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EDITED BY

Claudio Longobardi,
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REVIEWED BY

Luiza Meseșan Schmitz,
Transilvania University of Brașov, Romania
Donna Pendergast,
Griffith University, Australia

*CORRESPONDENCE

Nadia Dario
✉ ndario@unisa.it

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Through teachers' eyes: adaptability and transformations in their practices and relationship with students during COVID-19 pandemic

Nadia Dario^{1*}, Monica Mollo¹, Giulia Savarese² and
Luna Carpinelli²

¹Department of Human, Philosophical and Educational Sciences - University of Salerno, Salerno, Italy,

²Department of Medicine, Surgery and Dentistry - University of Salerno, Salerno, Italy

Introduction: This research critically and empirically analyzes the intricate interaction between the transformative impact of the COVID-19 pandemic on the Italian educational system and the quality of the teacher-student relationship. The main focus is on the experiences of Italian educators who had to deal with the upheavals caused by the pandemic within an educational system.

Aim: The primary purpose of this study is to explore (a) how did teachers' educational practices change during the first lockdown and (b) how did the teacher-student relationship evolve during the first lockdown from the teachers' point of view.

Methods: The study uses a qualitative approach through semi-structured interviews and diary collection (conducted via platforms). Participants are Italian primary and secondary school teachers aged between 25 and 60.

Results: In this study, the thematic analysis of the content of the interviews and diaries reveals: the initial responses of educators, the transition to distance learning, the challenges and potential of virtual education, the students' evaluation, future perspectives, and the topic of the relationship with students (particularly addressed in the diaries).

Discussion: By delving into the transformation of the teacher-student relationship under extraordinary circumstances, this research enriches the discourse on its quality, capturing the psychological nuances of learning-teaching experiences, and uncovers the multifaceted transformations in teaching methodologies, tools, and assessments.

KEYWORDS

educational resilience, remote teaching challenges, teacher-student relationship, digital divide in education, adaptive pedagogical strategies

1 Introduction

The COVID-19 pandemic has spread globally since December 2019, negatively impacting not only people's mental, physical health, and quality of life (Moccia et al., 2022), but also affecting multiple professional sectors, including education and teaching.

The culture and education sectors have been affected and disrupted by the dramatic situation related to the COVID-19 pandemic.

As the main international, European and national legislation on the topic of the impact of COVID-19 on education and culture (Mura, 2022), the negative consequences have impacted, and still impact inevitably, both the lives of older people and those of girls, boys, and adolescents.

The rules that disrupted the lives of under-age people during the pandemic were many: the maintenance of physical distance, lessons conducted via personal computers or tablets, the heavy renunciation of social moments such as school trips or recess, and the impossibility of access to places of culture and entertainment.

As is well known, one of the measures to combat the spread of the virus was in fact the closure, for longer or shorter periods, of all cultural venues (cinemas, theaters, concerts, and museums) and schools, with the consequent reorganization of teaching in a manner different but equally guaranteeing the right to education.

The harshest restrictions were put in place in the initial phase of the pandemic outbreak. A phase that unfortunately caught our health system unprepared and in a condition of serious difficulty in ensuring adequate care to all. Thereafter, in alternating phases, restrictions were followed one after another over the months due to the different waves of contagion.

Regarding, specifically, the right to education from the beginning of the pandemic to date, in order to try to stem as best as possible the impact on the education system, the whole world has interfaced with new learning methodologies, also thanks to the use of new digital technologies, such as Distance Learning and Integrated Digital Learning.

The long periods of isolation and closure during the pandemic have demonstrated the extent to which education and constant contact with culture are vital for both individual and collective well-being.

1.1 The Italian educational context

The Italian education system experienced a significant transformative shift, notably altering the dynamics of teaching and the relationships between educators and students.

Italian teachers began the 2019–2020 school year in physical classrooms with an average of 22 students per class. They transitioned from these overcrowded classrooms to remote learning as the government implemented measures to slow the virus's spread and alleviate pressure on the National Health System. The sudden shift had repercussions both personally and professionally for teachers.

During the 3-month lockdown, teachers adapted to a new mode of instruction. We went from a sporadic local lockdown to a total nationwide lockdown and then to a so-called second phase (a return to partial freedom). The actual started of distance learning can be traced back to February 22nd. On that date, in northern Italy, educational institutions were closed down and school trips suspended. Italy had only ever experienced national school closures during the 1918 pandemic (Spanish flu). As we know, at that time, education was compulsory up to the age of 12 (Orlando Bill) and not accessible to everyone. This is why it did not have such a strong effect on the school population as it does today.

After the March 4th ordinance where “all school activities including childcare services were suspended, except for distance

learning,” individual institutions took the initiatives and made their know-how available to other schools. The INDIRE¹ website was visited by millions of teachers who in a few days began to train on distance learning. In fact, the site contained courses and materials made available by schools and principals (Mangione et al., 2020).

