

## UNIVERSITY TEACHING DURING COVID-19

### LA DIDATTICA UNIVERSITARIA AI TEMPI DEL COVID-19

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#### Abstract

The Prime Minister's Decree of March 9th, 2020 has brought unexpected and unimaginable changes to the Italian education system: the containment of one of the most tragic pandemics in recent decades has seen the suspension of all face to face educational activities. Therefore, all Italian universities also had to adopt innovative solutions to ensure the correct performance of the lessons and activities foreseen in the academic calendar. The adjustments adopted by the various universities have allowed the continuation of almost all educational activities, (starting from lessons up to graduation) for the first time in history, exclusively in remote mode. The aim of this work is to reflect on the problems related to the changes that are affecting the Italian education system and to trace some research paths starting from the remote teaching experiences developed by universities. The data collected in this work are intended to provide a first overview of the choices made by universities with respect to the software and teaching platforms used, with the awareness that the strong acceleration imparted to distance learning will unquestionably mark a new chapter in the history of the scholastic and academic world and represents, at the same time, a great driving force for educational research.

Il Decreto del Presidente del Consiglio dei Ministri del 9 Marzo 2020 ha portato cambiamenti inaspettati e finora inimmaginabili nel sistema d'istruzione italiano: il contenimento di una delle più tragiche pandemie degli ultimi decenni ha visto la sospensione di tutte le attività didattiche in presenza. Pertanto, anche tutte le università italiane hanno dovuto adottare soluzioni innovative per garantire il corretto svolgimento delle lezioni e delle attività previste dal calendario accademico. Gli adeguamenti adottati dalle varie università hanno consentito il proseguimento di quasi tutte le attività d'istruzione, (a partire dalle lezioni fino ad arrivare agli esami di laurea) per la prima volta nella storia, esclusivamente in modalità a distanza. L'obiettivo del presente lavoro è quello di riflettere sulle problematiche legate ai cambiamenti che stanno interessando il sistema d'istruzione italiano e tracciare alcune piste di ricerca a partire dalle esperienze di didattica a distanza messe a punto dalle università. I dati raccolti nel presente lavoro hanno lo scopo di fornire una prima panoramica in merito alle scelte attuate dalle università rispetto ai software e alle piattaforme didattiche utilizzati, con la consapevolezza che la forte accelerazione impartita alla didattica a distanza segnerà, indiscutibilmente, un nuovo capitolo nella storia del mondo scolastico ed accademico e rappresenta, al contempo, una grande spinta propulsiva per la ricerca educativa.

#### Keywords

Remote teaching; Interaction; Learning innovation; Learning platforms; Synchronous communication

Didattica a distanza; Interazione; Innovazione didattica; Piattaforme didattiche; Comunicazione sincrona.

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## **Introduction**

The Prime Minister's Decree of March 9th, 2020 has marked the beginning of an unexpected and dramatic historical period: the health emergency linked to the spread of the Covid-19 pandemic has overwhelmed and petrified the entire country, social distancing and the total lockdown of non-essential activities have been the only remedies capable of opposing an invisible and silent enemy. In this scenario students and teachers from all over the world have been thrown, forced to modify, like everyone else, rooted habits, social interactions and human bonds. The closure of schools and universities, due to the health emergency, has caught unprepared an education system that is only partially accustomed to the use of educational technologies. While up to some months ago there was a lively debate regarding how to introduce and use digital devices in the Italian school system, the current need to provide distance learning has made the use of these tools the only possible way of interaction, able to connect and give back vitality to entire school and academic communities.

As a matter of fact, schools and universities have a role of great responsibility: guiding students in a historical period characterized by profound social, economic and technological changes. Therefore, it is essential to develop a resilient education system, which is able to adapt to the ongoing transformations, in order to ensure the educational success of future generations. In this scenario distance learning, which until recently was mainly used as a support to traditional teaching, acquires an essential role and implies an adjustment of the services offered and also of the skills necessary for the proper development of the set up activities. According to the United States Distance Learning Association (USDLA) distance education can be defined as a generic, all-inclusive term used to refer to the physical separation of teachers and learners; the application of information technology (and infrastructure) to educational activities linking teachers and students in differing places. All communications are mediated by some type of electronic means in real or delayed time.

