Online Learning after One Year of Digital Schooling in Romania– A Survey

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Abstract
Due to the COVID-19 pandemics, Romanian schools functioned online since March 2020, with more or less all school activities being implemented online, using the digital resources and technology.
Although none of the key factors involved in education (teachers, pupils, parents) were prepared (emotionally, technically, economically etc.), online education was imposed ad a necessity to continue the teaching-learning-evaluation process, and teachers at all school levels were forced to rapidly adapt to online schooling. In this paper, we aim to investigate the perception of all three educational actors (pupils, parents and teachers) regarding the efficacy of online teaching and learning, based on a survey with 7701 respondents. Research data is relevant for online schooling in Romania between March 2020 and March 2021.

Key words:
online education; Covid-19 pandemics; perception of online education

1. Introduction

To survive, permanent learning is necessary, as learning is essential for our definition as human beings. The COVID-19 pandemic changed our definition of "normality" and our existence. The whole world was affected, not only Romania. In all fields of activity there was a huge need for adaptation, and education was not an exception: during the isolation period, schools were closed and online course become a new normality. [1]
Although unknown and unwanted, online schooling was imposed and replaced the traditional school as long as social distancing and isolation were public policies to slow down the pandemic, with authorities facing challenges that were unseen for the last hundred of years.
According to UNESCO data, within the period of online schooling (2020-2021), Romanian schools were closed for 108 days and partially closed for 49 days, and there were students that faced for the first-time online teaching, learning and evaluation. [1]
Online schooling came with a new set of challenges: insufficient access to necessary equipment (computers, internet, applications), lack of minimal skills for online education, limited capacity to manage emotions in case of teachers, pupils and parents.

We aim that this paper will be an efficient tool for a better understanding of the challenges for teachers, pupils and parents within the online school period, but also an inspiration for a better implementation of online activities at an enhanced qualitative level.
To base our research, we used and tool to gather data and online questionnaire for teachers, pupils and parents, collecting 7701 answers: 942 teachers, 3.535 pupils and 3.224 parents answered our questionnaire. Our analysis of the implementation of online schooling assists the teachers and pupils that want to monitor their learning to improve the skills that facilitates success in online schooling. Teachers can adapt their teaching to focus on better results, can create powerful teams focused on exchange of information and good practices, can involve parents in educational activities as online education is a new way of teaching.
From a different perspective, based on the research data we will propose a set of concrete actions to improve the quality of the educational activities, and, consequently, to improve the transition between traditional school and online schooling.
Our paper consists in: introduction, research methodology with objectives, methods and examples. In chapter 3, our results are presented as charts that include information regarding the perception of advantages and disadvantages of online schooling, the perception of efficacy and attractivity of online education, the perception of online school in terms of its capacity of developing communication and social skills, in terms of quality in assessment and evaluation of learning progress, while chapter 4 presents our conclusions and recommendations.

2. Methodology

2.1. The objectives

The main objective of this research was to identify and analyse the specific way that pupils, parents and teachers report to the online learning after one year of practicing it.
In terms of operational objectives, we analysed the perception of effectiveness and attractivity of online

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learning, of quality of evaluation and capacity to develop social skills.

2.2. The method

We developed and used an online questionnaire that included:

a. one question regarding the perceived advantages of online learning (multiple responses possible);

b. one question regarding the perceived disadvantages of online learning (multiple responses possible);

c. a short Likert scale including 14 questions regarding: perceived effectiveness (4 questions), perceived attractivity (3 questions), perceived quality of evaluation (3 questions) and perceived capacity of developing social skills (3 questions), plus one direct question targeting the perceived progress in online schooling in the past year. Each question had 5 possible answers (1 – totally disagree, 5 – totally agree), so the score for each measured dimension varies between 1 and 5. The reliability of this scale was measured, Cronbach's alpha being 1, certifying the scale's reliability. The questionnaire included 6 items with reverse scoring, distributed among the four measured dimensions, their main goal being to discourage positive answering from the respondents.

2.3. The sample

The questionnaire was filled in by a total of 7.701 respondents, including 3.535 pupils (grades 5 to 12), 3.224 parents (of pupils all ages and grades) and 942 teachers (all grades and school subjects).