Faced with closed schools, children at home, and families forced to reorganize their times and living and working spaces to cope with Distance Learning, INDIRE, in agreement with the Ministry of Education, promoted a guidance training initiative based on a large solidarity network centered on a peer mentoring model already widely adopted within the Networks of Educational Avant-gardes² (Mughini, 2020) and Small Schools³ (Mangione and Cannella, 2018) to accompany schools through processes of change and innovation" (p.59).

The value of ICT, Information and Communication Technologies, was rediscovered. The figure of the Digital Animator, introduced in Italy with the National Digital School Plan (PNSD), launched in 2015, becomes useful for the coordination of remote activities in the local school institutions. At the beginning of March, it was necessary for many teachers to reorganize their work: programming, principals'

1 INDIRE the National Institute for Documentation, Innovation and Educational Research, is the Italian Ministry of Education's oldest research organization. As well as its headquarters in Florence, it has three regional units in Turin, Rome, and Naples. It is a public body, scientifically independent, and enjoys statutory, organizational, regulatory, administrative, financial, accounting and patrimonial autonomy (cf. the INDIRE's Articles of Association, Italian version). Since its foundation in 1925, the Institute has worked closely with the Italian school system, investing in training and innovation while supporting improvement processes in schools (for more details, visit: <https://www.indire.it/en/home/about-us/>).

2 “Educational Avant-gardes is a research-action project born from the autonomous initiative of INDIRE with the aim of investigating possible strategies for the spread and systematization of innovation in the Italian school, taking particular account of enabling factors and those that hinder its diffusion. The project then transformed into a veritable Movement—officially established on November 6, 2014, in Genoa—open to all Italian schools; its mission is to identify, support, disseminate, and systematize educational practices and models aimed at rethinking the organization of Teaching, Time, and Space of ‘school activities’ in a knowledge society in continuous evolution. The Movement is the result of a joint action by INDIRE and 22 founding schools that have signed a Programmatic Manifesto for Innovation consisting of seven macro-themes, the ‘reference horizons,’ which explain and animate the vision of Educational Avant-gardes. The 22 schools, having experimented with one or more paths of innovation inspired by the Manifesto, are also the first 22 leading schools of Educational Avant-gardes.” From website: <https://innovazione.indire.it/avanguardieeducative/>.

3 “The Small Schools Movement brings together educational institutions located in geographically isolated areas with a small number of students. This movement is also supported by INDIRE. In fact, the research work and support provided by the Institute have allowed some schools on small islands and in Italian mountain areas to experiment with common working methods through distance learning models and the use of technologies such as interactive whiteboards and videoconferencing.” From website: <https://piccolescuole.indire.it/il-movimento/>.

guidelines, coordination, planning, and all kinds of discussions were aimed at the new way of teaching. The biggest problem remained how to reach the whole population:

As for Italian students, according to ISTAT, 20% in April did not use the DAD and 57% of minors up to age 17 had to share their PC or tablet, while 12.3% did not have one at all; moreover, among those who have surfed in the last 3 months, 34% have low skills, and 32% only basic skills. For this reason, the Italian government has allocated about 85 million euros to encourage the use of e-learning platforms and to equip less well-off students with digital tools on loan (Sarsini, 2020, p.3).

At the level of praxis, the first instructions on behalf of the Ministry of Education arrived on March 17. This provided indications on how all school levels and ranks must operate remotely. This did not put an end to teachers' controversies, especially on evaluation and support teachers, a point also stressed by the Minister of Education in the Ministry Degrees. Furthermore, on April 8, state exams that were normally scheduled in Italy at the end of middle school (14th year) and high school (19th year) were reorganized and the evaluation simplified.

In the middle of May, a new ordinance asked teachers to elaborate new documents: a plan for the integration of learning and for individualized learning. In particular, there was a request to re-design the didactic activities that must be carried out starting in September 2020 and to provide the recovery of learning objectives not reached, during the school year.

1.2 Aims

Our research scope is to deeply investigate educators' experiences during the initial lockdown period of the pandemic, specifically focusing on how teachers adapted their teaching practices and the resulting transformation of their relationships with students.

Our research questions are:

- How did COVID-19 impact on the teachers' personal life and teaching practices during the first lockdown?
- How did the teacher-student relationship evolve during the first lockdown from the teachers' point of view?

2 Methods

Research was conducted with a qualitative approach using interviews and diaries on a group of Italian teachers. As described in other qualitative studies (Sullivan et al., 2005; Hewitt et al., 2007; Jensen, 2008; Gabb, 2009), diaries are in fact generally used in combination with interviews or questionnaires to shed light on to participants' knowledge, behaviors, and feelings (Harvey, 2011; Tateo and Dario, 2020; Dario and Tateo, 2021).

The choice of diaries also allows us to analyze the influence of the context (ecocultural approach), examine changes over time, and study the specific individual differences of the subjects who narrate and reflect on the extraordinary situation (Rausch, 2013, 2014).

In operational terms for the interview, the current study utilizes semi-structured interviews, where the researcher crafts a set of clear, logically arranged open and focused questions, avoiding any instructional elements, following the approach outlined by Ergenekon (2007).