The aim of this work is to reflect on the problems related to the profound changes that affect the Italian school system and to trace some research paths starting from the experiences of distance teaching developed by the Italian universities to face one of the greatest health emergencies of the last decades. This essay intends to examine any potential strengths and criticalities of the main educational services offered by Italian Universities. In order to do this, the following thematic ideas have been identified:

- Provision of online lessons
- Arrangement of online laboratories
- Conducting curricular internship activities
- Conducting exams, graduation sessions, evaluation methods
- Promoting an inclusive and accessible teaching also in cases of disability, SEN and SLD

### **1. Distance teaching: between new opportunities and old problems**

Due to the current health emergency, all Italian Universities have had to adopt innovative solutions to ensure the proper unfolding of the lessons and activities planned in the academic calendar. It should be emphasized that, although e-learning didactics was already present in most Universities, at this stage it was necessary to implement and strengthen dedicated systems, adapting them to the new needs originated by the copious and simultaneous accesses to the platforms and the huge quantity of data transferred. Furthermore, the provision of distance learning has led most teachers to reorganize their teaching methods, especially considering the new ways of interacting with students. Regarding the methods of access, in most cases Universities have opted for different types of platforms (a topic that will be explored in the following paragraphs), organizing both synchronous and asynchronous (through recordings) lessons. It is also necessary to reflect on the consequences that these transformations have had not only on the ways of transmission of knowledge, but also on the learning process itself: in addition to conveying the transmission of knowledge, the teacher, with this new way of educating, also becomes a sort of

virtual tutor. According to Calvani and Rotta (2000), in the scope of e-learning, the e-tutor can hold different roles:

- *instructor*: subject-matter expert where the main purpose of the course is to make students acquire content;
- *facilitator*: since he provides students with different forms of scaffolding (in courses where the students use the Internet to get in depth of the teaching materials, customizing their learning path);
- *moderator*: when he manages activities, discussions, working groups in a collaborative way.

Therefore, the role of the teacher acquires further complexity, as he not only has to put into the field his own skills related to disciplinary knowledge, but he also has to be able to support the student in the new learning path to complete the educational course and is also called to manage, through new methods, group dynamics mediated by the use of technological devices. Other aspects on which it is necessary to reflect on the provision of distance learning are those related to changes in the timing of lessons which, inevitably, are reduced in virtual mode compared to face-to-face teaching. It should be noted that, in this phase, there have also been changes in the organization of teaching materials, mainly due to the difficulties faced by students in acquiring and finding textbooks. Finally, another problematic aspect is the one linked to the well-known digital divide. The digital divide, that we've been facing for some time, is related to both infrastructure deficiencies and inadequate skills of the users. As for the first aspect, in this moment of sudden and forced digitization, it is not only the universities, but also and above all the students that have to deal with the weight of the problems linked to Internet access. According to ISTAT data (2019), still 25% of households in Italy does not have full access to Internet services, with a large gap between Northern and Southern Italy. As for the second aspect, the one related to the inadequacy of users' digital skills, the adoption of software and platforms as user-friendly as possible can prove to be an effective choice in the provision of educational services.

## **2. Curricular training courses: what solutions are possible in the current scenario?**

The suspension of curricular traineeships, the ones linked to university training courses, has generated further problems and has led the various universities to seek effective solutions that can combine the practical aspect of learning with the new forms of distance learning. A first setback for training activities was sanctioned by the Decree of March 4th 2020 with the suspension of university activities and Advanced Artistic Training of music and dance, professional courses, masters and universities for the elderly, albeit with the possibility of continuing the activities in telematic mode. The only courses excluded from these provisions were those relating to the exercise of health activities. A further tightening of training activities, then, was given by the decree of March 9th 2020. Starting from these suspensions and in order to ensure the correct execution of all the academic activities planned, the universities have undertaken adaptation actions aimed, in addition, to allow the continuation of the internship activities already under way. The choices of the various universities were different but, in general, the lines adopted were two:

1. the suspension of all activities relating to curricular traineeships;
2. the possibility to continue with the activities already started in "smart working" mode.

This second opportunity to carry out traineeships has involved further provisions relating to the management of the timings necessary for carrying out the planned activities and the resolution of the problems regarding the different modes of interaction and communication between trainee, corporate tutor and academic tutor. Speaking of this, consideration should also be given to the possible changes in the educational goals envisaged for traineeships, which, being extremely close to the world of work, are similarly affected by the profound changes taking place.

