

## 2. APPLIED TEACHING STRATEGIES DURING THE COVID 19 PANDEMIC

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**Abstract:** *The crisis generated by the Covid 19 pandemic strongly influenced personal experiences, but also professional ones. For pre-university and university education in Romania, the transfer to the virtual environment of teaching activities has been a challenge for the design and efficient development of education. This paper presents the results of a qualitative study based on the method of the semi-structured interview, on the teaching strategies and methods that teachers applied in the online school, conducted between November 2020 and June 2021. The aim of the research is to identify teacher adaptation strategies to the requirements of the online school environment and the teaching methods used by them in working with pupils and students. The objectives were: to gather the difficulties encountered by teachers in working with pupils / students, to identify ways to adapt teaching methods to the new educational context, to highlight the benefits that teachers found in the new way of organizing. We set out to find out the extent to which teachers practiced emergency remote teaching or online teaching based on interactivity. The research group consists of teachers from primary, secondary, high school and university in Iasi. The paper militates for the valorisation of a new pedagogy built on the strengths of digital educational platforms and having as central dimension interactivity.*

**Key words:** *e-learning, digitized teaching, teaching strategies*

### 1. Introduction

The crisis that accompanied the COVID 19 pandemic strongly influenced our personal and professional experiences as well. For both primary and pre-university education, but also for university education, the transfer to the virtual environment of educational activities proved to be a major effort and a challenge that required the reconfiguration of the conditions that ensure teaching efficiency. The prolongation of the COVID 19 crisis leads us to reconsider the conceptualization of teaching-learning-assessment activities. It is therefore necessary to develop and implement new teaching strategies.

Globally, education experts (Li and Lalani, 2020; Luo, 2020; Daniel, 2020; Opre et al., 2020) find that schools should no longer focus on traditional academic skills, but rather on critical thinking and adaptability, as well as the transformation of online learning into a catalyst for a new educational paradigm. This paradigm should capitalize on the strengths and good practices extracted from classical teaching and adapt them to the particularities of online education. Online education (Opre et al., 2020; Ceobanu et al., 2020; Istrate, 2013) is operationalized based on several essential conditions: a didactic strategy designed ad-hoc for a teaching-

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learning-assessment based on information technology, materialised through training and evaluation sessions conducted online and which alternate two types of instructional activities: synchronous and asynchronous.

The question at this time is whether Romanian education can overcome the current stage of emergency relocated teaching and can meet the quality standards of an updated digitized teaching (Opre, Opre, Glava and Glava, 2020). The cited authors propose an optimized teaching strategy, called interactive online teaching. This implies an essential paradigm shift that will gradually develop a new pedagogy, one that values the strengths of digital educational platforms and has as its central dimension interactivity. Changes and challenges can be turned into opportunities that will push us to think of more efficient ways to ensure quality education during this uncertain period and in the future (Landicho, 2021). Adapted online stimulation of pupil / student interactions are needed, as well as a reconstruction of student-centred teaching. Some current research and explanatory models (Swan, 2021, Butnaru, Niță, Anichiti and Brînză, 2021, Ozer and Suna, 2020) base the focus on the student by assigning an essential role to stimulating social relationships in the online environment and a teaching style of the teacher focused on exploration, integration and solution, on stimulating trust among pupils and students, encouraging the sharing of experiences and opinions, incorporating collaborative activities into courses. A useful synthesis of the vital and innovative elements of the pedagogical paradigm necessary for education in a pandemic context and for the education of the future can be drawn in this way (Opre et al., 2020). It:

- is psycho-pedagogically based on social-constructivist conceptualization,
- actively and selectively assimilates the requirements of online education,
- recommends flexibility regarding the share and alternation of synchronous and asynchronous activities,
- is explicitly focused on teaching strategies that increase the level of interaction of the student with the informational content and, respectively, the student's interactions with the teacher and classmates.

This approach exploits as effectively as possible the most important features of technology and the digital environment, in order to adapt and create teaching strategies and teaching-learning-assessment methods, focusing on the student and their training needs, in the context of interactivity and collaboration.

## **2. Methodology**

The aim of the research is to identify the strategies for adapting teachers to the requirements of the online school environment and the teaching methods used by them in working with pupils and students. The objectives were: to identify ways to adapt teaching methods to the new educational context, to gather the difficulties encountered by teachers in working with pupils / students, to highlight the benefits that teachers found in the new way of organizing. We aimed to find out to what extent teachers practiced *emergency remote teaching* or *online teaching based on interactivity*.