While the interview provides a summary of each teacher's experience up to that point, the diaries provide a perspective over the entire time frame from March (when the pandemic starts) until June. Through these methods, we want to capture teachers' first-hand experiences of the situation.

2.1 Participants and tools

Twenty-five Italian primary and secondary school teachers (three males and 21 females), aged between 25 and 60 ($M_{age}=43.7$), voluntarily participated in this study.

The participants come from all over Italy. They were interviewed during the month of March and they write diaries up to the end of the school year (covering three additional months). Each participant signed an informed consent ensuring anonymity and compliance with current regulations for the processing of audio and video data.

Due to the pandemic restrictions, the interviews were conducted remotely using *Google Meet*, which also allows for simultaneous recordings. The application enables the generation of video recordings stored in a folder named "Meet Recordings."

Then, the first author created a blog using *Blogger* to collect the diaries. Participants could write their diaries every day or on days of their choice. All participants could read the content of each other's diaries, but to keep their anonymity the names were changed.

2.2 Procedures

2.2.1 Phase 1: phone contact with the interviewee and consent sending

In this phase, each interviewee was contacted by phone by one of the researchers, and if they agreed to be interviewed, they were sent the privacy information and consent documents via email.

2.2.2 Phase 2: semi-structured interview

In March, all interviews were conducted in the first 3 weeks. A suitable time was arranged with the interviewees. Participants were sent a link to their personal email on the day and at the time of their choice, which allowed them to access the Google Meet platform. Each interview lasted 45 min. The semi-structured interview was divided into two parts: teachers' personal and professional experience before and during the pandemic [we mapped the COVID-19 initial responses of our participants, their re-organization of teaching (also the methodologies used), the assessment of learning, and the perspectives on future teaching situations].

2.2.3 Phase 3: diaries

During the interview with the teachers, they were asked if they wanted to write a daily or weekly diary. Those who agreed could register on the private blog via a link. This was always sent to their personal email. Once they accessed the blog, they found information about how to work on it (See Supplementary material). Only registered

participants could visit and see the blog and write their diaries in it. Unauthorized entries were automatically deleted. Diaries were collected from March to June.

3 Results

In this section, we analyze the responses provided by the participants in the interviews and the contents of their diaries, presented in their entirety. Our main idea is that a teacher evolves and transforms within a social and cultural context (Pianta, 1999; Paquay and Wagner, 2006), we collected the “teacher’s experience” during the first school year of the pandemic by eliciting their personal views through interviews and diaries. In doing so, we can understand the teachers’ perspectives on “change” and gain insight into the overall modification that our educational systems were undergoing.

3.1 Interviews data analysis

The interviews were transcribed to ensure a homogeneous and consistent data set. In the transcription of the interviews, the participant’s exact words were recorded without the use of specific phonetic notations or detailed transcription conventions. Subsequently, a thematic content analysis of data of Ergenekon (2007) and Braun and Clarke (2006, 2021) were carried out, focusing on the following areas: teachers’ initial responses COVID-19; reorganization of instructional planning (in terms of methods and tools); and student assessment in an online context.

3.2 Teachers’ initial responses to COVID-19

Teachers’ daily life was undoubtedly affected by the impact of the initial lockdown. When asked about their personal experiences (how they were living the emergency period; when they first perceived that something had changed; and what were changing in their present life) during the emergency period, teachers shared their emotional responses.

P.02.: “When I went shopping for the first time, it seemed like being at war. Social distancing, gloves, disinfectant, and masks” [...] At first, we lived everything with anxiety and terror because everything took a bad turn. So, you had to stop... Initially, we lived everything with fear because some of us had to take public transport to get around and we lived everything with fear.”

P.10.: “I would have never imagined it, but I found myself very anxious. At first, there was a lot of fear, I did not leave the house. I did a couple of releases in just over a month. I had distanced myself from everyone to protect myself and others.”

They described how they perceived the crisis with feelings of fear, apprehension, and anxiety. They experienced the fatigue of their daily life and they were defending themselves against a virus for which there was no vaccine, and the impression was that of being in a state of war. Even the words from newspapers and the media gave the impression of being in the midst of a conflict (Moccia et al., 2022).

P.2.: “We should have these attitudes for a while... at least until a cure for this situation will be found. There is a powerful enemy that has hit us in every sense. We do not know if we will be able to return the life we knew before. I hope and *pray for a vaccine.*”

In fact, the initial lockdown measures imposed by the Italian Government, such as social distancing, mask-wearing, the inability to go out and spend time with people outside of the home, profoundly impact on teacher’s routines (e.g., P.02 and P.10 highlight how normal activities of grocery shopping and daily walks had changed). It emerged that many teachers experience a phase of adaptation and reinvention during the emergency period. In the 25 interviews, two words kept appearing over and over again: “personal growth” and “reinventing oneself.” All participants defined COVID-19 as an extraordinary phenomenon and started to find a positive side in their situation: forced closure was the opportunity to engage in hobbies and pursue interests that had previously been set aside (e.g., 20 out of 25 rediscover the value of cooking for their own family).