## 2. Online exams and degrees: towards a fourth generation distance education?

More than in the context of the real quality of teaching, the widespread diffusion of e-learning is a choice that falls within the sphere of marketing, as the universities themselves - which have had to cope with increasing competitiveness in the training market - have had to retrain their supply. Through an element of great modernity such as e-learning, which is also in continuity with the labour market, it was possible to meet the needs of a constantly changing society. Telematic universities, therefore, have been pioneers in distance learning based on the use of the Internet. However, even in these universities, examinations and degrees were held in presence up to now. If the competitive drive in past years had led universities to invest in distance teaching, the current suspension of training activities due to the containment of the pandemic has opened instead totally new and never experienced scenarios, due to a condition of extreme need. As a matter of fact, in addition to online lessons in fact, all the universities present on the national territory have had to provide alternative solutions to allow the performance of exam and graduation sessions in distance mode. These new provisions have aroused the interest of the entire academic world especially regarding the search for solutions able of addressing the critical issues due to the limitations linked to the use of technologies in the performance of remote examinations. The software and platforms based on synchronous communication, have proved fundamental to allow the performance of the examinations in oral mode, however, there are still questions regarding the performance of tests, also in different ways. Another very important aspect is the concept of inclusion. Indeed, to allow all students to carry out the planned activities in the new modes of use, it is important to design systems able to ensure maximum accessibility to platforms and content. Indeed, taking into account the main aspects of accessibility to e-learning systems, it is evident how important it is to deal with the many possible problems that people with disabilities may encounter in a context of distance learning and, in particular, how to make these new ways of accessing education really inclusive to not leave anyone behind, requiring a real paradigm shift whose implications in the educational field are still in the making.

## 3. An overview of the platforms and software used by universities in Italy

Starting from the institutional communications published on the websites of the various universities on the modalities of delivery of distance teaching in the lockdown period (March-May 2020), it was possible to obtain information on the most widely used platforms and software. The study was conducted on a sample of 71 universities, between state and non-state universities. The data collected are shown in Table 1.

Prog	Ateneo	Microsoft Teams	Google Meet	Google Classroom	Google Drive	Moodle	Altro
1	Università degli Studi di BARI ALDO MORO	x					
2	Politecnico di BARI	x					
3	Università degli Studi della BASILICATA					x	
4	Università degli Studi di BERGAMO	x				x	
5	Università degli Studi di BOLOGNA	x					
6	Università degli Studi di BRESCIA	x	x			x	x
7	Università degli Studi di CAGLIARI					x	
8	Università della CALABRIA	x					
9	Università degli Studi di CAMERINO						x

Prog	Ateneo	Microsoft Teams	Google Meet	Google Classroom	Google Drive	Moodle	Altro
10	Università degli Studi di CASSINO e del LAZIO MERIDIONALE		x	x	x	x	
11	Università degli Studi di CATANIA	x					
12	Università degli Studi "Magna Graecia" di CATANZARO		x		x		x
13	Università degli Studi "G. d'Annunzio" CHIETI-PESCARA	x					
14	Università degli Studi di FERRARA		x				x
15	Università degli Studi di FIRENZE		x		x	x	
16	Università degli Studi di FOGGIA						x
17	Università degli Studi di GENOVA	x					x
18	Università degli Studi INSUBRIA Varese-Como	x				x	
19	Università degli Studi dell'AQUILA	x					
20	Università degli Studi di MACERATA	x				x	
21	Università degli Studi di MESSINA	x					
22	Università degli Studi di MILANO	x				x	x
23	Università degli Studi di MILANO-BICOCCA					x	x
24	Politecnico di MILANO	x					
25	Università degli Studi di MODENA e REGGIO EMILIA	x					x
26	Università degli Studi del MOLISE	x					
27	Università degli Studi di Napoli Federico II	x					x
28	Università degli Studi della Campania "Luigi Vanvitelli"	x					
29	Università degli Studi di NAPOLI "Parthenope"	x				x	
30	Università degli Studi di NAPOLI "L'Orientale"	x				x	
31	Università degli Studi di PADOVA						x
32	Università degli Studi di PALERMO	x					
33	Università degli Studi di PARMA	x					x
34	Università degli Studi di PAVIA	x					x
35	Università degli Studi di PERUGIA						x
36	Università degli Studi del PIEMONTE ORIENTALE "Amedeo Avogadro"-Vercelli		x			x	

