How to Cultivate Personal Learning and Professional Growth in a Disrupting Time Among Reactions, Resistances and Collective Transformations. An Empirical Study with Italian School Teachers

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Abstract

Scenario: *COVID 19 had a severe impact in every sphere of life, and education is not an exception of this. The pandemic caused by the spread of the COVID-19 is producing an epochal change that is irreversibly transforming the nature, objectives, and didactic and organizational practices of Higher Education systems. This is particularly urgent in some countries, like Italy, where the spread of the pandemic was terribly more advanced than in other states.*

Object of the study: *This article presents the results of a national study about reactions, feelings, and resistance to the changes of primary and secondary school teachers imposed by the lockdown due to the pandemic.*

Literature review and conceptual framework: *The conceptual framework adopted for the study includes the empirical research on the constructs of collective disorienting dilemma (Dirkx, Mezirow, & Cranton, 2006), traumatic exposure to cumulative adverse experiences (Felitti, 2017), and emotional impact (Cerniglia, Cimino, & Ammaniti, 2020). Our hypothesis is that the pandemic's unexpected widespread affects as well as the consequential lockdown, imposed in many countries as a first measure to prevent the diffusion of the contagions, may be assimilated to: a traumatic experience with high emotional impact on people's mindsets and behaviors; a collective, disorienting dilemma capable of eliciting emotional reactions and intensifying senses of disposability while people, if adequately supported, attempt to learn and adapt to change.*

Research questions: *What kind of feelings, reactions, and behaviors did school teachers assume during and after the lockdown? How did teachers, faculty, and educational instructors react to the shift from in-person classes to distanced learning and which factors influenced their reactions the most? What factors were most effective in helping them to cultivate their professional development through and while engaging with these epochal challenges?*

Design and methodology: *Starting from those questions, an online survey was designed and administered to more than 400 in-service teachers of primary, secondary, and high schools across Italy. 348 teachers completed the survey. Among them, 20,40 % of the respondents were primary school teachers (N=71); 37,07% of the respondents (N= 129) were secondary school teachers; 42,53% of the respondents were teachers of high school (N=148). Statistical descriptive analyses were carried out.*

Findings: *The majority of the respondents reported emotions of sadness, melancholy and sense of loss during the experience of lockdown. Some factors emerged as potentially affecting the increase of negative/positive feelings, such as the material conditions of the home environment, the number of people at home and the type of job, the openness and disposability to change and adapt to new life conditions. Factors that impacted positively on school teachers' reactions and feelings to the pandemic were: a) technology adaptability and readiness; b) accessibility to sophisticated platforms*

and tools for conducting online classes; c) the social support perceived by their institutions and the community of the colleagues.

Theoretical and pedagogical implications: *The implications of this research are discussed with recommendations for supporting teachers to increase their knowledge and familiarity with the highly technological instruments of the online distance learning and to acquire capacity to make the difference in (a) addressing digital divide and technological poverty in students, and (b) guarantee equity and accessibility of the all-digital contents for all students.*

Practical implications: *The research identifies a unique approach to intercept factors that can trigger and facilitate transformations of perspective in educators, teachers, and faculty engaged with the challenges of the disruptive changes due to the COVID-19 pandemics. This is particularly relevant when lots of countries in the world are facing the third wave of the contagions and the measures to prevent the exponential growth of the curve.*

Keywords: Emergency remote teaching, digital learning, distance learning, Higher Education, teaching strategies, COVID-19.

The Disruptive Scenario of the COVID-19 Pandemic

The pandemic emergency due to the spread of the COVID-19 is producing an epochal change that is irreversibly transforming the nature, the objectives, and didactic and organizational practices of Higher Education systems. This is particularly urgent in some countries, like Italy, where the spread of the pandemic was terribly more advanced than in other states.

Facing uncertain and ambiguous scenarios with fast changes highlights the weaknesses and the contradictions of "emergency strategies" (Abel, 2020). On one side, the pandemic reminded us how fragile mankind is and that it can succumb to a small and invisible enemy; on the other side, the COVID-19 challenged and stimulated the potential of human intelligence and creativity that, when driven by collaboration and solidarity, can be very high (Giovannella, Passarelli, & Persico, 2020). The urgency of reacting to the disruption of traditional, daily working practices, as posed by the health emergency, forced millions of people to adapt to an epochal change in their daily routine. It imposed them to stay at home and completely challenged their prior habits of mind. The education sector, like the economic ones, underwent a quick transformation from the traditional in-person pedagogies to using online resources and distance learning. The effects of the pandemic inevitably put all learning ecosystems under stress, as they had to switch suddenly to the online modality, where they have remained confined to this virtual dimension. The technological shift affected ways of teaching and learning, and required new teaching practices and pedagogical approaches in relation to the opportunities afforded by digital technologies (Trust, & Whalen, 2020).

Schools and educational institutions had to align themselves with the need to experiment with new and technologically rich methods to ensure didactic continuity, sometimes with improvised solutions (Canavagh, & Deweese, 2020). This was an adaptive challenge for which there were no prior technical solutions (Heifetz, et al. 2019; Watkins, & Marsick, 2020). Teachers, such as all organizational actors of the *school* systems (administrative and technical staff, instructional designers, students) had to test their ability to learn and to change in high levels of ambiguity and uncertainty environments. Teachers tried to address this adaptive challenge (Heifetz, et al. 2019) first with technical solutions, but because only those were available at that time.