P.12.: “A part from my personal situation which forces me to stay at home regardless. It is a moment in my life when I am able to cultivate reading. There are subscription magazines that I have never looked at. There are English magazines and films. This aspect of *personal growth* made me reflect on many things. I have regained the dimensions that I had lost in the previous daily routine.”

P.05.: “The moment they confined us to our home we had to further *reinvent ourselves*. However, we are a lucky family because we were able to react in different ways. With the use of technology, my husband built an office near our bedroom; the children attend lessons from a far; I carved out a space for myself in the living room.”

Gradually COVID-19 changed from being an extraordinary phenomenon with peculiar meaning to a more ordinary one (Tateo and Marsico, 2019). From the teachers’ words, it emerged that initially, they were overwhelmed by the emotional dimension (fear, anxiety, and apprehension) that pervaded both their personal and professional lives but later, they managed to find a new dimension of balance and normality.

3.3 Reorganization of instructional planning

Teacher’s planning changed because school life has changed (“*We can say that at least we have been able to carry on our profession and continue to work*”). It seemed evident that not only on a personal but even at a professional level, a process of adaptation on behalf of the teachers was necessary.

P. 25: “A teacher’s life has changed. We had to *reinvent ourselves*. For younger teachers it’s not like that because they are almost digital natives but for us... I was born in 1966, I’m *self-taught*. I have studied everything by myself and it takes me longer to do things than someone younger.”

Teachers were asked how their teaching practices have been modified during the pandemic, especially in transition to remote teaching. Then, the challenges and opportunities presented by remote teaching, reflected the need to adopt teaching methods and materials to suit online platforms. 13 out of 25 teachers mentioned that initially they attempted to replicate traditional face to face methods in the online environment showing resistance but manifesting also a critical approach.

P.04: “The search for materials and information about what other schools were doing remained unchanged. I decided to maintain the relationship even at a distance by starting with video lessons. Only for the first week, I did nothing. Then, on Meet, I asked them if they would like to take advantage of this mode. They said ‘yes.’ It’s not the same as being in person; it’s not the same thing, so we need to meet... almost every hour, not every hour.”

Our participants preferred using digital tools that ensured a synchronous approach like Google Meet and Zoom right from the beginning, rather than an asynchronous (Dropbox, Moodle, or Padlet). Furthermore, they stressed the necessity of a careful selection of materials to give or assign to students. In fact, as written by [Uzunova-Dimitrova et al. \(2023\)](#), “when teaching new material online, the teacher must also distribute his (her) attention: to follow the sequence of his (her) presentation; to present short and clear examples; to receive an immediate response from the learners, whether the material is understood or there is a need for re-explanation, following their faces, etc.” (p.308).

P.23: “Here digitalization is fundamental. You have no idea how many times I messed up... The research of information has changed because now it is much more meticulous but it is one thing that I like and that I did less when I was at school.”

Teachers also highlighted the importance of considering students’ home environments and the potential digital divide when selecting tools. Teachers underlined a need for special attention between teacher-student relationship by increasing the time spent online, not for instructional purposes, but to nurture this rapport. In fact, according with [Uzunova-Dimitrova et al. \(2023\)](#), “the relationship between teacher and learner in an online learning environment should be constant, which would contribute to an effective and quality learning process” (p.308).

P.25: “we are a full-time school and we should stand out from other schools. But it is not that easy because it is not a matter of dealing with children but rather how to make the lesson captivating and not simply a lesson where you just ask questions. So, our profession... of course it received compliments because the principal saw that everyone was busy... of course, initially it might have seemed like a vacation [...]. However, with my experience I put myself to work, I tried hard to find information on YouTube and on other apps to see how the platform, recommended by our principal, works.”

Teachers emphasized how for many of their students, school covers a large portion of their day (especially in full-time primary school classes where they finish every day at 4), thus, synchronous

online lessons were a welcome break from the situation of loneliness at home and the lack of socialization with their peers. However, teachers showed how these practices mean “never-ending-task” with their classes.

P.25: “You find yourself correcting homework on Saturday and Sunday mornings. We worked yesterday (referring to Sunday), too. We no longer have time for ourselves and therefore we have to organize every waking hour.”

P.4: “With the classes where I have fewer hours, I have kept all the hours, even if they became 45 min. I realize that it is necessary to end the lesson a bit earlier to be able to ‘take a mental break.’”

In terms of methods and tools, the interviewed teachers, 1 month into the pandemic, particularly described an almost immediate transition from old use of technology for asynchronous activities (such as using repositories and communicating with parents through platforms like WhatsApp, where most teaching and learning activities were delivered through traditional lectures) to adopting Learning Management Systems. These systems facilitated both synchronous teaching in virtual classrooms and communication with families (think of tools like Google Meet and Zoom, as opposed to simple diary messages or WhatsApp), as well as asynchronous methods (using repositories for video-recorded lessons and Google Forms for assessments).

P.16: “The platform. I have also seen other tools such as the Jamboard which is practically Teams blackboard and with that I am more at ease because it reproduces the classroom blackboard. Now, I use ‘Google Forms’ to create games, activities... I have to review all the things that can be useful. I choose all the things I can use: Youtube, the platform and I also suggested to children that if there is something they like, we can share it.”