Prog	Ateneo	Microsoft Teams	Google Meet	Google Classroom	Google Drive	Moodle	Altro
37	Università di PISA	x	x				
38	Università Politecnica delle MARCHE						x
39	Università degli Studi "Mediterranea" di REGGIO CALABRIA	x					
40	Università degli Studi di ROMA "Foro Italico"	x					
41	Università degli Studi di ROMA "La Sapienza"		x	x		x	
42	Università degli Studi di ROMA "Tor Vergata"	x					
43	Università degli Studi ROMA TRE	x				x	x
44	Università del SALENTO	x					
45	Università degli Studi di SALERNO	x					
46	Università degli Studi del SANNIO di BENEVENTO						x
47	Università degli Studi di SASSARI	x					
48	Università degli Studi di SIENA		x			x	
49	Università degli Studi di TERAMO		x				
50	Università degli Studi di TORINO					x	
51	Politecnico di TORINO						x
52	Università degli Studi di TRENTO					x	
53	Università degli Studi di TRIESTE	x					
54	Università degli Studi della TUSCIA		x			x	
55	Università degli Studi di UDINE	x				x	
56	Università degli Studi di Urbino Carlo Bo					x	x
57	Università "Ca' Foscari" VENEZIA		x			x	
58	Università IUAV di VENEZIA	x		x		x	
59	Università degli Studi di VERONA					x	
60	LUM "Jean Monnet"						
61	Università "Carlo Cattaneo" - LIUC						x
62	UKE - Università Kore di ENNA		x				
63	Università Commerciale "Luigi Bocconi" MILANO						x
64	Università Cattolica del Sacro Cuore						x
65	Libera Università di lingue e comunicazione IULM-MI	x					

Prog	Ateneo	Microsoft Teams	Google Meet	Google Classroom	Google Drive	Moodle	Altro
66	Libera Università "Vita Salute S.Raffaele" MILANO	x					
67	Università degli Studi Suor Orsola Benincasa - NAPOLI					x	
68	Luiss Libera Università internazionale degli studi sociali Guido Carli					x	
69	Libera Università degli Studi "Maria SS.Assunta" - LUMSA		x				x
70	LINK CAMPUS University		x				x
71	Università della VALLE D'AOSTA	x					

Table1: Interaction tools used in universities

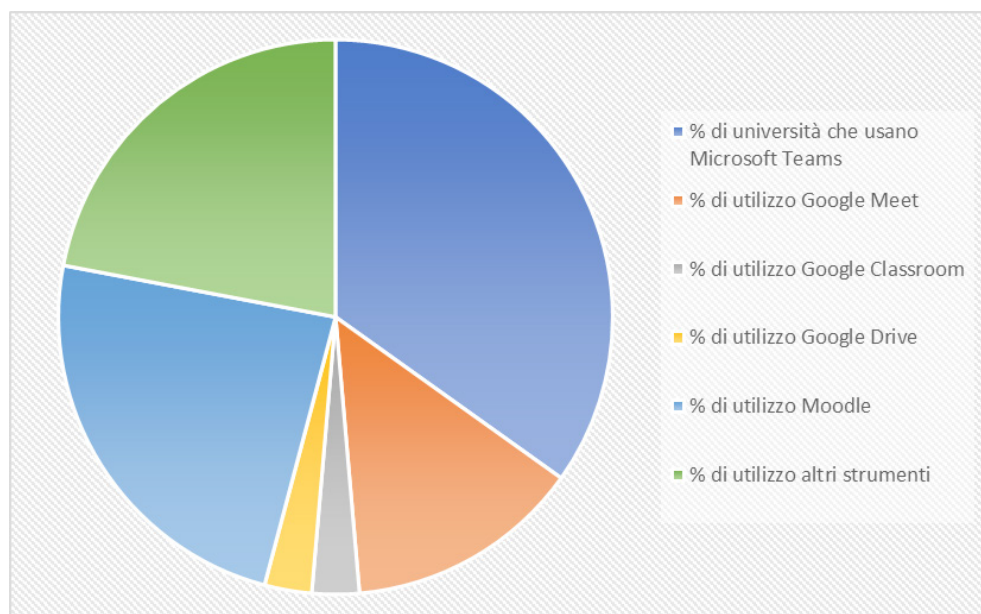
The analysis of the data has evidenced the prevalent use of some instruments:

- Microsoft Teams
- Google Meet
- Google Classroom
- Google Drive
- Moodle

These instruments can be grouped into two categories:

1. synchronous communication tools
2. asynchronous communication tools

The percentages of use of the instruments identified are shown in Graph 1.



