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Sudden Shift to Distance Learning: Analysis of the Didactic Choices Made by Italian Secondary School Teachers in the First COVID-19 Lockdown

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Abstract

Following China, the next severely affected country due to the COVID-19 epidemic was Italy. In consideration of the increasing number of infections, the government via the Ministerial Decree (DPCM) of March 2020 established various restrictive measures for the entire Italian territory, even involving the closure of schools. Hence, for the first time, the Italian school system had to adopt distance learning.

The mixed methods research in this context involves a non-probabilistic sample of 6,384 secondary school teachers answering a questionnaire issued from 5 August to 1 September 2020, and 30 telephone interviews were conducted among those who had made themselves available during the compilation of the questionnaire to be contacted for the qualitative part of the research.

Therefore, the answers collected in the report[1] relay what happened in the second quarter of the school year from 2019 to 2020, the period of the first lockdown in Italy, through which we try to particularly understand the didactic activities implemented by teachers, the main decision maker of the choices, the assessment methods, the autonomy of teachers in managing distance learning and the teachers' training needs.

Keywords: *distance learning, secondary school, COVID-19, teaching, teacher training needs*

Introduction

Following China, the next severely affected country due to the COVID-19 epidemic was Italy. Some 'red areas' were initially established (including Lombardy and Veneto) with the aim of limiting the spread of the virus from the most affected areas of the country. However, considering the increased number of infections, the Ministerial Decree (DPCM) in March enforced measures covering the entire Italian territory, which involved the suspension of public events, the closure of schools and universities and the recommendation to implement smart working where possible (Pellegrini & Maltinti, 2020), and hence began the Italian lockdown.

Meanwhile, due to the pervasive spread of the virus, the World Health Organisation (WHO) declared COVID-19 a pandemic. Among other issues, this pandemic required school managers and teachers to make a great effort to quickly switch to distance education (Netta et al., 2020) in order to continue school activities online. This was the first time the Italian school system had adopted distance learning: schools equipped themselves with platforms and, with the support of the Ministry of Education, some institutes provided devices to pupils who were without them, while the teachers tried to both acquire technical skills in a short time and redesign their teaching to this modality.

The results that we discuss in this paper are based on a mixed method research that involved a non-probabilistic sample of 6,384 secondary school teachers who answered a questionnaire issued from 5 August to 1 September 2020. From this sample, a selection of 30 teachers joined in via telephone interviews for the qualitative part of the research.

[1] This contribution has been developed jointly by the authors. Livia Petti wrote 1. Theoretical framework, Andrea Garavaglia wrote 2. Methods. Introduction, 3. Results and conclusions have been written jointly.

Therefore, the answers reported what happened in the second quarter of the school year of 2019–2020 – the period of the first lockdown in Italy – where we try to understand how the teachers, despite the difficulties, managed the emergency period to impart distance education.

1. Theoretical Framework

1.1. Italian schools during the COVID-19 lockdown

To try to slow the spread of the virus (Viner et al., 2020), schools of all levels in Italy were closed starting from 4 March 2020. The decision, complex as it was, was made as school closures had proved effective in reducing virus transmission during previous influenza outbreaks, including swine flu and MRSA (Cowling et al., 2020; Nafisah et al., 2018). Nevertheless, this move resulted in a great clamour and disruption of routines of millions of teachers, students and parents.

Great efforts were made by the school staff not to interrupt the activities and ensure educational continuity through distance education. The health emergency required facing unprecedented challenges such as teachers having to rethink their teaching model for online education (König et al., 2020). In schools where education technology experiences were already present, the response was faster, while for places without digital integration, the response was slower and required a greater effort to adapt to the new situation (Giovannella et al., 2020).

To try to bridge the digital divide, the Italian government allocated funding that allowed students without access to digital devices to have them, but this aspect alone has been unable to help since it is not enough to simply own the tool, but it is also necessary to know how to use it appropriately. Without a digital culture, there can be no digital citizenship skills (Ranieri et al., 2020).