Teachers who were resistant to the use of e-learning platforms converted, instead, to the potential of building collaborative online learning settings, discussion forums, open access learning paths, and e-community. Those who thought that Moodle or other platforms worked only as a repository of slides shown in class, had the opportunity to validate their perspectives and to experiment with new practices of use, in which they could interact with students both in synchronous and asynchronous (Hodges, et al. 2020).

Recently published research explored the move to distance learning in the wake of the COVID-19 crisis: this study talked mostly about emergency remote teaching, rather than strictly online learning, producing knowledge about the differences between the two categories (Hodges, et

al., 2020). Emergency remote teaching is a temporary shift from instructional delivery to an alternative delivery mode due to extraordinary crisis circumstances (Hodges, et al., 2020). In emergency remote teaching, the planning stage is largely focused on searching for resources which would be plausible to be shared through technology-based platforms available for both students and teachers. Subsequently, the shift to online platforms elicited consideration of learners' prior knowledge on technological use, which affected teachers' delivery of their lessons, input, and which tasks to assign.

Numerous studies on emergency remote teaching focused on teachers' readiness to cope with new demands and challenges of the seemingly new mode of learning (see Chuah, & Mohamad, 2020, for more details). However, the empirical literature has not yet examined the collective transition in remote teaching experienced by students and teachers. Much of the online education studies mentioned above summarized the attitudes of teachers and students toward remote education and the usefulness of digital tools and platforms that can be implemented in remote learning. Unfortunately, only few of them accounted for the crisis factor, which posed extra challenges to both students and teachers.

As researchers, we are interested in exploring how and under what conditions school teachers, as well as many other practitioners, learn to transform their way of thinking, acting, and interpreting the emergency scenario as a "collective disorienting dilemma" through processes of validation and critical reflection (Watkins, & Marsick, 2020; Brookfield, 2017). We investigated the use of technologies, the adoption of specific teaching methods and the perspectives that teachers have on themselves, their professional role, and positioning within volatile contexts.

Emergency Remote Teaching: How to Learn in Complexity

"Physical distancing" became a priority for preventing the contagion and represented the paradigm on which we had to build new habits without being prepared to abandon our familiar patterns (Giovannella, et al., 2020).

Public opinion was strongly oriented towards a position of insecurity and uncertainty, with the sensation of an unheard-of fact, a collective, cumulative adversity which indiscriminately concerned all (Felitti, 2017).

Faced with the disorientation of the invisible virus that struck everyone, in the face of the most epically disorienting scenario since the 2001 attack, schools and educational systems had to preserve "didactic continuity" and "reduce distance" to satisfy a need of learning and maintain points of reference of students for different age groups.

In this phase we, as teachers and adult educators, realized how unprepared we were to address a severe pandemic like the one we have experienced up to now. We noticed, at every level, the absolute lack of specific risk analysis and recovery plans, despite the recommendations that, following previous pandemics, had been expressed by many important international organizations (Giovannella, et al., 2020).

Media and institutions reported digital technology as the framework capable of continuing the fundamental activities that govern our daily lives, while we remained closed up at home. The priority was to maintain connection and sharing, while eliciting a "sense of community belonging" amid the general disorientation.

This originally idealized "honeymoon" narrative did not take long to show all the limits of those pre-critical views. The first limit concerned digital divide and social inequalities (Halford, & Savage, 2010): there are sociomaterial conditions that impact the accessibility of digital resources. The "lockdown" made tangible a series of barriers to digital infrastructure, such as the possibility of connecting, the level of familiarity and knowledge with e-learning platforms and digital media, the accessibility of technological personal devices, and the different amplitudes of connections among diverse locations. The need for a rapid reorganization of times, spaces, places, accentuated marginality, gaps, latent difficulties, instability, and an increase in poverty. In emergency settings, students experienced aversive experiences, cumulative trauma, lack of typical services provided by schools (Conan Simpson, 2020).

Against this backdrop, a strong contrast emerged between virtuality and physicality, digital and non-digital, distance and presence, integration of new modalities and complete restoration

(Giovannella, et al., 2020). We have fallen into the trap of a rhetoric where there was the polarization of attitudes between "*pro* emergency remote teaching" and "*against* emergency remote teaching." Antinomic visions polarized the collective narratives of distance learning: on the one hand the pole of negativity: instance teaching as a monolithic enemy of student participation and of the quality of teaching and course design; or as the pole of positivity: online teaching as the driving force behind the technology of innovation.

This dominant media narrative on emergency remote teaching resulted in some sociolinguistic and epistemological distortions: confusing the emergency remote teaching (Hodges et al., 2020) that school institutions adopted with online and distance learning; or thinking that, in the face of digital transformations that change the way of thinking and designing courses, someone can have opinions that are not scientifically founded and not empirically validated. Very soon, however, such contrapositives appeared as a false problem. Even though the transformation to remote teaching due to COVID-19 was sudden and immediate, it took place in the midst of a broader technology shift among education platforms. Digitalization in schools gained popularity even before the pandemic. Schools' governances are oriented toward increasingly blended and integrated digital learning. This is characterized by the simultaneous delivery of distance and face-to-face lectures, even though the latter are attended by groups of limited dimensions, and are subject to rotation. The National Government in Italy has already considered combining classroom modes with e-learning modes to create an integrated and cohesive expanded learning system in the long term, considering the demand for technology-based education and the requests to incorporate it as a strategic leverage for innovation in school teaching (Lucisano, 2020).

