: Mobile learning, multitasking, net generation, school teaching.

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1. Purpose of the article

Too many teachers are reluctant to import infrastructure elements specific to informal education in schools; but these do not represent a Trojan horse, they are the 'natural' environment of the App Generation (Gardner/Davis), while allowing the breaking of several formal education specific patterns: grouping pupils into classes according to age, education taking place essentially in the classroom, going through the curriculum at a pace dictated from outside, even if children have different learning rhythms: 'The old model is based on pushing students together in age group batches with one-pace-fits-all curricula and hoping they pick up something along the way' (Khan, 2012, p. 1). However, there are research studies that show the presence of computers, smartphones or tablets in the classroom are rather distractions, blocking the learning: 'Some policy makers and educators thought that home computers would greatly impact education and possibly help close the achievement gap. However, the evidence suggests that home computers have negatively impacted learning (Stross, 2010). (...) A similar trend was found with low-income Romanian children when they were provided the computers at home' (Devers & Gurung, 2015, p. 419; Malamud & Pop-Eleches, 2011).

Our study started from several premises: (a) the App generation (or digital residents/Homo Zappiens, etc.) has features that distinguishes it and that every teacher must take into account: 'It's our argument that young people growing up in our time are not only immersed in apps: they have come to think of the world as an ensemble of apps, to see their lives as a string of ordered apps, or perhaps, in many cases, a single, extended and cradle-to-grave app' (Gardner & Davis, 2013, p. 7).
The same generation is characterised by Wim Veen and Ben Vrakking in slightly different terms: 'Traditional pedagogical approach of working step by step does not suit them. They are non-linear—which is more challenging. They like to be immersed in situations in which we (the 'digital immigrants', in the words of Mark Prensky—E. S.) would not know what to begin with and how to act' (Veen & Vrakking, 2011, p. 87). Summing up, the peculiarities of the App generation are: connectivity, immersion, action, control and networking; if they get disconnected, pupils are taken out of their living environment and become apathetic, confused and non-participating. One of the major requirements of education from John Dewey onwards was (and is) using child's experience (gained in everyday life outside of school) in the educational process of the school; by ignoring the skills of digital natives, school nowadays is inappropriate (in our opinion) not in relation to the labour market (as usually stated) but in relation to children's daily life experience.
(b) Teaching with help from mobile devices (smartphone, tablet, laptop, etc.) involves a different form of class management in relation to the traditional learning setting; we can accept the premise that 'Since students today seem to be born with a device in their hand, it is easy to assume learning with technology would be instinctive' (McQuiggan, Kosturko, McQuiggan & Sabourin, 2015a, p. 136). But, we have to distinguish between the daily use of mobile devices (for socialising purposes and for meeting personal needs) and their involvement into the learning process; as such, teachers must have skills related to the intensive use of these devices (available apps, ways to use them, etc.) on one side, and on the other, they must have skills to interact with the pupils who pay more attention to their devices than to their teachers: 'Instead of leading the class, instructors more frequently take on a facilitative role, walking around monitoring progress and interjecting as needed. Mobile enhanced lessons are expected to go at a slower pace. Time is obligatory for deep engagement—teachers should allocate greater amounts of time for mobile-enhanced lessons' (McQuiggan, Kosturko, McQuiggan & Sabourin, 2015b, p. 246). We believe that the proper use of mobile devices within formal education settings enables the recovery of the direct, unmediated learning experience, Papert (1996) spoke about, with significant positive impact on the results: 'In essence, our informal learning skills dictate our ability to learn independently across the lifetime and thrive in the real world (McQuiggan et al., 2015b, p. 246).

(c) available data show that Romania has mostly an appropriate and efficient infrastructure, which would enable mobile learning implementation in schools; Romania is fully covered in terms of mobile internet access, 56% of the territory (2014) having access to high speed (4G) mobile internet (European Commission, 2015, p. 1), even rural areas being significantly covered (European Commission, 2014, p. 161). Nevertheless, schools are already using computers, laptops and netbooks without dramatic changes at educational level; why use of mobile devices would have a greater impact? Because the boundaries of educational space would go beyond classroom walls, extending unbelievably much through available apps.