Therefore, schools as democratic agencies were called upon to include education technology and media education within their curriculum as an integral part of the training system (Rivoltella, 2020). Digital technologies can offer new opportunities for teaching and learning (Chauhan, 2017). However, despite their potential influence on teaching and learning, the mere presence of technology does not necessarily lead to student progress (Li & Ma, 2010); it becomes necessary to rethink teaching design as well. 'The classical themes of pedagogical research require specific curves, made necessary by the complexity of the socio-cultural situation and by the contributions of new disciplines. The role of the teacher is also changing, who today, more than in the past, must place himself in the perspective of an education professional, capable of operating in context, proposing solutions for problematic situations related to the here and now' (Rossi, 2011, p. 11).

From this brief discussion, it, therefore, becomes seemingly essential not to read the COVID-19 pandemic as a lost learning opportunity, but as an opportunity to alter, readjust and rethink the teaching–learning process.

1.2. Rethinking teaching

Society is characterised by complexities and has undergone notable transformations, where the institution of the school, a multi-ethnic and democratic system, is called upon to face these significant cultural and technological changes. The COVID-19 pandemic has highlighted the importance of teaching design even more. Limiting ourselves to transposing traditional teaching online was previously unthinkable; however, the Internet has forced us to revaluate our teaching actions, starting from the ways and times of use, trying to avoid cognitive overload, to keeping the student active through media authorship (Rivoltella & Ferrari, 2010).

Teaching, according to Laurillard (2012), is a design science where the design dimension in the teaching profession is not seen as a technicality, but as an a priori decision-making process, observed during teaching actions and reflected on after, therefore always improvable (iteration). To make this process sustainable, it becomes essential to do the following:

- Sharing teaching practices with colleagues: Collegiality is a theme that also emerged in the interviews and which, when practiced, even in emergencies, allowed teachers not to feel alone and helped comfort their peers by finding useful didactic solutions. Active and participatory teaching design makes it possible to share problems and find solutions more easily.
- Thinking about how to use technologies by integrating them into one's teaching.

To create an effective, dynamic and flexible design, Laurillard (2012) proposed the Conversational Framework, inspired by the Conversational Theory of Gordin Pask (Pask, 1976). The framework summarises some key elements in formal learning: student's experiences and pre-knowledge, what it takes to learn and what it takes to teach. Laurillard described how the teacher's role is to 'motivate the internal cycles generating and modulating the learner's concepts and practice, which is what facilitates learning' (Laurillard, 2012, p. 86).

In this study, the conversational framework has been used to analyse the teaching methodologies adopted during the lockdown. Figure 1 clearly shows the importance of dialogue and interaction between teachers and students (teacher communication cycle) and between students (peer communication cycle); in fact, the model underlines the processes active in this context – those between the teacher and students, those between students and the student, those between the student and the learning environment and, finally, those between students.

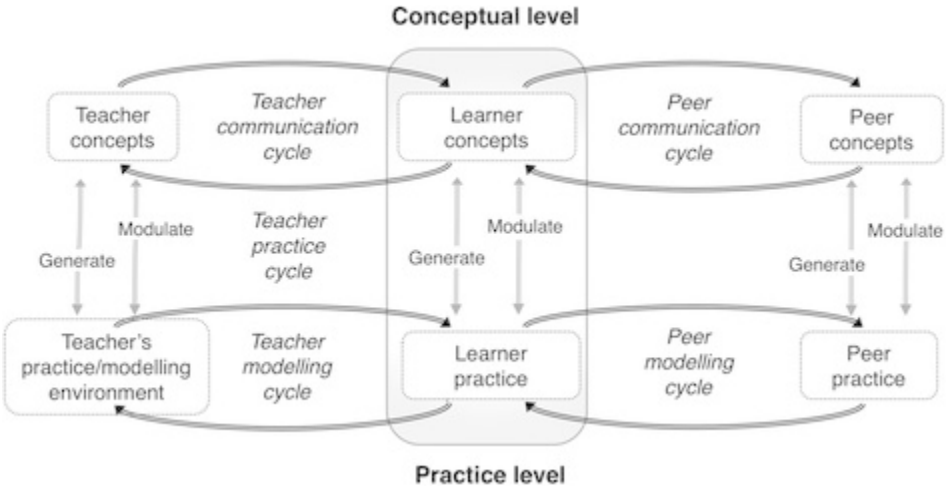

Fig. 1. The conversational framework (Laurillard, 2012).