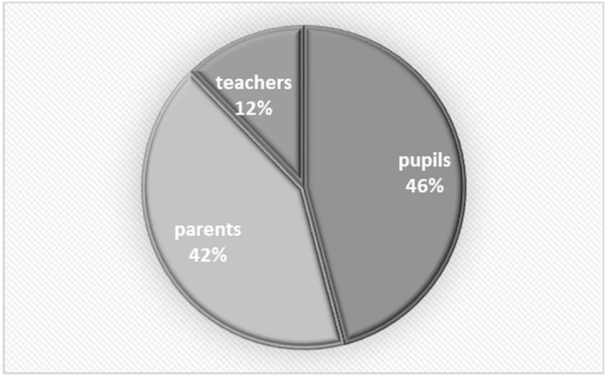

Chart 1. The sample

The questionnaire was administered online, via google forms, and responses were collected in April 2021, after one year of online schooling in Romania.

3. Results

3.1. The sample

The respondents focus more on the ability of online learning to develop adaptability to new situations, on the effectiveness of online learning due to interactivity and multimedia resources and on the flexible schedule that online learning provides. The less valued advantaged of online learning are the real-time feed-back and its ability to encourage communication and creativity.

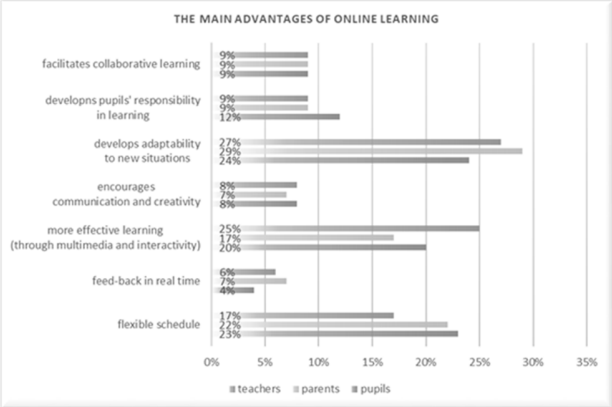

Chart 2. The perceived advantages of online learning

The responses shows that all educational actors share a pragmatic vision of online learning, focusing more on the most visible aspects of online schooling (flexible schedule, usage of multimedia) and less on the equally important feed-back and evaluation. So, we can see from the answers that the respondents, when analysing the online schooling, still focus on online teaching, and less on online evaluation or development of specific skills (online schooling is perceived as facilitating the collaborative learning by less than 10% of the respondents).

3.2 The perceived disadvantages of online learning

In terms of main disadvantages of online schooling, we can see from the answers centralized in chart 3 that respondents focus more on lack of human interaction and the difficulties on maintaining pupils' attention and less on time required for preparing the lessons and the difficulties in using the technology.

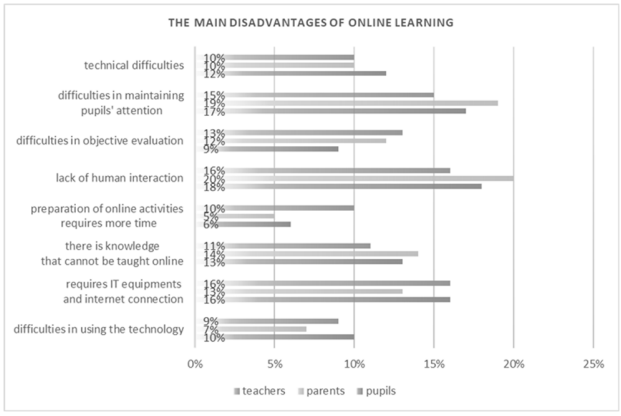

Chart 3. The perceived disadvantages of online learning

On the one hand, the results are positive, as the difficulties in using the e-learning platforms and the technical difficulties are less mentioned by the respondents compared with one year ago (when more than half of the questioned teachers mentioned those difficulties – Simionescu, Danubianu, & Marcu, 2020).

On the other hand, we can see that there are more differences among pupils, parents and teachers in evaluating the disadvantages of online schooling compared (especially if we look on the analysis of advantages again): lack of human interaction and difficulties in getting pupils attention are more important for parents compared with pupils and teachers, while, strangely, the difficulties in using the online platforms are more important for teachers compared with teachers. Not surprisingly, the time needed to prepare the online lessons is seen as a disadvantage of online schooling by a larger percent of teachers compared with pupils or parents.