2. Methods

We aim to investigate whether and to what extent mobile learning is used in schools in Romania; for this purpose, we operated an *in vivo* sampling, i.e., we investigated (using a questionnaire of 52 questions) the teachers from an important region of Romania (Prahova) who attended Petroleum-Gas University of Ploiesti (in August 2015) to take the exam for obtaining the second-level teacher certification (which certifies a teacher's expertise behind the desk).

For this purpose, we analysed (using SPSS) the answers given to an ample questionnaire to which we added the ideas provided by three focus groups (we had the chance to apply both the questionnaire and the focus groups on a quite a large *in vivo* sample of 115 teachers which were examined at that time for competencies certification).

3. Results, discussion

The data of the sample we have obtained are as follows: 115 teachers, aged between 25 and 55 years; the majority, 63.5% fall into the 25–35 age group; we considered their gender and specialty irrelevant, as mobile learning can be used throughout the educational system irrespective of these characteristics; instead, we have considered relevant the level they teach at (primary school, secondary school or high school—see Figure 1) as well as the location of the school (rural/urban—see Figure 2).

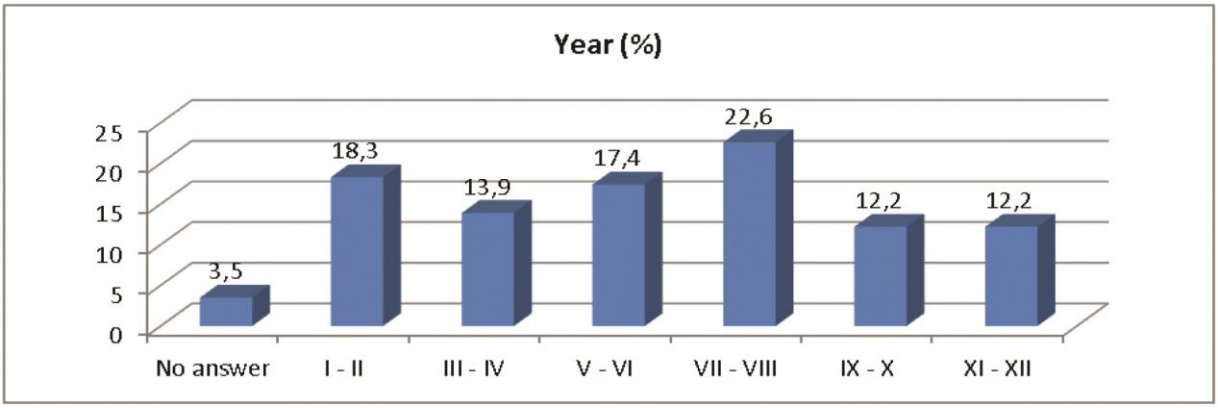

Figure 1. Students' year of studies (I–IV–primary school, V–VIII–secondary school and IX–XII–high school)

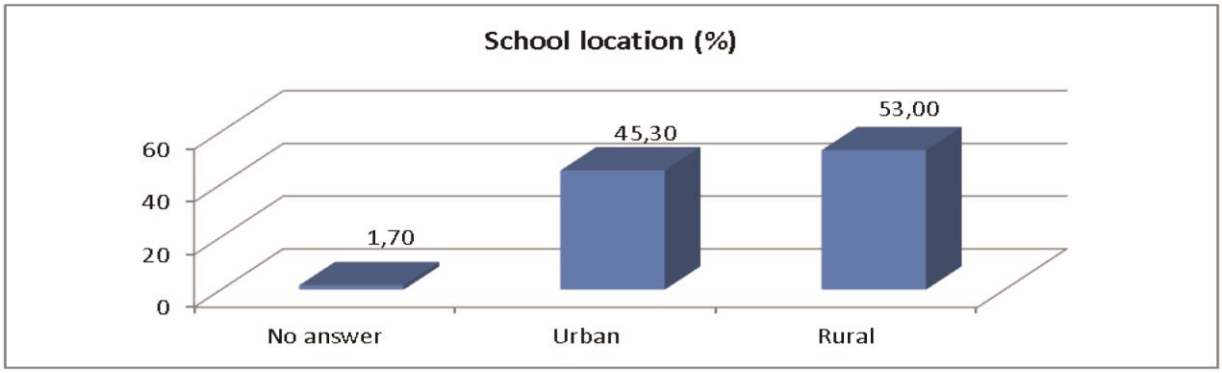

Figure 2. School location

Based on the results of the questionnaire we organised, focus groups separately with primary school teachers, secondary school teachers and high school teachers. Our study tries to answer several questions: what are the resources at hand? To what extent teachers believe they possess the necessary skills to use these devices? In reality, are these devices only used for socialising and other personal purposes or are they also used in the educational process? If pupils have a smartphone or a tablet, are they allowed to use it in class?