Individual and group interviews, consultative seminars and workshops have been used for exploratory purposes in various studies addressing extremely new

topics and in which the literature is missing or minimal (Butnaru, Niță, Anichiti and Brînză, 2021; Mahmood, 2020; Williams et al., 2020; Whittake, 2010). Faced with such a situation, to which is added the fact that they make a double contribution - the completion of scientific research data with empirical data on the one hand, and the opening of multiple new research perspectives, on the other hand, we decided to choose them for this work as well. In order to collect the data necessary for the research, between April and June 2021, we coordinated individual and group interviews conducted with the help of the Zoom platform, with 60 teachers from Iași education, 20 teachers from university, 20 from high school and 20 from primary education. In order to conduct the interviews, we organised semi-structured interview sessions in small groups by 6-8 participants who generated the answers to the questions asked, as well as individual interviews in writing, followed by group discussion sessions. The interviewed university and pre-university professors and teachers come from the “Gheorghe Asachi” Technical University of Iași, from five colleges with a technological profile in Iași and from 12 primary schools in Iași County.

### 3. Findings

In analysing the data, the researcher followed some steps that are developed by Miles, Huberman and Saldana (1994). The researcher transcribed the verbal responses. After that, the researcher did the data coding by classifying the data into categories and gave the code to each of them. There were four categories, namely teachers (T1, T2, T3), teaching strategy (Tst), teachers’ adaptation (TA), challenges (CS), and Benefits (Bf). After classifying the data, the researcher made the data reduction by focusing on the data related to answers to the research questions. At the next step, the researchers displayed the data in the form of a descriptive text. Following these steps, in the first phase we repeatedly read the transcripts of the interviews, making associations, interpretations, preliminary syntheses, then we switched to coding (first an initial coding, extended, identifying the topics and subtopics that stood out, without omitting any, then we looked for relationships between them building thematic clusters); in the next phase we identified the common issues and discrepancies and then we analysed **the major themes and sub-themes**, which we will present in the rows below:

#### 1. Ways of adapting teaching methods to the new educational context

a) In the **university** environment, the beginning of online education was marked by the rapid and successful use of digitised platforms by most teachers in the technical environment. They had this practice and used computer-assisted education devices and programmes. Classical methods. They started by using mainly exposition and demonstration, as far as possible. Interactive methods. Initially, they understood interactivity by using the platform's options - chat, themes, meeting appointments. Later, they used the conversation to a greater extent, asking questions, case study - discussing or exposing images and technical mechanisms, teamwork, based on discipline-specific exercises. Interactivity is defined by debate, case study, collaborative learning. They use less creative teaching methods, and are less supportive of emotional adjustment and support in their new context. E-learning

strategies are well foreshadowed, as is the technical use of educational platforms. The evaluation was a difficulty, but the strategies found were: evaluation along the way, with the help of accumulated scores, oral tests and tests administered through digital platforms.

b) In the **pre-university** environment, the biggest challenge was initially the access to work platforms and familiarising students and teachers with them. Alternative means of communication were used - WhatsApp, messenger. As in the university environment, they used platforms such as Zoom, Edpuzzle, Mozabook, Kahoot, Google Classroom, some of which are based on the level of interest of the young generation that is connected to technology and eager to use it. They used digital textbooks, applications that made the content accessible, technical editing of the content on the board and conversion to pdf, worksheets, tests, digital textbooks; they used the graphics board and the interactive whiteboard. Regarding teamwork, the teachers at the gymnasium state that there were difficulties due to the reservation and non-involvement of some students.

Among the ways of working based on interactivity, the most common option was to organise working groups. The collaborative learning activity, carried out on the basis of work groups, was maintained through the options provided by the platforms - accessing the work rooms and / or distributing the students on open alternative channels within the same online work session. These facilities allowed students to withdraw to discuss the workload they received, so as not to interfere with their discussions with those of their classmates (platform options: Microsoft Teams, Cisco Webex). Work options provided by interactive whiteboards were also used: for example, the Jamboard application, which is found in the tools provided by Gmail, does not require its installation, etc. Attracting students to engage in interactive activities - games, case studies - greatly activated the students' willingness to perform activities other than those in the classroom, where they did not have the opportunity to use tablets, laptop, phone.