P.24: “Then, for the video lessons there is MEET and another software. I have downloaded a lot of these interactive whiteboards that I am becoming acquainted with. I often use Educator, an interactive whiteboard that also allows me to record. In the past, I also used Google’s Jamboard to share contents with a number of students. I have noticed that the system is very slow. Yesterday, I used a new (virtual) class... I also try to discover new supports. Yesterday I used another board and WhatsApp...”

This shift revealed a new virtual working environment that demands a fresh investment in technology. In particular with fragile students, it was necessary to have an integrated approach to technology (synchronous, asynchronous, and communication). Those who seemed to grasp the necessity of operating in this way were indeed the special education teachers who, having always worked with more vulnerable individuals, were already using this integrated approach and became supportive not only to the students with special needs also to the entire class and their colleagues.

P.10: “For a support teacher, not much has changed because the teacher’s support is for the class, because she follows the entire group and takes the lead from the curricular teacher.”

Before the COVID-19 pandemic, traditional lessons are the norm and teachers report increased potential for student interaction and “flexibility” in face-to-face teaching. In it, there is more room for improvisation that distance learning does not allow. Students’ behavior or simple observations could modify the teaching approach, sometimes redirecting it to unrelated topics. The linearity approach on which online digital learning is built seems to reduce the possibility of moving from one argument to another, from one method to another.

P.05: “Yes, much more linear because I have little time and I have to make all the kids understand the topic... Here, I don’t go near the kid and say: ‘If you don’t understand...’; ‘Come on, let’s look at it together.’ Here, it is as if they were all made of the same ‘stuff’... Here it is essential to have the exact order in which to explain and the exact moment. In class, I can interrupt, move on to something else, expand, interrupt again... Here it’s more a one-way street...but because I only have 2h a week and I can’t afford to use an hour to talk... time conditions you!...”

In remote learning, teachers quickly realize the need to shorten lessons to avoid tiring students, and they have to select materials with greater precision since technological tools favor a linear approach without diversions. They discover a new kind of flexibility strictly linked to a critical use of digital tools and how the remote learning has characteristics that fit with individual student needs.

P.2: “With the ‘lockdown’ teaching, I made videos, tutorials. I believe that face-to-face teaching is too fast for some children but by making videos they have the opportunity to understand it better. I made a video tutorial with image sequences that they watch often and I have noticed that it works.”

Critically analyzing challenges and possibilities, teachers noticed an emergent tension: on the one hand, some asynchronous materials better suit the learning pace of students who can, for example, watch a video repeatedly and has a strong linearity that can simplify content; on the other hand, the use of technology required collaboration from families when children are very young, reducing their autonomy and involvement in activities that do not engage their bodies.

P.16: “On the net...working online, you have to be more careful because you don’t know who is next to the child... furthermore, you mustn’t weigh too much on the family. You can guess what the family situation is but you don’t really know what it is like but nonetheless you enter fully into a family situation. [...] Also, the tool you use... you have to evaluate if they can use it at home with family members. You need to understand how optimal and effective it can be.”

P.24: “It’s an online board so the kids don’t even have to download the application... since the kids don’t have all the software and support... For example, I gave an exercise. Someone did it with the smartphone and I saw all the slates filling up... but as you know, it would be better if they used a computer...”

Furthermore, in accordance with ISTAT statistics (See critical-historical section 1.2) teachers posed an important question: many

students do not own the software and hardware needed and this made online teaching exclusive. In particular, it was difficult for students from immigrant backgrounds whose parents had language impairment to have technical devices.

3.4 Assessment of students in an online context

With the imminent arrival of the end of the school year, another theme addressed during the interviews is the topic of assessing students in an online environment. In particular, we asked the teachers what they mean by formative and summative evaluation and how they used them (summative evaluation is concentrated on the outcomes and end results while formative one is focused on the process, providing feedback for improvement) because both were required in the students’ assessment (Guyot, 1978). Teachers expressed concerns about the objectivity and effectiveness of summative evaluation in this context because they could not be sure that the assessment is real and commiserate with the learner’s knowledge. However, if one type of evaluation could be made, it is the formative one based on participation, interest and motivation and little on marks, they found it challenging to provide objective assessments.

P.3: I hope we’ll go back to class soon because the physical relationship is important but I imagine it (the new school) with the support of these (digital) tools that we have discovered, that we have learned to use in this period. In our minds, we thought, at least I thought that it was just too much work... that it wasn’t worth the effort. Instead, I discovered that some things can be a great help. Especially for children confined at home even for short illnesses, they can stay connected to school.

They raised questions about the fairness of giving grades, especially for younger students who could receive substantial support from their families. Additionally, teachers noted that the digital divide among students, with varying access to technology and internet connectivity, complicates the assessment process.