2. Methods

The research was carried out using a mixed method sequential QUAN → qual design approach (Creswell & Clark, 2007). According to Morse (1991), this design provides a wide opportunity for the exploration of the initial quantitative results in detail, especially when it is not possible to explore the aspects from the quantitative methods in depth. The QUAN was realised through a questionnaire to obtain a precise picture of the didactic activities performed by teachers during the lockdown, considering the various variables as the disciplinary area and competencies in terms of didactic technologies. The second step (qual) consisted of 30 interview sessions with the selected teachers who had responded to the questionnaire.

The survey was realised to explore the following aspects:

- didactic activities implemented during distance learning,
- factors that influenced the didactic choices,
- autonomy in implementing teaching methodologies,
- evaluation methods and
- teacher training needs to face the school year alongside the pandemic.

The survey was addressed to teachers enrolled in the newsletter mailing list of a publishing house that publishes texts for mainly secondary schools. The newsletter had around 200,000 users, and the survey was compiled by 6,384 Italian schools teachers, distributed by school level as follows: 516 from primary schools, 2,487 from first grade secondary school and 3,381 from second grade secondary school. In this research, which covers only secondary schools, we refer to the 5,868 compilations of teachers from lower and upper secondary schools. Given that the questionnaire was delivered with a request for free participation, the sample could not be considered statistically representative with respect to the universe of teachers (the 2017–2018 Italian School Open Data[2] were considered as a reference with regards to the distribution of age and sex variables). Following this, two clusters were found that had a significant value of 0.01 in the chi-square test – the first included lower secondary school teachers aged 35–44 and the second comprised secondary school teachers aged 45–54.

The SPSS Decision Tree (Figure 2) function was used to select the sample of teachers to be interviewed. The decision tree was divided into seven nodes, starting with the variable 'identification of unsatisfactory teaching material' (node 0) that divided the entire sample into two clusters. Subsequently, the sample was divided into three other sub-clusters with respect to the teaching discipline: human sciences and economics (node 1), STEM and artistic (node 2), second language and physical education (node 2). Node 1 was divided into two other nodes (node 4 and node 5) on the basis of the age of the teachers. Node 3 was divided into two other nodes (node 6 and node 7), considering whether the teacher has been hired for an indefinite or a fixed term. From the five nodes (node 2, 4, 5, 6, 7), 30 interviews were obtained and carried

[2] https://dati.istruzione.it/opendata/opendata/

out considering six teachers within each node. In each node, the teachers of the lower and upper secondary schools were equally divided.