4. Do teachers own a smartphone or a tablet?

We noticed that a significant percent of teachers (77.4%) owns a smartphone; tablets are rather considered a gadget dedicated to more frivolous activities; even under this circumstances, 59.1% of respondents own and use a tablet as well. Nearly, 60% of the devices use Android and only 14.8% use IOS—Apple products may be too expensive for teachers in Romania, accounting rather for status symbol acquisitions. Nearly, 87.8% of the teachers use the device they own to connect to the internet; if while at home wireless connections represent 38.3% of the total, in school this number drops to 14.8%—there are (too) many schools without internet connection or that do not have a wireless system to allow network access for pupils and teachers (wherever there is network access but no wireless device, internet is only used for bureaucratic purposes, which means the educational value of the network is ignored).

5. To what extent teachers believe they possess the necessary skills to use these devices?

The Romanian curriculum of future teachers contains a course on computer aided teaching and every academic specialisation in universities across Romania has an Information and Communication Technology module; this is the reason why only 16% of respondents have never attended an ICT module (as we later found out during the focus groups it is about older persons who graduated before 1989, the year of the fall of the communist regime in Romania, these modules were not offered by universities before); on the other hand, the absence of basic training and the common prejudice that internet and computers are just means of stealing children away from responsibly performing school tasks, caused a significant percentage of respondents (31.3%) to avoid participating in any ICT training during continuing education training sessions (to note that 47% participated in one training and 11.3% in two trainings). The perception of respondents about their mobile learning skills is positive if we have in mind that on a scale from 1–5 they preponderantly situated at 3—*satisfactory* (19.1%), 4—*good* (34.8%) and 5—*very good* (23.5%); apparently, teachers' perception of their own skills regarding the use of computers is not significantly different (see Figure 3).

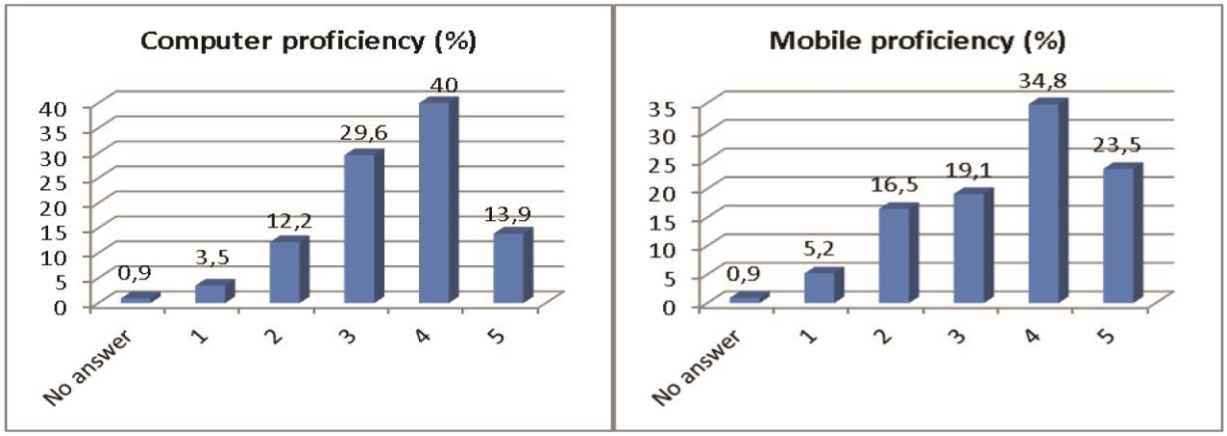

Figure 1. Teachers' self-perceived computer proficiency versus mobile proficiency

6. Do teachers use these devices only for socialising and other personal purposes or do they also use them in the educational process?