3.3. The perceived efficacy of online learning

The pupils, parents and teachers share a slightly negative perception of the efficacy of online schooling, as the average scores are just beyond the middle of the scale (3), as visible in chart 4.

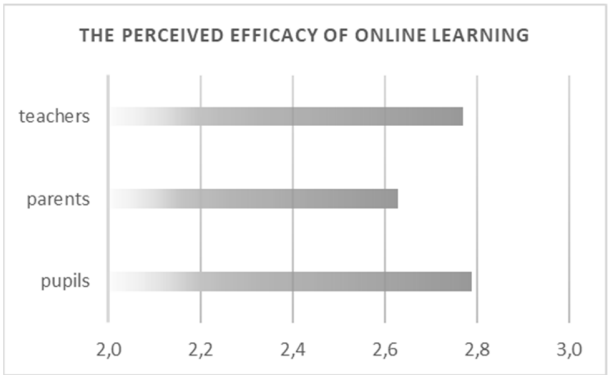

Chart. 4. The perceived efficacy of online learning

Comparing the responses from the three groups of respondents, we can see that the average scores of parents are significantly lower compared with teachers (independent samples t test, $p<0,001$) and pupils ($p<0,001$), showing that parents are even more reserved in evaluating the efficacy of online learning (on the one hand, they can be less aware of the learning results, but, on the other hand, they can be more objective in evaluating the outcomes as they are not directly involved in the teaching, learning and evaluating).

3.4. The perceived attractivity of online learning

As in evaluating the effectiveness, the evaluation of online learning's attractivity is slightly negative, data presented in chart 5 showing average scores just beyond the middle of the scale:

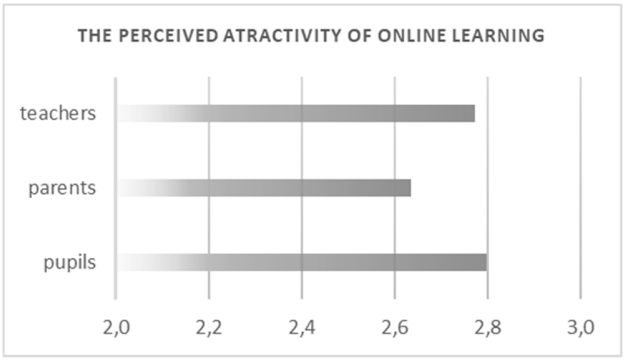

Chart 5. The perceived attractivity of online learning

Parents are more negative in evaluating the attractivity of online learning compared with teachers ($p<0,001$) and pupils ($p<0,001$), while, surprisingly, pupils and teachers share a similar evaluation.

On the one hand, after a year of online learning, we could have expected that teachers developed their didactic skills in order to increase the attractivity of their digital classes, but, on the other hand, the results might be explained by all three educational actors being tired after their constant efforts to adapt to online schooling in the past year, so they evaluate the digital lessons as less attractive.

Based on our results, we can also argue that teachers are objective in evaluating the attractivity of their lessons for their pupils, as the pupils' and teachers' evaluations are similar.

3.5. The perceived quality of evaluation in online learning

The quality of evaluation in online learning is assessed in a slightly positive manner by all three categories of

respondents, as their average scores presented in chart 6 are just over the middle of the scale:

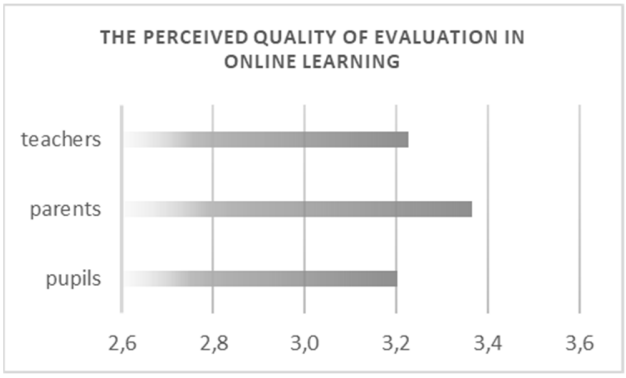

Chart 6. The perceived quality of evaluation in online learning

Parents have an even better attitude towards the quality of evaluation in online, as their average scores are significantly higher compared with teachers ($p<0,001$) and pupils ($p<0,001$). One possible explanation of this difference in that parents have better access to their children's evaluation and assessment results in online schooling (grades are available online through the e-learning platforms), but we did not measure this, so we can only hypothesize about this and plan future research to validate this explanation.