Graph. 1 Tools for universities

Analyzing Graph 1 it is possible to affirm that:

- 53.5% of universities employed Microsoft Teams;

- 36,6% used Moodle;
- 33.8% used alternative platforms and software (e.g. Blackboard, Kaltura, Kiro, Zoom, etc.);
- 21.1% used Google Meet;
- 4.2% used Google Classroom;
- 4.2% used Google Drive.

Starting from the results obtained, the percentage of Universities that have used synchronous means of communication is significant. The most significant fact to reflect on is the use of Microsoft Teams that, on this occasion, has exceeded the percentage of use of the well-known e-learning platform Moodle. It can be said, therefore, that we are faced with an important change of trend due to the need to make the process of teaching-learning based on the use of technologies as immediate and interactive as possible making, therefore, obsolete the concept of “distance teaching” focused only on the sharing of teaching materials. It is important to note that the choices regarding the instruments used were dictated, in the majority of cases, by the Universities and not by the individual teachers who, however, were left with the opportunity to make independent choices. The entire academic community, therefore, has taken charge of managing the emergency in the best way, offering common guidelines and supporting teachers in dealing with a new and unexpected situation. The data collected in this paragraph, with the limitations due to a constantly changing condition, are intended to represent only a starting point for educational research and therefore need further study.

### **Conclusions**

The experiences of distance learning experienced by universities in response to the suspension of activities in the presence have allowed an acceleration never recorded before the processes of digitalization in the Italian education system, while generating great interest from the world of educational research. The adaptations adopted by the various universities have allowed the continuation of almost all the academic activities planned from the lessons up to the graduation exams. The data collected in this paper are intended to provide an initial overview of the choices made by universities with respect to the educational software and platforms used. It is important to emphasize how the extreme implementation of distance teaching, used before this time mainly as a support to traditional teaching, has provided an important opportunity for reflection on the strengths and criticality inherent in this mode of teaching and learning. If in the scientific literature until some time ago we questioned the effects of digital technologies in the teaching-learning processes, the current situation has seen the realization of perspectives that until now could only be hypothesized. In general, it can be said that this mass experimentation has been an extremely positive and innovative experience. However, on the basis of this experience, it is necessary to identify areas of research which allow effective solutions to the problems encountered to be found. The challenge, therefore, is to work concretely to develop a resilient education system and able to adapt to new needs by totally redesigning the models and learning-teaching processes.

### **References**

- Calvani A., Rotta M. (2000). *Fare formazione in internet: manuale di didattica online*. Trento: Erickson
- Decreto del Presidente del Consiglio dei Ministri del 4 marzo 2020 - Ulteriori disposizioni attuative del decreto-legge 23 febbraio 2020, n. 6, recante misure urgenti in materia di contenimento e gestione dell'emergenza epidemiologica da COVID-19, applicabili sull'intero territorio nazionale.
- Decreto del Presidente del Consiglio dei Ministri del 9 marzo 2020 - Misure urgenti di contenimento del contagio da COVID-19 sull'intero territorio nazionale.
- Guglielman E. (2011). *Verso l'e-learning inclusivo. Primi contributi per la costruzione di linee*



guida per l'accessibilità metodologico-didattica. *ECPS - Educational, Cultural and Psychological Studies*, n. 4, pp.167-186.

ISTAT (2019). Cittadini, imprese e ICT. Report 2018 [https://www.istat.it/it/files//2019/01/Report-ICT-cittadini-e-imprese\\_2018\\_PC.pdf](https://www.istat.it/it/files//2019/01/Report-ICT-cittadini-e-imprese_2018_PC.pdf)

Rivoltella P.C. (2008). Dopo la formazione a distanza. Tecnologie, educazione e formazione in Italia, 1995-2008. *Educação & Sociedade*. 29.

Jessica Miles (2014). The cost of convenience: how does distance education mix with the modern-day student?