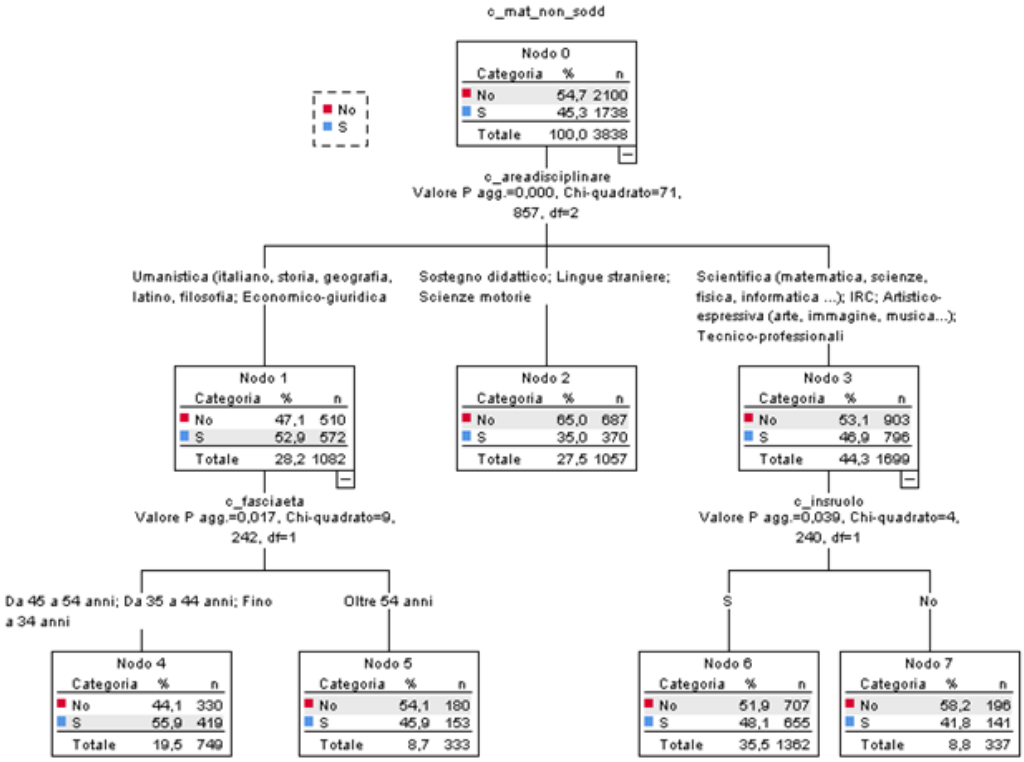

Fig. 2. SPSS decision tree nodes (data processing in Italian).

3. Results

3.1. Didactic activities implemented in distance learning during the lockdown period

The activity most used by teachers during lockdown was live lectures via videoconferencing, performed often by 85.6% of the teachers. On the other hand, the asynchronous recorded lecturers were proposed often by only 30.2% of teachers; in particular, 25.5% of upper secondary teachers delivered the learning object often, while 36.6% of lower secondary teachers delivered recorded lectures. These strategies can be included in the conceptual level of the conversational framework (Figure 3), with a greater possibility of the synchronous lectures to generate a complete teacher communication cycle and move from the acquisition learning type to the discussion learning type (Laurillard, 2012).

As shown in Table 1, the didactic activity was correlated to educational qualification – teachers who had a secondary school diploma employed the synchronous lectures in videoconferences less ('often', 73%), while teachers with a master's degree to a PhD proposed them often (more than 81%). Individual activities with personal correction (teacher modelling cycle) were proposed more in lower secondary schools and by teachers with a doctoral degree ('often', 51.8%) and/or master's degree ('often', 52.3%).

From the interviews' results, it can be seen that the teachers faced the emergency period trying to respond immediately to the unexpected closure of schools. In schools where the e-learning platform had not been adopted yet, the first step was to use the electronic register to share tasks and materials, presuming that face-to-face lessons would be resumed soon. The difficulties of Internet speed (digital divide) present in some areas of Italy forced teachers to carry out asynchronous recorded lessons to help the children who could not join the live lectures. One of the teachers explained well this solution to the problem as an inclusive strategy, 'In order not to leave anyone behind, I recorded the lesson and made the material available so that those who could not access the synchronous could be reached'. In some cases, the teachers decided to provide these content pills to the students, prior to the lessons (flipped lesson mode).

Even where the difficulties caused by the lack of broadband were less present, the synchronous mode was used sparingly, revising the school timetable to prevent children from being connected to the screens for too many hours. In one interview, a teacher declared that, 'I used Zoom, which I did not know, to do remote lessons, the 3-hour weekly schedule was downsized to 2 in sync'.

Table 1. Didactic choices made by teachers during lockdown
'What choices did you make during the lockdown distance learning period?'.

What choices did you make during the lockdown distance learning period?		Lower secondary school (%)	Upper secondary school (%)	Total (%
Synchronous lectures in videoconference	never	3.0	2.3	2.6
	rarely	2.7	2.9	2.8
	sometimes	9.7	8.5	9.0
	often	84.7	86.2	85.6
Asynchronous lectures (recorded)	never	27.5	36.1	32.4
	rarely	12.1	13.7	13.0
	sometimes	23.9	24.7	24.3
	often	36.6	25.5	30.2
Individual activities with personal correction	never	2.0	3.1	2.6
	rarely	8.1	9.1	8.7
	sometimes	32.0	37.1	34.9
	often	57.9	50.6	53.7
Flipped lectures	never	23.3	27.0	25.4
	rarely	19.6	22.1	21.0
	sometimes	35.5	35.2	35.3
	often	21.6	15.7	18.2
Individual activities with correction and discussion in course of lessons	never	6.6	8.8	7.9
	rarely	11.6	13.9	12.9
	sometimes	38.1	39.2	38.8
	often	43.7	38.0	40.4
Individual activities with automatic correction	never	19.6	29.0	25.0
	rarely	27.1	28.0	27.6
	sometimes	35.0	31.1	32.7
	often	18.3	12.0	14.7
Group activities	never	39.9	32.5	35.7
	rarely	25.5	25.9	25.7
	sometimes	26.2	31.3	29.1
	often	8.4	10.4	9.5

The choice of reducing the usual school hours contributed to teachers desiring to integrate digital resources such as videos, partly self-produced PowerPoint presentations and pdfs (partly downloaded from the web and partly taken from texts, including digital) into publishing house lessons. The learning resources, in almost all cases, were readapted by the teachers according to the needs and objectives of the lesson.