3.6. The perceived capacity of online learning to develop communication and social skills

As school should not focus only on teaching and learning, but also on developing social skills, we included this dimension in our evaluation of online schooling; the results are not encouraging, as all three educational actors made evaluation just beyond the middle of the scale, as presented in chart 7:

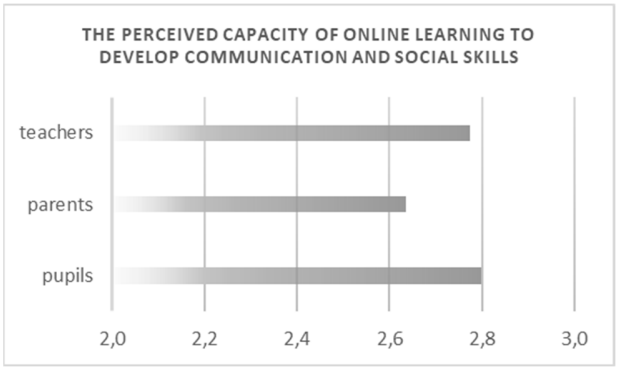

Chart 7. The perceived capacity of online learning to develop communication and social skills

Again, parents are even more reluctant into positively evaluating this dimension, as their evaluation of the online teaching's capacity of developing pupils' social skills is significantly more negative compared with the evaluations made by teachers ($p<0,001$) and pupils ($p<0,001$).
The results were to be expected, as previous reports (Simionescu, Danubianu, & Marcu, 2020) showed that lack of human interaction is the biggest disadvantage of online schooling. [2]

3.7. The perceived progress of online learning in the past year

The perception of the changes made in the past year in online learning is negative, as the average scores of all three categories of respondents are around 2 on a scale from 1 to 5, showing that respondents disagree with the sentence "On average, I consider that in the past year there was a significant progress in increasing the quality and results of online learning" (data presented in chart 8).

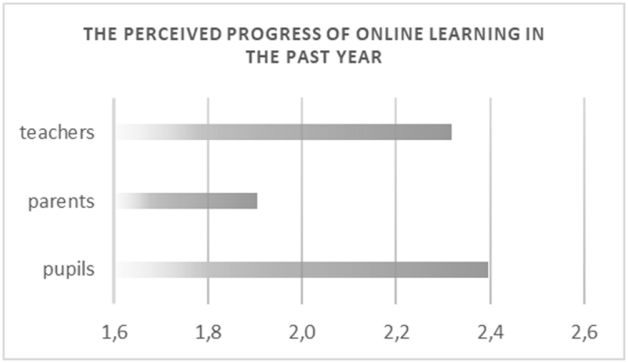

Chart 8. The perceived progress of online learning in the past year

As in most of previously analysed dimension, parents are the most fastidious in analysing the progress in developing the online learning, as their evaluation is more negative compared with the evaluations made by teachers ($p<0,001$) and pupils ($p<0,001$). On the one hand, we can consider that parents have more limited access to information and references to evaluate the improvements in online learning in the past year, but, on the other hand, we still need to take into consideration that all categories of respondent consider, after one year of online learning, that things are not going in the right direction and there was a regress in terms of quality and results of digital learning in this past year. This result is even more important when we consider that teachers themselves share this point of view and this negative evaluation.

4. Conclusions

In March 2020, due to the COVID-19 pandemics, the Romanian Ministry of Education decided that all teaching activities in schools should be online. [3]

After one year of online teaching and distance learning, teachers, pupils and parents still focus more on the teaching compared with evaluation, learning and development of specific skills; therefore, the biggest advantages of online learning are perceived to be the development of adaptability to new situations, the effectiveness of online learning due to interactivity and multimedia resources and the flexible schedule that online learning provides.