How to Cultivate Personal Learning and Professional Growth in Times of Uncertainty

International literary discussion regarding studies and research on emergency remote teaching is flourishing in the field of educational research (Weiss, et al., 2020; De Filippo, et al., 2020; Watkins, & Marsick, 2020). Those studies clarified that distance teaching does not consist of online transposition of the traditional teaching methods but instead requires the use of technological tools, and above all, an innovative approach through which students have a central role in developing contents (De Filippo, et al., 2020). Integrated digital learning is a collaborative-based framework grounded on a rigorous concerted design, with a focus on the incorporation of the digital component in learning processes *inside* and *outside* the classroom. We are not talking about a replacement of face-to-face teaching, but an expansion of it, through the integration of digital teaching methodologies and devices.

In emergency remote teaching there were experiences with a high rate of experimentation. For example, there were teachers and professors who have become familiar with *Padlets* and virtual whiteboards, jamboards, and online survey systems in order to keep audience participation constantly alive in small, medium, and large classrooms, both in synchronous and asynchronous mode. Faced with these outcomes, nobody could ever say that this learning, even if instrumental, has not produced transformative outcomes.

To design, prepare, and deliver high quality online teaching requires a much greater commitment than a standard teaching process conducted in presence (Fabbri, & Romano, 2019). The exponential growth of digitalization of learning environments, in the "lockdown" and "post-lockdown" phase between March and July 2020, elicited frequent resistances from professors and teachers. One aspect of these resistances is that teachers used to interpret the novelties in terms of familiar practices: to the frontal lesson in the classroom, where the teacher speaks and the students listen, they replaced the video recording of the explanation as digital content to be enjoyed asynchronously or the one-way front explanation in synchronous mode. This is the risk of doing "distance teaching" in the presence, applying transmissive and frontal teaching models to virtually, digitally, and technologically mediated presence (Rivoltella, & Rossi, 2019).

Considering the emergency remote teaching as an adaptive challenge in a collective disorienting dilemma (Watkins, & Marsick, 2020) offers us a framework to investigate how teachers adopt consolidated categories and past conceptualizations in order to interpret unexpected problems occurring in scenarios where familiar routines are broken both for students and teachers. The study reported in the next paragraphs is aligned with this wake.

The Research

This section presents the results of a national study about reactions, feelings, and resistance to the emergency remote teaching imposed by the first lockdown in Italy due to the pandemic spread out in March, 2020. At the point of writing, Italy has undergone three waves of the COVID-19 outbreak. Schools have closed, opened, closed again, and reopened in blended learning.

In the first lockdown (March–May 2020), all classes were completely conducted online but there was a lack of standardization of procedures among the schools in implementing online courses. We were aware that there was also a disparity in terms of accessibility, especially for students with educational special needs and learning disorders.

This study is the result of a collaborative project carried with the Teaching and Learning Center of University of Siena, a center of research, training, and innovation that aims to support teachers, faculty, and educators through instructional design, faculty development, and introduction to technology-based frameworks (Fabbri, & Romano, 2020). The Author of the article is the scientific coordinator of both the university faculty community of learning and certified training programs for school teachers.

The conceptual framework adopted included the empirical literature on the constructs of "emotional impact" (Cerniglia, et al., 2020) and "collective disorienting dilemma" (Dirkx, et al., 2006). Our hypothesis was that the pandemic's unexpected widespread affects and the consequential lockdown, imposed in many countries as first measure to prevent the diffusion of the contagions, could be assimilated to: a traumatic experience with high emotional impact on people's mindsets and behaviors; a collective, disorienting dilemma capable of eliciting emotional reactions and intensifying senses of disposability while people, if adequately supported, attempt to learn and adapt to change (Mezirow, 2003; 2016).

Our research questions were:

RQ1: What kind of feelings, reactions, and behaviors did school teachers assume during and after the lockdown?
RQ2: How did teachers, faculty, and educational instructors react to the shift from in presence classes to distance learning?
RQ3: Which factors can be mostly effective in helping them to cultivate their professional development through and while engaging with these epochal challenges?

Starting from those questions, an online survey was designed and administered to more than 400 in-service teachers of primary, secondary, and high schools across Italy. The survey contained three parts: 1. background information and demographic data, such as school role, number of classes, and contextualized components; 2. teachers' perceptions and reactions to remote teaching scale; 3. teaching strategies, schools' support, and struggles scale. The second and the third part included ten 4-point Likert scale items (1. Strongly Disagree; 2. Disagree; 3. Agree; 4. Strong Agree), and ten open ended questions for gathering teachers' narratives about their experiences in emergency remote teaching.