4 Diaries data analysis

The diaries, collected from March to June during the pandemic, provide additional insights into the teachers’ experiences. They are anonymous and there are no space limits. In this section, we reported some excerpts, illustrating key themes: importance of teacher-student relationships; educational alliance with families; reflections on the future. To identify the participant’s diaries, the letter “D” and the progressive number assigned to that individual in the interviews was used. Furthermore, the day on which the diary was written was also reported (e.g., April 16, 2021). In the diaries, some contents that emerged in the interviews resurfaced, but we chose not to remove them to demonstrate how they are fully integrated into the teachers’ reflection. The diaries were focused on: the importance of teacher-student relationship, the relevance to extend it to families and doubts on the future of school.

4.1 Importance of teacher-student relationships

Early diary entries highlighted teachers' reflections on their previous "in person-relationship" with students compared to contact mediated by technology. In particular, they stressed communication difficulties and students' reluctance to engage fully during video lessons.

D1 (12 April 2020) dejected and frustrated by communication difficulties.

D2 (April 16, 2021) Today I met the guys on the platform. They constantly appeared and disappeared. I felt like I was playing that game where you had to hit the marmots. I don't like running after people. I felt I was not effective... Then a student contacted me to realize a comic. It made me feel better. Finally, I am not the only one chasing. It was a nice exchange where we worked to build something together.

The first diaries, collected at the beginning of April, have to do with teacher-student relationships where middle school pupils manifested a strange behavior: they decided to darken the camera. This "darkening room" was a clear sign that the students perceived an increased individualism, passivity, and lack of interest for others (Tzankova et al., 2023) while teachers described their frustration toward this behaviors and the challenges of adapting to remote teaching.

Thus, teachers noted that online interactions lack the same warmth and spontaneity compared to face-to-face encounters.

D2 (May 10, 2020) Parents have always told me: "Children are happy to come to school!" I saw them coming through the gate, crossing the courtyard, trying not to run, to reach their schoolmates smiling and then, yes of course, greeting the teacher... Their eyes were searching for friends. [...] Now I find them all there, lifeless behind the screen, waiting for their turn to speak... I see that they are no longer on the same wavelength, they are like strangers. They listen to, scrutinize one other, but they don't smile. In short, the video-lesson is simply a way to satisfy the teacher... School before was a totally different thing. Before, they were active, not passive participants.

Some expressed concerns about the emotional well-being of students during this period.

D6 (May 9, 2020) I believe that the experience we are living "at school" in such a delicate and unprecedented period, strongly highlights the educational alliance between the school (teachers in the first place) and the family that, today more than ever, has to support our students in an effective way in these difficult times. Sometimes, for students it is enough just to sit next to the PC and view the platform, experience it together. It is an important sign of physical presence, especially for the most fragile kids.

[...] I often think about what it will be like to start next school year with first grade kids. How will we welcome the little ones who

will face school for the first time with their baggage of anxieties and fears? Will we welcome them with a mask with a smile drawn on it covering our faces? And how will we deal with kids who need a hug, to be comforted, if we can't even hold them in our arms but only at a safe distance? In a previous school circle, we had a little girl with selective mutism. She spoke to us for the first time only in the fourth years, and finally explained to us that her mother—who haven't even sent her to kindergarten—on the first day of school to make her feel good, told her that we were like the doctors at the hospital...that why she didn't speak, because we instilled fear in her...Just thinking about staying away from children makes me think of the rigors of a Spartan education. Perhaps, someone could also say that a little effort and less touching will go a long way toward raising less spoiled children. It may be so but I believe in the power of hugs and in learning conveyed by emotions.

Teachers stressed the importance of physical presence, especially for the younger and most fragile students. Many of their students, in fact, have experienced an increase in school-related anxiety and a decrease in motivation. Thus, they have doubts about the quality of the digital tool, about the capability it has to consider everyone's intelligence and to make students interact.

4.2 A relationship extended to families

In the diaries, teachers talked about the educational covenant, the alliance with families that became an element of support for teaching. It seemed necessary to form a corridor, a bridge between two microsystems (Pascarella and Marsico, 2021).

D8 (May 4, 2020). Moms have turned into screamers, unmotivated and tired children... Are we going in the wrong direction? I really think so. You cannot learn, or you learn little, if you do not create an adequate learning environment that consists of, above all, meaningful and stimulating relationships. In the classroom, my intelligence interacts with yours, his and everyone's intelligence and each of us makes the other's intelligence grow. At home, in these conditions...with parents, what does intelligence do? How can I turn parents into 'teachers'?

They acknowledged the need for parents to create a conducive learning environment at home and express concerns about the challenges faced by families. The challenges of parents at work and children with grandparents or babysitters, highlighted concerns about children's well-being in particular when they were from other countries or with disabilities. Teachers underlined the importance of developing projects that involved the whole educational community (Dario et al., 2020).

4.3 Doubts on the future

In the meantime, Phase 2 had begun in which the Italian Government had decided to reduce restrictions and allowed travel between regions. However, if everything in the outside world was more or less back to normal, nothing had changed for schooling since teachers

continue to work remotely. Thus, teachers began to reflect on the end of school year but also to project their thoughts toward the future. They expressed a desire to return to in-person classes while also recognizing the value of digital tools and of the path taken in education.