The assessment was done by administering online tests using the Google Forms application or even by using various interactive game applications in order to verify and acquire the knowledge accessed and solved during the teaching activity or during the revision and systematisation classes (Edpuzzle, Kahoot, WordWall). Compared to university professors, there was a greater concern for the flexibility of ways to motivate and stimulate interest through play, debate, emotional connection.

c) In terms of pre-university education, **primary education**, and this professional category has adapted the classical methods in variants mediated by digitisation technologies.

Teachers say that they have adapted classical methods to variants mediated by technologies specific to online learning and that they have frequently used interactive teaching methods: to capture attention - didactic games, role-playing games, ice-breaking games; to understand the texts - the stellar explosion, the cube, the thinking hats, the bunches; for team spirit - competitions and team projects. Parents have also been involved in many activities.

Primary school teachers have used a wide range of digital resources. The platforms used were: Google Classroom, Google Meet, Microsoft Teams;

WordWall platform, Twinkl platform; to which were added various applications, common or specially created for young students: Word - from the Microsoft package, .ppt, WhatsApp, YouTube, Facebook-messenger, Mentimeter, Word Art, Quik, ChatterPix Kids. In terms of evaluation, we used both continuous evaluation with feedback, self-evaluations, inter-evaluations, contests, projects, and evaluation based on tests with questionnaires, quizzes mediated by applications such as Google-Forms, Quizzes, Kahoot, liveworksheets.

Unlike college and high school teachers, elementary school teachers say they were more concerned with students' emotional needs and looked for ways to connect emotionally: classroom communication, role-playing games, nonverbal codes, as well as educational games ("How are you feeling today?", "The game of emotions", "What are you grateful for today?", "What level of energy do you have today?", etc.).

## 2. Difficulties encountered by teachers in working with students

The common difficulties encountered are related to the slowness of the pupils / students in acquiring their specific technology, the communication blockages generated by the lack of nonverbal communication, the difficulty to determine the participation with the camera and the distracting factors. In the university environment, the most felt difficulty was the transmission of the application content online and the objective evaluation, but also of the practical skills. In the pre-university environment, the biggest difficulties were related to connecting and stimulating the participation of all students. In all situations, the skills of communication, relationships, the formation of attitudes of responsibility and conscientiousness are widowed. Interference with students' privacy was perceived as a major difficulty by primary school teachers.

## 3. The benefits that the teachers found in the new way of organising were found especially on a personal level:

- excellent acquisitions in the specific IT field;
- developing flexibility and openness to new methods and strategies for virtual teaching;
- identification of software tools, such as simulators, for teaching practical activities, without which this teaching would not have been possible;
- the collaboration with other teachers was at a much more intense level, in a positive sense;
- the summative assessment is much improved due to the tools on the digital platforms, the teacher no longer has to correct the works / worksheets, but only to import the grades issued automatically by the system;
- class attendance is done automatically through the meet attendance application;
- can easily check a student's activity history by viewing their worksheets.

## 4. Conclusions

The analysed data allow us to formulate some conclusions thus answering the basic question: to what extent have teachers practised emergency remote teaching or an online teaching based on interactivity? At the level of the educational system:

- the computerisation of the school was accelerated and the shortcomings of the

education system were highlighted, which opens the way to an efficient modernisation of the school;

- the limitations we have at the moment have been highlighted;
- the school was continued in a much improved form and slightly more standardised than the initial experience, had in the first lockdown.
- in a pandemic context, students had access to information.
- a virtual library has been set up (lessons on the classroom platform), to which students have access at any time and can view materials, movies, tutorials, etc.
- parents can have access to how the child reacts to teaching and to the tests performed by him. They can check if their children have done their homework and if they have been taught.

Important steps have been taken in establishing models and good practices for generalised online education. The teaching that took place in the first part of the pandemic is, however, an emergency relocation / emergency that will ensure the continuity of education and the connection of people. Along the way, teachers were able to better focus on achieving educational goals and applied methods. Only a small amount of online education based on interactivity has been achieved. This is because each teacher tried to test their own limits, find their own resources and validate solutions. Adapting interactive methods in the online environment requires training teachers' ability to open up to the new, creativity, receptivity to students' learning and emotional needs, as well as motivational and even acting skills, to capitalise on tone, voice accents, pauses, dynamism, playfulness, rhythm breaking and relaxation, etc. - important elements of a student-centred educational relationship.

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