The online survey was distributed via email. Ultimately, 348 teachers completed the survey. Participants who were recruited had to meet the inclusion criteria of 1. taught at least one class during the first lockdown; 2. answered all close-ended and open-ended questions.
20.40 % of the respondents were primary school teachers (N=71); 37.07% of the respondents (N= 129) were secondary school teachers; 42.53% of the respondents were high school teachers (N=148).

The data from the close-ended items were analyzed using descriptive statistics while the open-ended questions were qualitatively analyzed through thematic analysis. Coding was done by the author of this paper, Alessandra Romano, and checked with a group of three independent reviewers. The interpretation of the data was done through member checking to ensure reliability and validity of the themes identified. Feedback by respondents were captured in an online dedicated meeting. Five focus groups were conducted with a small sample of the participants (N= 12). Participants for focus groups were recruited with rational and purposeful sampling.

The researchers adopted the study carried out by Chuah and Mohamad (2020) as a modeling example. The survey was thus located in the framework of Technological Pedagogical Content Knowledge (TPACK). This framework provided guidance to construct items to help understand actual and emotional experiences that respondents went through, as they utilized technology as the primary means to teach remotely and to keep alive the relationship with their students. TPACK served as the reference point for items related to teachers' technological, instrumental, and instructional content knowledge (Chuah, & Mohamad, 2020). We added a reference to the framework of the Reactions to Collective Disorienting Dilemma (RCDD) offered by transformative learning theory (Warkins, & Marsick, 2020) and to the Communities of Practice (CoP) as a device for professional development in Higher Education and High School contexts (Bolisani, et al., 2020). These two additional frameworks offered inputs for the content analysis of the open-ended questions related to teachers' efforts to face the challenges associated with emergency remote teaching and to cope with their emotions and feelings against online distance learning. Table 1 shows analytical framework hereby described.

Table 1

Mapping of the TPACK, CoP and RCDD Frameworks.

Analytic Frameworks	Focus	Constructs
Technological Pedagogical Content Knowledge (TPACK)	Ability to use technological and digital resources as the primary means to teach remotely	Ability to design online activities for students, with a specific focus on students with disabilities and special needs; increase students' engagement and participation
Reactions to Collective Disorienting Dilemma (RCDD)	Coping strategies adopted to face the challenges of emergency remote teaching	Collaborative tools and strategies; planned interaction strategies with students; feeling, reactions, and challenges occurred during emergency remote teaching
Communities of Practice (CoP)	Practice suitable resources and strategies to increase teachers' support and professional development	Analysis of the professional development needs; adaptive solutions for technical and undefined problems; formal and informal learning gained

Emerging Findings

The study here presented was a necessary step to identify and determine how teachers articulate their perspectives as educators during emergency remote teaching. The following sections will only illustrate the first preliminary results of the overall study.

RQ1: What kind of feelings, reactions, and behaviors had school teachers assumed during and after the lockdown?

On the totality of the respondents, the 75% (N=261) reported emotions of sadness, melancholy, and sense of loss with a high-medium average score for the items about feelings of sadness and loss (average score = 3.15 at the 4-points Likert scale). Some factors emerged as having potentially affecting the increase of negative/positive feelings, such as: the material conditions of the home environment, the number of people at home, the type of job, and the openness and disposability to change and the ability to adapt to new life conditions. The unexpected and sudden need to provide a quick response to outside disturbances interrupts teaching staff's normal everyday planning and workload. Mental exhaustion and physical health problems accompanied the discontent feelings. Furthermore, the emergency remote teaching period was blurring the boundaries between personal and working life.

The respondents, although considering themselves well equipped with pedagogical knowledge in integrating technology, claimed that they were unable to fully utilize what they learned in their teacher training programs due to lack of organizational and technical support from the school. Sometimes, poor infrastructure accessibility caused students to drop out. Most of the respondents reported that they were actively participating in webinars to enhance their knowledge and skills on remote teaching, while engaging in virtual mentoring, peer tutoring and knowledge sharing in community of practice (Wenger, 2006).

> Our life since Covid-19 was devoted to online learning and teaching with lots of reading, intensive workshops offered by schools for converting courses, listening to webinars, and engaging in experimentation and practice, sometimes with unexpected promising results. The student with autism with whom I work was more comfortable with online learning. He had more time to search for videos and podcasts and felt less constrained at home. As well as the weeks of lockdown were passing on, I reframed my challenge from one of getting up to speed on using more efficient technology, which was the first challenge setting, to the one of helping him to deal with pandemic's impact on social relationships. (P8, open-ended response)

Respondents mentioned that large-group live meetings were challenging, especially with primary school students, because many students tried to talk at the same time, and it was almost impossible to focus only on the speaker. Another common complaint was the feeling of loss due to the lack of opportunities for socialization and the sense of isolation, commonly shared by participants with different age groups. While national agencies and governments have put effort to mitigate the impact of emergency remote teaching on education, the widening gap in access to proper education is alarming and many levels of secondary and high schools are hoping to reopen as soon as possible.

Factors that impacted positively on school teachers' reactions and feelings to the pandemic were: 1. technology adaptability and readiness; 2. accessibility to sophisticated platforms and tools for conducting online classes; 3. the social support perceived by their institutions and the community of the colleagues.