D4 (May 24, 2020) According to experts, the problem now is evaluation: I suggest to read Maestro Manzi... The watchword today is 'distancing,' a paradox for children who, after months of being away, couldn't wait anymore to play with friends, go around holding hands, run, jump, etc... How can we possibly imagine a school without closeness among pupils? What ever happened to cooperative learning? Tutoring? All those good practices that make teaching effective, call for pupils physically interacting. Will they grow up thinking that being alone, surrounded by a void is necessary for the survival of the species? How sad!! We are almost there. The 'DAD train' has almost come to an end, at least for this year. At the terminus of evaluation where grids, numbers and annotations are jammed together, formative and summative evaluation are mixed in a new, never experienced combination. And it would be worth pausing for a moment, reflecting on the most suitable ways to evaluate not a single moment, a fleeting test or an assignment but the entire DAD path, in any case a process of maturation, awareness, new coexistence.

D3 (June 5, 2020) The school is over. Never before has school ended leaving everyone with so many doubts and questions.

Teachers discussed the deep wounds in the social fabric caused by distance learning, emphasizing the need for physical interaction among students. There were a new awareness and new ways of living together. It was interesting how the situation opens up to new questions: how can flexibility be promoted in a virtual environment designed for linearity? How can we support the development of younger students' autonomy in remote learning? What type of training and new teaching professionalism is emerging?

5 Discussion

From a teachers' perspective, our analysis reveals the impact of COVID-19 on their teaching practices and on their relationship with students during the first lockdown.

The metamorphosis in the human condition at political and social levels had had repercussions on schooling. COVID-19 represented a traumatic and stressful situation that had marked our lives, systems, development plans, and of course also schools. The sudden shift to remote work presented a range of critical reflections on the impact of distance learning in teacher-student relationship; the strategies of evaluation, the development of the future curriculum and pedagogy.

The first phase of the emergency is characterized by an explosion of strong, unknown sensations, feelings, and emotions: fear or terror, horror, sense of helplessness and lack of assistance (*I would have never imagined it, but I found myself very anxious. At first, there was a lot of fear, I did not leave the house. I did a couple of releases in just over a month. I had distanced myself from everyone to protect myself and others*). But that is not the end of it!

This experience also led to: a disorientation and alternation of teachers' personal life. As emerged in our interviews, we had two contrasting forces: nomadism (to move toward the new) and nostalgia for sedentarism based on established, traditional values. The result was a destabilization. The person had the perception of risk, perceiving a world of uncertainty, of material and immaterial vulnerability, of precariousness and of transformation (Afifi and Afifi, 2021; Dai et al., 2021; Yenerall et al., 2022).

During the lockdown, teachers found themselves navigating a delicate balance between the difficulties of planning their own lives and the need to reinvent themselves, to adapt to the evolving landscape of education and moving from extraordinary to ordinary meanings (Tateo and Marsico, 2019). Our interviewees underlined the necessity of developing Bateson's third learning level: they have to modify their mental habits, moving toward what we could call mental and active flexibility (Giunta, 2013; Baldacci, 2014).

In particular, teachers faced challenges in implementing social distancing measures and limiting access to classrooms. They recognized the positive significance of face to face teaching such as reciprocity, sensitivity, coordination, and synchronicity in interactions (Sameroff and Fiese, 1989; Howes and Hamilton, 1992; Pianta et al., 1997; Pianta, 1999) but they also tried to revitalize the relationship with students by creating virtual classrooms, such as Zoom or Google Meet, and integrating various resources to enhance the learning experience and to overcome the limitations of asynchronous digital teaching that prevailed before the pandemic.

Teachers imagined that they could go back to the school (in September) with the additional technological knowledge that they had acquired in the meantime. For them, it was necessary to move away from the old mindset that flexibility belongs to in-person lessons, as it could also be achieved with multi-platforms and multi-format contents, flexible schedules, optional activities (allowing students to explore topics of personal interest), and by focusing on collaborative tools like chat, online forums, and platforms that promote students' social learning. Younger students, on the other hand, would only benefit from distance learning if there were clear instructions, family support, interactive learning (with platforms offering engaging games and activities), and continuous feedback. Thus, through teachers' critical thoughts emerged the need for a more integrated approach of synchronous and asynchronous methods. According to Sarsini (2020) and Byrne (2017), on the one hand, distance learning had stimulated the use of previously unknown or little-used resources, such as in INDIRE's experience, remodeling the didactic spaces according to new technical and digital innovation and individual aptitudes (Byrne, 2017), demonstrating how important it is opening up to the educational community, the city and the surrounding territory, in order to make knowledge more interconnected and contextualized, less abstract and far from students' interests.

Italian schools have experienced a significant push toward innovation during COVID-19 and the hope not falling back into the continuous cycle of expectations and disappointments typical of the Italian educational system where there have been advances and simultaneously holdbacks (Moricca, 2016).