To answer this question, we considered three types of activities for the respondents: the frequency with which they open webpages, the frequency with which they access their mailbox and the frequency with which they connect to a social network; we noticed the majority of respondents open webpages daily (33.9%) or every 2 or 3 days (16.5%); moreover, the webpages they open are highly related to school (see Figure 4), but we are unsure whether they are directly related to the educational process, because teachers frequently access the webpage of the County School Inspectorate (Prahova County) and of the Ministry of Education, in search for administrative information.

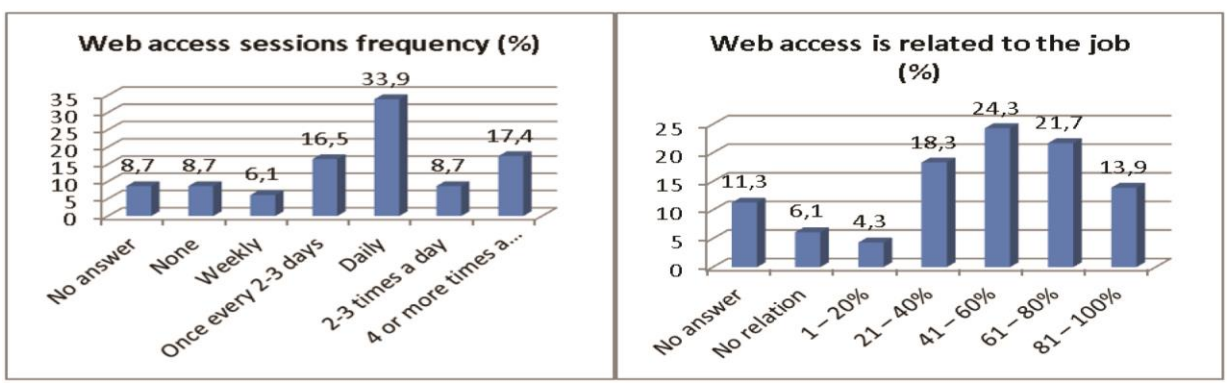

Figure 4. Frequency of web access sessions (opened using mobile devices) and how related are the opened pages to the work

Email is accessed almost with the same frequency as web pages: 36.5% daily and 20% every 2 or 3 days; out of these, most access sessions are work related (see Figure 5), representing probably a fast and secure means of communication with children, children's parents, fellow teachers, etc. The subject of email communication is related to the educational process but is not an active element of the process itself, as it emerged from the focus group organised in our research.

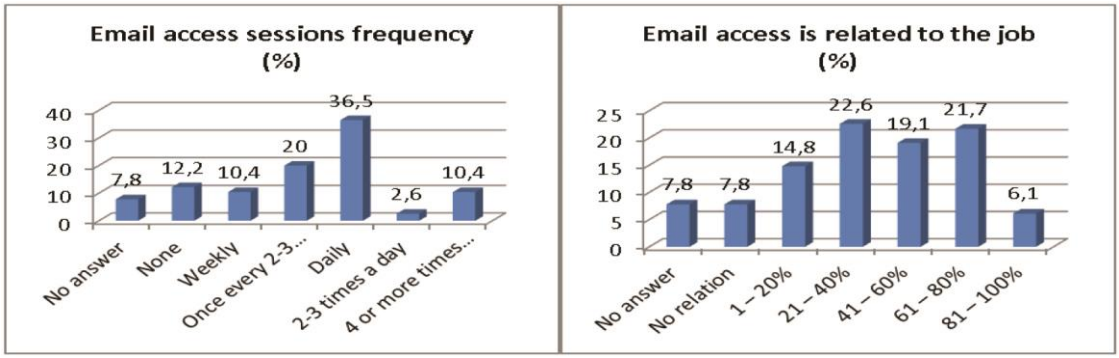

Figure 1. Frequency of email access sessions (opened using mobile devices) and how related are the opened emails to the work

Accessing social networks they fall approximately within the same parameters, 36.5% connecting daily and 13% every 2 or 3 days; accessing social networks appears to imply respondents' professional activity to a lesser extent (see Figure 6), probably because it is a way of open communication and it seems frivolous to contact parents on Facebook.