A participant mentioned the initiative to create a bottom-up community of practice among his school teachers: "I collaborated with my colleagues that teach other subjects. We have a community of practice page on Moodle where we share and discuss any challenges we have, share course syllabus among each other, and biweekly check-in meeting on Gmeet." (P34, in focus group discussion)

RQ2: How did teachers and educational instructors react to the shift from in presence classes to distance learning?

Table 2. represents the most frequent difficulties about emergency remote teaching evidenced by participants' responses.

Table 2

Mapping difficulties, barriers and obstacles to emergency remote teaching.

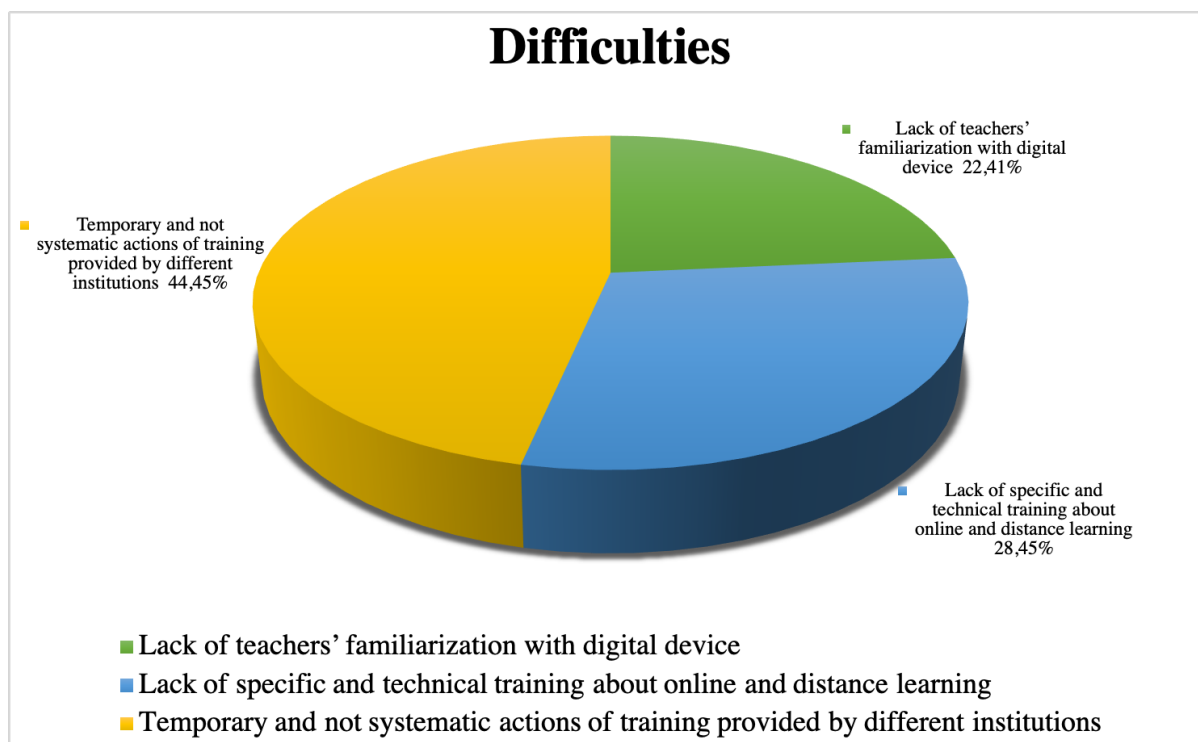| **Difficulties**	**Absolute Frequencies**	**Percentage**
Lack of teachers' familiarization with digital device (such as laptop, tablet, smartphone)	N= 78	22.41%
Lack of specific and technical training about online and distance learning	N= 99	28.45%
Temporary and non-systematic actions of training provided by different institutions	N= 154	44.25%

Figure 1: Percentage about difficulties to emergency remote teaching reported by participants.

Table 3

Mapping barriers to emergency remote teaching.