Teacher concepts	**Peer Communication Cycle**
Synchronous lectures in videoconference – 85.6 Asynchronous lectures (recorded) – 30.2	Individual activities with correction and discussion in course of lessons – 40.4 (Flipped lectures) (Group activities)
Teacher Practice Modeling Environment	**Peer modelling Cycle**
Individual activities with personal correction – 53.7 (individual activities with automatic correction)	Flipped lectures – 18.2 Group activities – 9.5

Fig. 3. Didactic choices made by teachers during lockdown reflected on the conversational framework. Data in percentage (Adapted from Laurillard, 2012).

3.2. The main decision maker behind the choices

In each school, the choices were made at different levels. We were reminded that the emergency did not allow all schools to hold online meetings in the first weeks of the lockdown. This certainly made it impossible to follow standard

procedures in various schools and made it necessary for school managers to find information to ensure active school service in compliance with the emergency decrees.

The primary factor that determined the didactic choices was the teachers' competence in didactic technologies. About 47% indicated that they were the basis of educational choices, with minimal variations between the two levels of secondary schools. Many cases emerged from the interviews where teachers narrated episodes characterised by the discovery of didactic solutions and technological devices that allowed them to carry out the lessons and achieve the goals planned at the beginning of the year. Most of these skills were derived from participation in webinars or reading online resources (e.g., a math teacher began to use a pen tablet as suggested in a webinar on educational technology).

Considering the results reported in Table 2, it is very important to note that a consistent share of teachers took into consideration the feedback from students (34.3%). This factor was more decisive in upper secondary schools (36.2%) than in lower secondary ones (31.8%) where there is greater attention paid to the age of the students and the possibility that they can be supported by their families.

The choices regarding the digital platforms were mainly made by the school principals and the teaching boards of the schools. For most of these cases, the Learning Management System environment had already been adopted before the lockdown. In the absence of a decision maker, the individual teachers resorted to the digital environments used and experienced in the past, or used the electronic register. In some cases, school principals and teachers thought that the remote period would last only a few weeks.

As for the teachers who placed a lot of attention on students and their families, the following quote can help understand the level of complexity of the problems faced: 'The only problems were: 1. Some kids didn't have devices and broadband connection and government aid to families with financial problems arrived in late May. 2. Some guys who are alone at home with no one to help them and already not very motivated have been lost in many subjects. Since I was at home and had time at the cost of being intrusive, I called them one by one on the phone. Something like that, they couldn't say no to me'.

In some interviews, the issue of collegiality emerged to be essential (confirming what was expressed by Laurillard, 2012). It allowed teachers not to feel alone and helped confront their peers by finding useful didactic solutions ('We helped each other a lot among colleagues to find ways to reach the kids in any way').

Table 2. Main decision maker.

Who made the choices regarding teaching?	Lower secondary school%	Upper secondary school %	Both lower and secondary school %
Choices made by the teaching board of the school	8.30	6.80	7.41
Choices made by the teaching committee of the class	3.90	2.00	2.76
Choices made by the teacher based on the age group and the support of families	8.00	2.60	4.91
Choices made by the teacher based on feedback from students	31.80	36.20	34.30
Choices made by teachers on the basis of their skills in educational technology	44.30	48.10	46.47
Choices made by school principal	3.80	4.40	4.14
Total	100.00	100.00	100.00

3.3. Assessment methods

Analysis of the assessment methods presents a picture that clearly highlights which practices could most easily be translated from the face-to-face context to the online one. More than 40% of teachers retained the administration of class tests, in particular, multiple choice tests (46.3%) and written tests (36.9%). Multiple choice tests were also the subject of great interest for those who had not used them before the lockdown; in fact, 24.4% of teachers increased their use. Overall, considering both those who increased their use and who continued to use them, multiple choice was proposed by 70.7% of teachers.