In terms of disadvantages of online schooling, the focus is not anymore on the needed resources and skills to use the technology, but on the lack of human interaction and the difficulties on maintaining pupils' attention during online classes. This shows that all the efforts that were made in Romania to ensure the digital devices for all involved in education were successful (on average, only about 15% of respondents mention the need of device and internet connection as a disadvantage of online learning), but, in the same time, the efforts to develop teachers skills to prepare, implement and evaluate effective online activities need to continue, as even teachers mention as one important disadvantage of online learning the difficulties in maintaining pupils' attention during online activities.

The overall evaluation of online schooling after one year of more or less continuous implementation is slightly negative, as negative evaluations were made regarding the efficacy, attractiveness and capacity to develop pupils' social skills are negatively evaluated by teachers, pupils and parents. The results clearly demonstrated that the change from face to face to online schooling is not so easy to implement as it looked one year ago, when public attention was on the lack of devices and even the authorities in education considered that buying devices for all pupils will solve all issues of online schooling. One year later, the educational actors underline that there still are a lot of issues in online teaching and learning, that this activity is not as affective or attractive as it might look, and, more or less surprising, that there was no progress in the past year in developing the online educational services, but, contrarywise, teachers, pupils and parents tend to consider that there was a regress in terms of quality and result of online learning.

Online learning technologies provide to researchers and software developers the opportunity to create personalized learning environments based on big sets of educational data that can be analysed to implement successful online education. Teachers should have real time access to visual representations that makes learning data easy to understand in order to make the best decisions to enhance the quality of online learning. [4].

Our conclusion is that school needs to change in order to further adapt to present requirements, but also to respond to the future job market; this change should begin immediately and should start with changes is teachers' mentality. This change could be modelled through continuous training motivated by their wish to become the teachers of the future, but it requires that teachers discover the methods, strategies, apps that can be used successfully in online teaching and learning.

In this respect, to answer the needs of the Romanian teachers, I published as co-author three methodological guides for online education: *Resurse informatice pentru educația online: Google Classroom - Ghid metodologic pentru învățarea online* [5] - (*ITC resources for online education: Google Classroom – Methodological guidelines for online education*); *Resurse informatice pentru educația online: Microsoft Office 365 online* [6] - (*ITC resources for online education: Microsoft Office 365 online*) and *Resurse informatice pentru educația online: Prezi, Padlet, LearningApps. Ghid metodologic pentru învățarea online* [7] (*ITC resources for online education: Prezi, Padlet, LearningApps – Methodological guidelines for online education*).

Also, within the Vrancea County Teachers House, as trainer, I organized various seminars on topics like: Digital resources – innovation opportunities in special education; ITC resources for online education: Google Classroom; Digital tools for managing online educational activities; Colaborative tools for distance learning; Creating interactive tests and gamification through Kahoot.

I organized and coordinated the Regional Conference with national participation "Online school. Aspects. Challenges. Solutions", first edition in June 2020 [9], second edition in June 2021. Those two scientific events were implemented with the main objective of creating a didactic community that analyses the online schooling, from access to this learning system, through the attitude and perception of all involved factors regarding the utility, efficacy benefits and disadvantages and ending with examples of good practices. After each Conference we edited a journal with all participants papers, with the first edition journal being available in print at Vrancea County Teachers House headquarters and online on the institutional website, and the second edition journal being currently edited. [8]

While at the beginning of online schooling the teachers needed to use their ingenuity and skills as they could, in the meantime, we provided them specific tools to facilitate the online teaching and learning, and, in the future, we aim to further provide them with different tools and methods to gain maximum efficiency in online education.

Thus, we support the idea that for better online learning there is a need of common efforts from all three educational actors: teachers, pupils, parents, and the development of digital skills is a key factor for reaching this objective.

Online learning has dynamic contents, learning is always active, so the main objective of teachers needs to be focused

towards gaining the best results from pupils and, why not, reaching performance.

Acknowledgement

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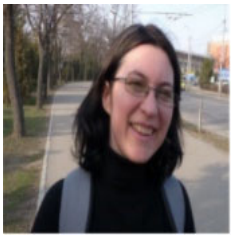

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