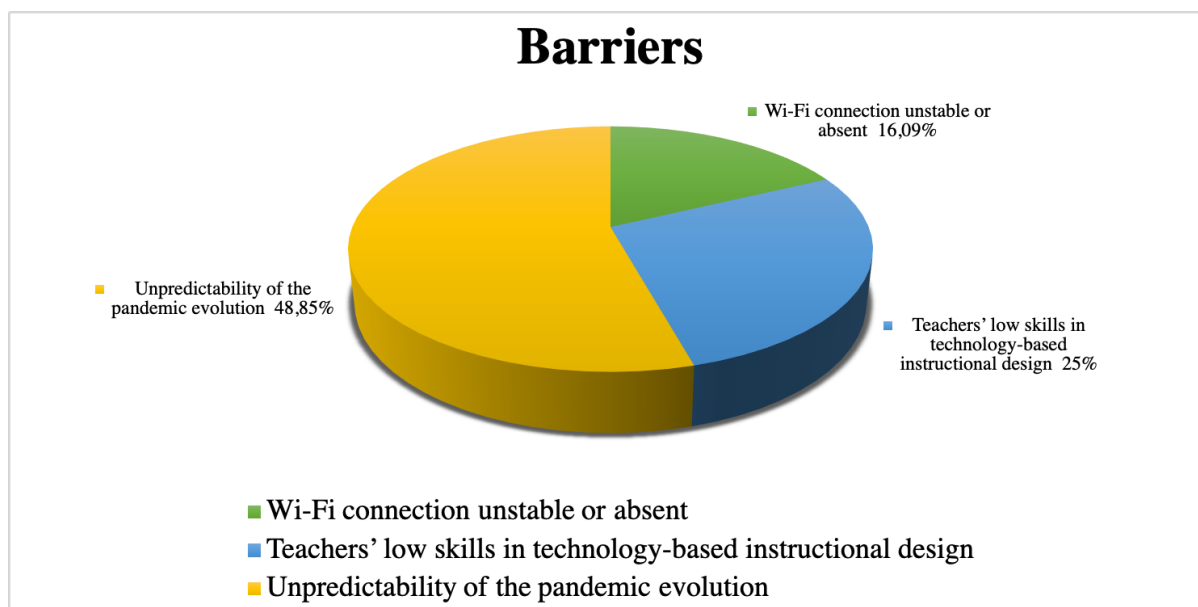| Barriers	Absolute Frequencies	Percentage
Wi-Fi connection unstable or absent	N=56	16.09%
Teachers' low skills in technology-based instructional design	N= 87	25%
Unpredictability of the pandemic evolution	N=170	48.85%

Figure 2: Percentage about barriers to emergency remote teaching reported by participants

Table 4

Mapping obstacles to emergency remote teaching

Obstacles	Absolute Frequencies	Percentage
No equal distribution of technological devices among students (*Tablets and laptop are in the schools but students are at home*)	N=301	86.49%
Teachers' loneliness and poor cooperation in professional community	N=312	89.65%
Sporadic spots and pills of technical learning, lack of compliance with families of the students	N=134	38.50%
No cooperation with colleagues for curriculum design	N=198	56.90%

Obstacles

No cooperation with colleagues for curriculum design ; 56,90%

No equal distribution of technological devices among students 86,49%

Sporadic spots and pills of technical learning, lack of compliance with families of the students 38,50%

Teachers' loneliness and poor cooperation in professional community 89,65%

- No equal distribution of technological devices among students
- Teachers' loneliness and poor cooperation in professional community
- Sporadic spots and pills of technical learning, lack of compliance with families of the students
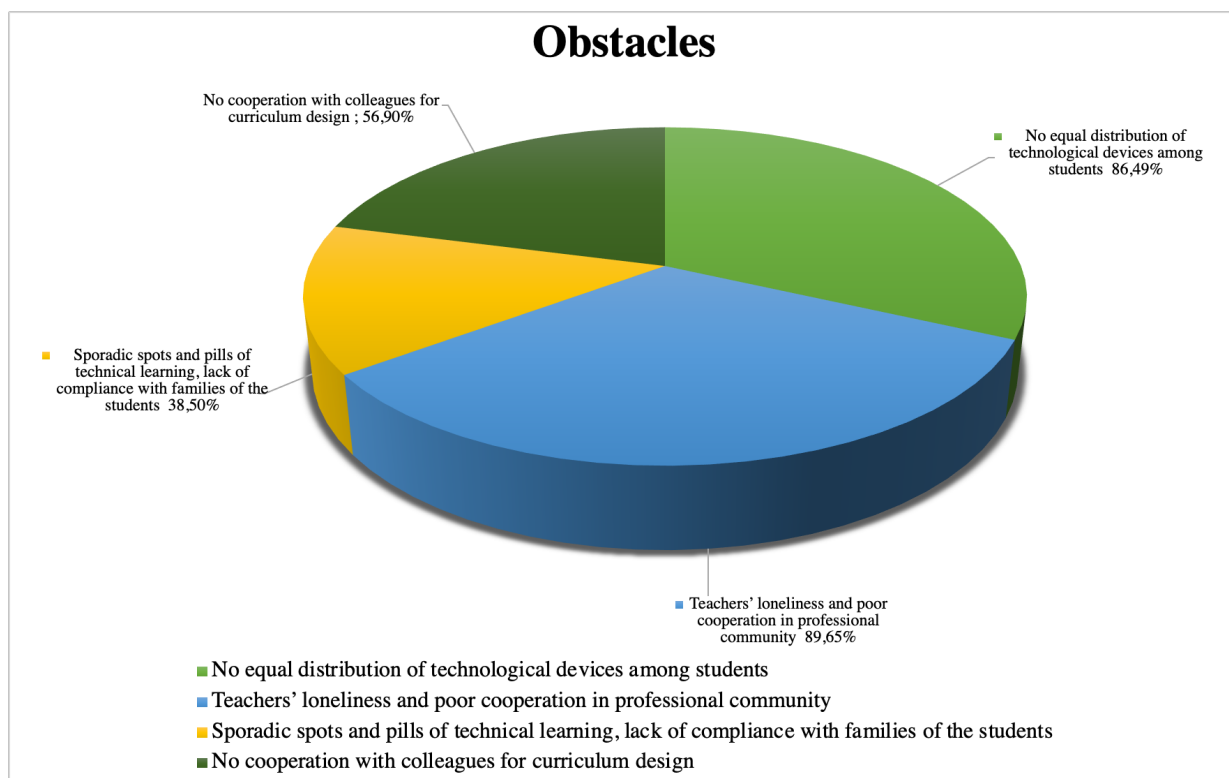- No cooperation with colleagues for curriculum design

Figure 3: Percentage about obstacles to emergency remote teaching reported by participants.