It is very interesting to observe the variation in the use of scheduled oral questions – 22.5% teachers made use of them prevalently in the lockdown period, while 17.7% almost abandoned this practice that was prevalent in the previous period, compared to the fact that more than half of the teachers (54.1%) maintained the practice. Some context factors influenced these variations, such as the availability of a good Internet connection for both teachers and students and the difficulty in proposing oral questions without scheduling, something that 39.6% of teachers abandoned during the emergency. It

should also be emphasised that in distance learning, there is a tendency to make didactic planning more transparent to students than in face-to-face teaching (Mason, 1993; Ranieri, 2005; Garavaglia, 2010).

Another method of evaluating learning which has almost been abandoned is the written assignment (−32%). This type of test requires a session of at least 1 hour that involves all students simultaneously, without the possibility of copying or exchanging solutions. In distance learning, this is generally achievable through proctoring systems, whose cost and technological complexity does not allow secondary school teachers to be able to resort to this technological solution. Teachers from interviews describe the difficulties as follows: 'In the assessment, I did not ask the guys to write, I tried, but they did copy-and-paste from the web. So, I used the google modules (test), but many students copied anyway because they did not keep the webcam on… It was a disaster!'. A math teacher declared, 'I noticed some shortcomings in the tasks, and so I investigated on the Internet, discovering that there are apps that, based on the photo of an equation, give you the result, obviously without procedure. I quickly spotted this scam. Maybe I was wrong, but in mathematics, I couldn't rate them well'.

In some cases, this situation was an opportunity to experiment with different methods of assessment, based on authentic tasks and the observation of indicators of competence. In one interview, a teacher stated, 'It was important for me to involve them with reality tasks, returning to the meaning of our training course'.

Table 3. Assessment methods.

Assessment methods	Not used %	Prevalent use during the distance learning emergency %	Prevalent use before emergency %	Used both before and during the emergency %	Total %
Multiple choice test	11.9	24.4	17.4	46.3	100
Scheduled individual oral questions	28.2	22.5	17.7	31.5	100
Oral reports on topics agreed with students	56.6	18.4	10.4	14.7	100
Class test	28.5	17.2	12.4	41.9	100
Individual written reports	47.6	16.6	16.5	19.2	100
Discussions on study topics	44.7	12.2	21.4	21.7	100
Authentic tasks and tests	59.9	11.8	12.3	16.0	100
Self-assessment	72.3	11.3	6.6	9.8	100
Written test	24.8	6.3	32.0	36.9	100
Group written reports	79.1	5.5	12.1	3.3	100
Individual laboratory tests	82.4	5.4	8.4	3.9	100
Peer review	83.9	4.3	8.2	3.5	100
Unscheduled individual oral questions	45.1	3.2	39.6	12.1	100
INVALSI and PISA tests from previous years	80.2	2.7	12.0	5.1	100
Group laboratory tests	81.2	2.5	13.9	2.4	100

3.4. Autonomy of teachers in managing distance learning

Teachers have always taught face-to-face in the Italian secondary school system. The sudden lockdown required the entire teaching staff to face the need to teach from a distance, considering prior learning and experience from previous years.

While this sample does not fully represent the entire population of Italian teachers, it is interesting to observe that the respondents declared adequate autonomy for the main aspects, with peaks of high autonomy for communication and long-distance relationships with students as well as the use of remote technologies, which were both above 30%.

These results suggest that the questionnaire probably attracted the interest of all those who managed to respond, at least sufficiently, to the need to teach from a distance, while from other research involving students, it was understood that in some areas of Italy, unfortunately, not all teachers were able to carry out remote activities adequately (Capperucci, 2020).

Table 4. Autonomy in applying distance learning.

	Don't know (%)	I am not autonomous; I need basic training (%)	I am not very autonomous; I ask for help frequently (%)	I am substantially autonomous in the main steps (%)	I have fair autonomy; I ask for help only for the most complicated steps (%)	High autonomy, colleagues consider me a point of reference (%)
Distance learning design	0.8	1.5	5.5	49.3	19.2	23.8
Communication and relationship with distance students	0.5	0.4	1.8	54.0	10.7	32.7
Evaluation of distance learning	1.9	2.5	6.2	52.6	19.5	17.2
Distance classroom management	2.2	1.5	3.4	51.6	15.0	26.4
Use of technologies in distance learning	0.6	0.8	4.6	42.8	18.0	33.3

These answers highlight that the issue of learning evaluation is the one that has put teachers in the greatest difficulty. Still, considering the level of autonomy, the question regarding the types of assessments proposed to students is strongly correlated with autonomy in classroom management. This is evident from the fact that most teachers have tried to replicate the assessment methods implemented in the previous setting, without looking for a technology or way of using the technologies capable of ensuring validity of the process. Therefore, the teachers found themselves without tools and in enormous difficulty.