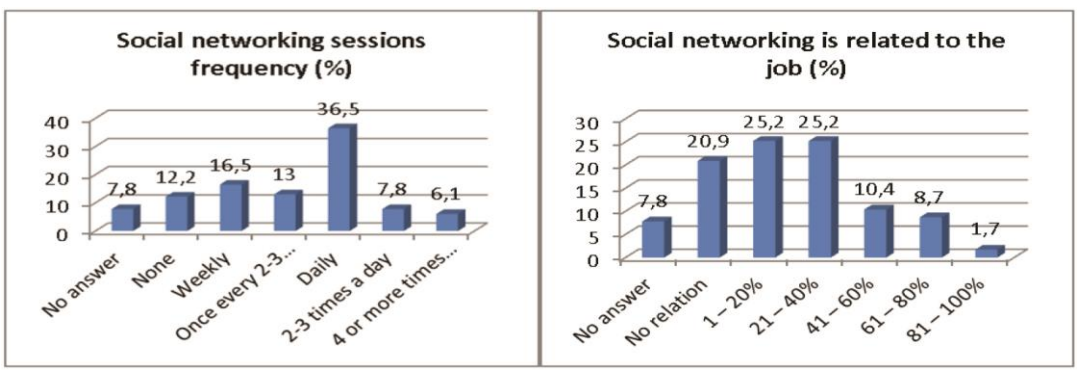

Figure 2. Frequency of social networking sessions (opened using mobile devices) and how related is the social networking activity to the work

The ability to produce documents may be a basis for mobile learning; therefore, we were interested in whether respondents use these devices to produce documents and if the documents are related to the educational process; results revealed that the respondents are able to produce documents and the documents are work related (see Figure 7).

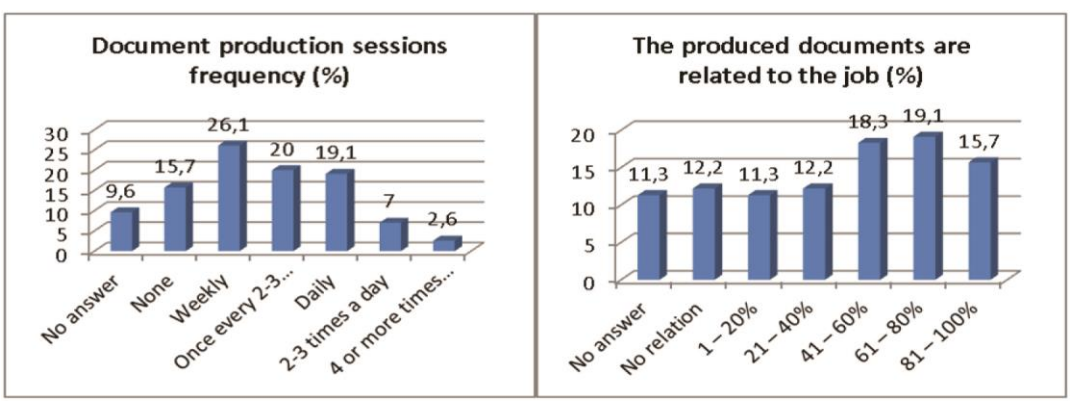

Figure 7. Frequency of document production sessions (opened using mobile devices) and how related are the produced documents to the work

We were also interested whether video games are used in the education, but it seems associating teachers' devices with video games seems frivolous, and respondents' reluctance is explained by the bias that video games and devices that may be used to play them are educationally undesirable (it is just a waste of time); thus, smartphones or tablets are not used at all for game playing by 59.1% of respondents, and on a weekly basis by just 17.4%; most respondents do not see a positive link between video games and school (51.3%), and 25.2% would rather not answer, because the question seemed to them meaningless (so they argued in the focus group). It was revealed that the teachers do not understand the attraction video games exert on children; also, they believe video games are competing with them for the time and interest of children (which is true); but they did not wonder whether the lack of interest in school can be generated by the school itself, which has given up too easily on symbolic rewards for instance, blamed as they are for only keeping the short-term interest of the child: 'It was desired to give up short-term rewards in exchange for the promise of a long term gain. The outcome is that pupils feel encouraged neither in the present moment nor in the future. Can this make them learn better? To many of them the answer is 'no' and they prefer to take refuge in video games, where the praise and applause are aplenty' (Tisseron, 2010, p. 67).