Teachers of primary and secondary schools were asked to use Google Meet, Cisco Webex, and Zoom for doing online synchronous teaching. Most respondents (N=190, 54.59%) reported the push from their schools which made them embrace remote teaching almost immediately as when the announcement of school closures was made.

The respondents were mainly attempting to reproduce the standard face-to-face methods during the emergency remote teaching. Teachers felt overwhelmed and unprepared to use online or remote teaching strategies and tools. They struggled to adapt to fluctuating situations, needing support shifting their practice. The concept of "just putting everything online" looked prevalent, to the extent that 290 teachers answered that they felt submerged with the series of webinars, online demonstrations, and product placements which feature multiple educational tools. "*We were not ready at all for engaging online teaching. We hadn't any training before. We had tried some experimentation, emphasizing creativity and all the tools that allowed us to keep the relationship with students*" (P3, open-ended response). The reported usage also showed the respondents' tendency to opt for synchronous teaching methods, such as live class via Google Meet, Zoom, or Cisco Webex. Game-based learning was mentioned as a successful distance learning engagement strategy. Other tools listed are Kahoot, Flipgrid, Teams, and Padlet, for more interactive learning methodologies.

Teachers were able to redesign face-to-face teaching materials to fit the needs of emergency remote teaching: most of them *try to understand the students' level of internet connectivity first, then decide what is the best way to reach out to them in terms of content* (P9, open-ended responses). Very often they tried to experiment with multi-methods and multimodal strategies: "*I produced self-recorded videos, and I got some video materials from online resources. My videos are short, as pills of knowledge, so that students can easily load them faster*" (P89, open-ended responses). In terms of creating cognitive, social and teaching presences, respondents' willingness to offer assistance to their peers when they faced problems in online teaching was a positive indicator of their collaboration in teachers' community. Providing one-to-one meeting or community meeting through live video conferencing, discussion boards, virtual social mentoring fostered a sense of community that helped to overcome the isolation of teachers.

Participants also underlined the relevance of the synergy between school teachers and parents to support the students learning during emergency remote education. Respondents that were working with special needs students highlighted that the compliance of the families was fundamental for

homeschooling carried out during the first lockdown. When parents or families were not collaborative, because they did not recognize the importance of maintaining the teaching continuity, the students were less encouraged to participate in classes and very often were exposed to the risk of dropping out.

RQ3: Which factors can be mostly effective in helping them to cultivate their professional development through and while engaging with these epochal challenges?

Our study revealed that especially primary school teachers needed more time to adapt to the online learning option due to lack of support and insufficient pedagogical knowledge on how to conduct classes remotely. They reported a heavy reliance on external resources such as videos on YouTube and photos of printed materials and sending them via WhatsApp chat app. Finally, after the first familiarization weeks, they declared to have moved on a classroom platform for question and answers and for correcting homework. In sum, teachers were notably excited to test all possible means to meet the demands of emergency remote teaching despite struggling to cope with the initial stage of emergency remote teaching. The solutions devised by the respondents are reflective of their ability to transform what they have learned into a plausible means to solve problems that they faced during this period although there was limited support from the school administrators.

COVID-19 has magnified inadequacies and made them glaringly obvious (Watkins, & Marsick, 2020, p. 2).

> It has disrupted routines and habits, and has assaulted teaching continuity. Our daily and familiar routine won't be part of the next normal that is coming to emerge. As teachers of special education, we are all seeking new solutions for keeping on going the relationship with students as well as in preparation for a future we cannot reliably predict. (P237, focus group)

Facing the emergencies demanded deep changes in epistemological perspectives about professional identity, that is teacher identity.

The sudden onslaught of the COVID-19 pandemic has not only disrupted the education ecosystem but also created countless opportunities for teachers and students to explore unconventional strategies and methods to overcome the issues which came about with the emergence of the outbreak globally. Teachers' voices were crucial to listen to in order to intercept coping strategies and learning acquisition which transpired because of the pandemic lockdown. Understanding their struggles provided significant insights on the necessary support, professional development and solutions that had to be given to them. What practices or path of professional development are more promising in supporting teachers facing uncertainty and unsafety times?

The prevalent problem of digital accessibility is a key factor in stopping many teachers from being more enthusiastic about remote teaching: 23 participants pointed out that their pupils didn't take part in the class activities because of digital divide. Teachers' narratives also suggested a pertinent need for future study to investigate the synergy between parents, schools, teachers, and educational leaders in working cohesively to ensure learning that is supported effectively at home especially during emergency remote teaching.

Table 3 reports the key elements for facilitating online learning according to respondents. The presence of those elements resulted coherent with the positive feelings about pandemic emergency remote teaching as a meaningful learning experience.

Table 5

Key elements for facilitating online learning.