This attention paid to evaluation allowed several teachers to understand the importance of reflection on the methodologies and techniques used to evaluate. In an interview, one of the teachers stated, 'I used to do some tests more like self-learning and content consolidation, but the real evaluation was when I asked students to make plans and projects. When drafting the projects is not possible to copy and paste, you have to use your expertise. You can use the book, but if you have not understood the concept it is not enough. Here is another example: consulting the sources correctly – it is a personal and authentic test to reason'.

Driven by the need, the teachers learned, in a short time, to use the technologies for teaching. Those who were already used to them in the classroom had to exert less effort.

During the interview, another teacher stated, 'I teach in a scientific high school in Milan and we already had the Classroom platform that we used as an integrated tool, so we were facilitated. We were ready to go online, even though each teacher had different skills. I must admit that I was already working with digital material and using the e-learning platform as a support to insert material, make assignments, help students with problems and empower learning of excellent students'. Still another teacher stated, 'I am a teacher who already worked on the computer, I have a lot of experience. I did CLIL, I have a blog and I use the inverted class, I have been advantaged from this point of view'.

3.5. Teacher training needs to face the 2020–2021 school year with the pandemic

Analysis of data on the levels of autonomy of teachers in managing the different didactic aspects is reflected on the training needs identified as necessary to perform the next school year in the best possible way. The two most declared needs concerned the design of mixed presence–distance learning activities and the evaluation of learning both at a distance and in the presence (about 50%). It must be specified that the questionnaire was administered during summer, a period characterised by the dissemination of indications and ministerial decrees, such as 26 June 2020 number 392 that presented the need to organise the new school year in a mixed way. Schools and teachers were invited to plan face-to-face lessons, so that students in quarantine could participate via videoconference and in moments of the greatest danger to health, lessons should be delivered completely remotely. The need to be trained regarding the use of digital tools and resources for teaching is still quite high (26.93%).

The need to be trained on inclusion in mixed teaching was more critical in lower secondary schools (25.17%), while in upper secondary schools, this need stood at 14.61%. The difference is linked to a different incidence of disabled people at the two school levels, but this lack has caused a big problem because 23% of disabled students could not attend the lessons (Bocci, 2020; ISTAT, 2020; Mulè, 2020). The importance of training was underlined by many of the teachers interviewed. One of them stated, 'The problem immediately arose with mathematics, you can't just talk, you have to write formulas. How to solve? I initially wrote on sheets and frame it with the webcam, then I tried to use a tablet. When I

enrolled a webinar (I joined a lot of them) I discovered the use of graphics tablet in didactic, so I bought it on immediately and from that moment I used it every day'.

Table 5. Teacher training needs.

What is your training needs to face the new school year in mixed teaching?	Lower secondary school %	Upper secondary school %	Total %
Mixed teaching design (physical and online classroom)	48.93	52.09	50.75
Use of digital tools and resources in teaching	27.50	26.50	26.93
Physical Classroom management (in mixed teaching)	11.70	13.U0	12.97
Management of the online classroom	12.46	12.13	12.27
Assessment of learning (both face-to-face and online)	46.12	52.68	49.90
Inclusion in mixed teaching	25.17	14.61	19.09

Conclusions

All the results presented here are strongly connected to the pre-competences that teachers had at the time of activating distance learning. The widespread adoption of the synchronous lesson and the increase in the use of multiple choice tests, together with the reduction in the use of written assignments are evident signs that some difficulties encountered have not often found an adequate solution. On the other hand, most of the choices adopted were made on the basis of skills in educational technology and partly on the basis of skills in managing technology for distance learning. The didactic phase that emerges as the most critical is the one linked to the assessment of learning that seems to be linked to the teacher communication cycle of Laudrillard's (2012) framework. In other words, the didactic activities were concentrated on the levels characterised by individual activities rather than group activities.

It is clear that design skills, including the planning of assessments, were more critical. For this reason, these aspects are reasonably expected as the primary topics of the training on offer for teachers' refresher courses.

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