7. If pupils have a smartphone or a tablet, are they allowed to use it in class?

Our research emphasises that smartphones or tablets are not allowed in classroom or they are used sporadically and incidentally (51.3% of the teachers forbid their use and 25.2% allow their sporadic use); designing lessons does not include resources, such as opening webpages, using email or social networks, which means removing the digital natives from their 'natural' learning environment; they need webpages for information and access to social networks for group assignments, as sharing problems and solutions is their natural way of learning; oftentimes, learning communities include individuals in the proximity and acquaintances from online communities as well; text content is a frequent way of communication. Learning communities allow an exchange of ideas, exercising the capacity to enter a discussion and listen, etc.; online learning communities share similar features: 'The online environment is conducive to an interactive, collaborative, facilitated approach wherein the instructor acts as a guide to the process rather than its director. By paying attention to the development of a learning community, the instructor creates the vehicle through which the learning happens' (Palloff & Pratt, 2001, p. 2). If 43.5% of the teachers never allow webpages to be opened in classrooms, and 38.3% only allow it sporadically, and if 76.5% of the teachers forbid the use of social networks in classrooms and 13.9% allow it sporadically, it means teachers are blocking the establishment and functioning of learning communities in cyberspace, without setting up any proximity learning communities (within the classroom). Moreover, teachers do no initiate learning activities that include the use of tablets or smartphones and also forbid the use of such devices in individual or group projects taking part in the classroom (see Figure 8).

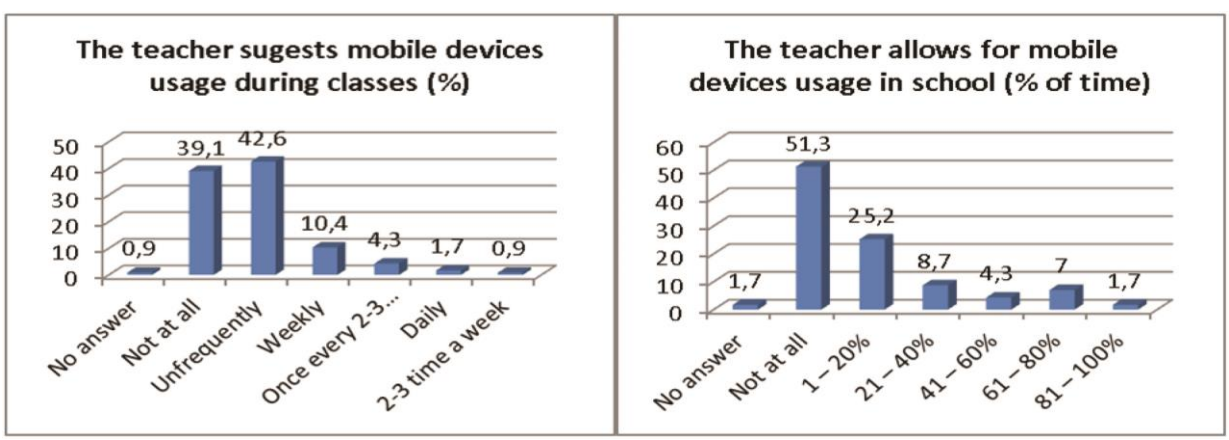

Figure 3. The teachers are not suggesting and are not allowing mobile devices usage in school/during classes

A special note on the opinion of teachers about the educational role of video games: 75.7% do not use video games in the educational process and forbid pupils to play while in the classroom (23.5% sporadically use video games); note that the focus groups teachers recognised the positive role of games in learning (we quote: 'they develop creativity and pupils' ability to solve heuristic situations and problems') but do not extend these positive aspects of games onto the video games, which are perceived as totally negative from an educational perspective.

8. Conclusions and recommendations

Digital infrastructure in Romania is characterised by significant discrepancies between its components, but also in terms of the territorial distribution; thus, there are areas that are not covered by internet or mobile network, many schools are not connected to the network and have neither computers nor servers to support the educational process; in addition, there are (too) many children who do not have a smartphone or a tablet, especially in rural (and remote) areas, which is exactly where they are needed (European Commission, 2014, p. 161).

It is necessary to rethink the ITC and CAT courses that are part of the curriculum of future teachers to provide skills related to the use of mobile learning in school; from the same perspective, we must rethink the training sessions specific to the on-going training of teachers. The involvement of local communities and universities is required in developing educational programs to minimise parents' and teachers' prejudices about the educational effects of mobile learning; also, it is required to upgrade parents' and teachers' digital behaviour so that they knowingly engage in monitoring and supervising children's digital life.

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