We identified at least two other main changes: the applied pedagogy should be purposeful and student-centered and the curriculum should be flexible (developmental and personalized). As Zhao and Watterston (2021) said: “*the curriculum needs to focus more on developing students’ capabilities instead of focusing only on ‘template’ content and knowledge. It needs to be concerned with students’ social and emotional wellbeing as well*” (p.4; See also Savarese et al., 2019, 2020, for more details).

March’s Ministry Decree on evaluation, during the pandemic, also showed how students are learning in an informal context (without teacher monitoring) when the family is present. Teachers did not believe in the validity of this summative evaluation. In their opinions, the dominant equation was observable = measurable is not respected. “*You can see that she is looking toward her mother for approval.*” If teachers could not see students’ hands and feet, did they assume that students can learn? If parents were nearby, did they learn? Instead, should we ask ourselves how to cooperate (create communities) with families? How to create an alliance in particular when the parents play the role of both teacher and pupil?

In essence, while COVID-19 disrupted traditional classroom activities, it also provided an opportunity for teachers to reflect on their roles and values. From the outset, teachers had shared “best practices” through ministry platforms or websites (See INDIRE, Section 1.2.). They discovered a sense of camaraderie that was lacking. Emerging from the ashes in which it had long been buried, the figure of the support teacher, once relegated to a corner to follow a single child or teenager, finally assumed the role as a “classroom teacher.” During the pandemic, we rediscovered the double mission for support teachers (Aiello et al., 2014), which evolved supporting both mainstream teachers and students in facilitating an inclusive teaching learning setting. Teachers’ critical reflections returned to the theme of their lifelong training and the importance of working with the entire educational community. It shed light on the significance of cooperation and reimagining alliances with families and colleagues, even with technology. As Vegetti (2020) wrote:

As the OCSE 2018 report stresses, digitalization is the main factor providing seminal innovation processes [...] At the same time, the present-day pandemic has developed all over the world major attention toward the collective welfare, as it is generally commented upon in the press and the media, devising an intrinsic revolution among the learners of the school for future as well as in the general attitude toward our society (P.13).

6 Conclusion

In envisioning the future of educational practices, educators were grappling with multifaceted inquiries. They were actively seeking strategies to nurture adaptability within a virtual environment primarily structured for linear learning, striving to empower younger students with greater autonomy in remote learning settings. Moreover, their curiosity extended to exploring the evolving frameworks of training and pedagogical professionalism. Notably, there was a pronounced shift observed

among participants—a departure from a conventional focus solely on the epistemology of managing academic events toward a more holistic, ethically-driven paradigm. This approach placed emphasis on shared responsibility and the comprehensive interpretation of individual experiences. As the educational landscape evolved, there was a discernible reduction in traditional school hours, paving the way for heightened personalized instruction. Teachers, in this context, were assuming augmented mentoring roles, providing substantial guidance and support to students in their academic pursuits.

Neuwirth et al. (2021) advocated for a collaborative relationship between students and educators, underscoring the pivotal role of flexibility in actively engaging through online platforms. They highlighted the significance of faculty mentoring, consultation, and continuous feedback to facilitate student progress. Additionally, they stressed the behavioral engagement of students in both synchronous and asynchronous learning settings.

In their work, Devlin and Samarawickrema (2022) proposed a comprehensive approach involving widening participation, enhancing student diversity and accountability, fostering transnational education, and embracing digital transformations in learning methodologies.

Addressing the need for significant changes in education, Zhao and Watterston (2021) emphasized three pivotal areas: the development of a curriculum that is progressive, personalized, and adaptable; pedagogical methods that prioritize student-centered, inquiry-based, authentic, and purposeful learning experiences; and the delivery of instructions that harness the strengths of both synchronous and asynchronous learning modalities.

Furthermore, Cahapay (2020) underscored the importance of updated curriculum content, instructional shifts toward online modalities, and assessments that serve as impactful reminders for educators.

From this diverse spectrum of scholarly perspectives, numerous valuable insights emerged. Among these, the cultivation of collaboration, flexibility, and personalized learning surfaces as crucial, alongside the necessity for robust mentorship and ongoing feedback mechanisms. These lessons bear immediate applicability to face-to-face or hybrid teaching contexts. They should guide educators in adapting pedagogical approaches to suit the evolving educational landscape, embracing flexibility, collaborative learning, and personalized methodologies, ultimately enhancing student engagement and optimizing learning outcomes.

7 Limitations and future perspectives

The present study shows some limitations: first of all, a relatively small number of participants has been recruited. Secondly, we did not investigate further variables relating to the characteristics of the sample, including socio-economic status (SES).

Future research perspectives are based on: (a) extending this study with more teachers and students by using statistically representative samples. We aim to analyze how educational institutions are integrating emerging technology in their programs, comparing results across different countries and continents (Africa and South America). (b) We intend to analyze factors determining teachers’ and students’ acceptance of emerging and immersive technology in education in the post-COVID period.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Local Ethics Committee “External Committee of the Centro di counseling psicologico—Università di Salerno” (number 01/2021). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

ND: Conceptualization, Formal Analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. MM: Supervision, Validation, Visualization, Writing – review &

editing. GS: Funding acquisition, Project administration, Supervision. LC: Writing – review & editing.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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