Key-Elements for Facilitation	Absolute Frequencies	Percentage
Cooperation among teachers, school administrators, and instructional designers	N=266	76,44%

Table 5 Continued

Key-Elements for Facilitation	Absolute Frequencies	Percentage
Systematic, "bottom-up," and situated training about technical artifacts and digital learning	N=197	56,61%
Cooperation and compliance with families	N=170	48,85%

Findings confirmed that designing and organizing forms of cooperation and collaboration among teachers was the first step towards a more integrated and effective digital learning. In some cases, they had the opportunity to notice unexpected positive effects of remote teaching, especially in students with learning disabilities, neurodiversity, autistic spectrum disorders, ADHD, who had more time to study and who reacted in a more comfortable way to social distancing and lockdown. In other cases, students with low technical skills got the opportunity to increase their digital awareness skills; students with behavioral problems had the chance to stay in a safe and familiar physical environment, while in a virtual classroom with their peers without escaping the relational connections with them.

About supports to students, online laboratories resulted to be one of the most promising experiences for preserving students' positive contacts, relationships, and positive interdependence. In online laboratories, facilitation techniques, such as cooperative learning approach, peer tutoring systems, student team learning and inquiry-based methods galvanized the collaborative informal learning that could happen in formal structured educational paths. Music, art-based methods, game-based learning techniques were particularly effective in maximizing students' engagement. Immersive reading and digital books were widespread, such as more differentiating and personalized contents for classes and lessons. Differentiation and personalization were pedagogical opportunities presented by remote teaching: teachers had the instruments to design and deliver courses that fitted with students' learning patterns and interests. In online eco-learning systems, students had the opportunity to self-pace their work based on their own times and rhythms. Even if in condition of physical distancing, emergency remote teaching had the positive impact of emphasizing the potential of good curriculum design preliminary phases and of the personalization and individualization of learning contents. Distance learning, if accurately designed and facilitated, lends itself to mastery-based learning, where students moved forward in the curriculum based on mastery of the material at their own pace.

About support to students, the need to overcome "teacher and teaching loneliness" was pointed as the first trigger for searching for a community of teachers where finding a dialogical space of exchange, growth and knowledge sharing. Teachers were required to: a) change their prior cognitive and actions schemes; b) navigate the adverse circumstances, with a high disposition to change in adaptive challenges; c) sustain emotionally and educationally students to face the same adverse and uncertain circumstances.

Professional development in scenarios with high density of complexity and potentially traumatic is more similar to creative learning which calls for iterative cycles of assessing the multiple situations in light of the multiple questions to be resolved. Professionals need first to seek all available knowledge about ambiguity and non-routinary situations. Then they have to design, that is crafting possible solutions and prototyping. Finally, they have to select and choose for taking that intuitive leap to select the best option (Watkins, & Marsick, 2020, p. 6). Creativity is essential because there are no ground rules for the disruption of COVID-19: in our study teachers were required to manage the unexpected, think outside the box, face the unpredictability of the unprogrammed activity. Nicolaides and Scully-Ross (2018), at this regard, identified five promising practices for cultivating curiosity, endless flexibility and self-awareness, especially in teacher education and professional development: disruptive design methods, polarity mapping, collaborative developmental action inquiry, visual design, and collaborative design thinking.

Conclusions

The discussion articulated herein has some limits. The empirical investigation at hand, albeit being based on survey administered to teachers of different genders, educational backgrounds, and ages who are engaged in various topical terrains, nevertheless works with a snowball-determined sample that implicitly cannot exclude bias. The Author acknowledges the limited sample size as well as the convenient sampling technique used in the study. Although the numbers may not be representative of the whole population (N= 400), the findings serve as a promising indicator of actual instructional issues faced by teachers who learned about designing online learning paths. These findings unveiled individual efforts and struggles that teachers face to cope with emergency remote teaching. One of the main obstacles is how the respondents are going the extra mile to design lessons that are reachable by learners who are now in various learning environments at home, which may not be conducive for learning.

The research identifies a unique approach to intercepting factors that can trigger and facilitate the transformation of perspectives in educators and teachers who are engaged with the challenges of the epochal and disruptive changes caused by the COVID-19 pandemic. This is particularly relevant when lots of countries in the world are facing the third wave of the contagion and are taking measures to prevent the exponential growth of the curve. Our findings depict the collective, disorienting dilemmas caused by emergency remote teaching through a unique lens where both students and teachers had to adopt online learning as "the new normal," with the understanding that it will stay with us in the future. The responses given by the respondents of this study could initiate a deeper and larger investigation on strategizing relevant interventions to assist the teachers during crises, not only exclusive to the COVID-19 pandemic, but also prefiguring what will happen post-COVID-19. In our study, a pillar of a positive remote teaching experience is the richness of support as the digital awareness and maturity of teachers. Informal support from a community of teachers experiencing the same disorienting dilemma could play a crucial role in the definition of a new model of integrated digital learning.

Teachers need to be encouraged to take a complexity perspective on their work post-COVID-19 and to enlarge their repertoire of responses to learning needs to include blended and integrated digital teaching. As the literature on creative education chants the call for nurturing "future-ready students," teachers too, have to be "future-ready" by equipping themselves with necessary skills, knowledge and disposability for learning to thrive during emergency situations (Chuah, & Mohamad, 2020).

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