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"Luigi Bobbio" Center for Public and Applied Social Research
Department of Cultures, Politics and Society
University of Turin

DISTANCE TEACHING AT THE UNIVERSITY OF TORINO DURING THE COVID-19 EMERGENCY

The coordinated decentralization model

WORKING PAPERS CLB-CPS

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Franca Roncarolo

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FOREWORD

Stefano Geuna - ***Rector, University of Torino***

Our universities' activities changed suddenly and drastically with the unexpected Covid-19 pandemic. To cope with the emergency and continue to fulfill the three fundamental missions of research, teaching and social engagement, the University of Torino (UniTo) had to draw on its most vital energies and highest levels of skill. Well aware of the implications of an ineliminable structural uncertainty, we reorganized all our operating practices as efficiently as possible given the very little time available.

Our priority was to guarantee an acceptable standard of educational quality, despite the lockdown and social distancing requirements. Our first thought was of how to provide classes, exams, degrees, and student services notwithstanding the limitations posed by a rigid regulatory framework that was little able to adapt to an evolving digital society. Though there were inevitably some problems, this momentous experience taught us how to look at the crisis—and the opportunities it brought—with the curiosity of a problem solver. The effort of dealing with the emergency made us more aware of how much potential for professional and technological innovation resides in our university.

If today we can speak of a "Torino model" for distance teaching during — and beyond — the worst moments of the pandemic, or in other words of a perspective that enables us to look to the future of higher education with objectives befitting a changing world, the credit must go to three main factors.

First, the extensive experience and expertise our university has gained in distance education, a know-how that is both technological and cultural, embracing administrative and planning skills. This experience put UniTo in a position to respond promptly to the challenges of large-scale e-learning made necessary by Covid.

The second fundamental factor was the organizational and management model. The UniTo strategy for teaching during lockdown was based on the principle of functional decentralization and on solid coordination on multiple

levels with the schools, departments, and degree programs. The model was designed according to the needs of each discipline and the instructor's preferences. Its flexibility, in fact, made it possible to accommodate the specific types of socialization to the enormous range of knowledge represented in the UniTo community.

The third fundamental factor is the far-sighted investment in technological infrastructure, which proved capable of withstanding an enormous—and entirely unforeseen—strain: moving the second semester onto the e-learning platform meant making around 4,000 courses available to approximately 80,000 students and around 3,500 faculty members. It also called for a network capacity of an average of 25,000 accesses per day at the end of March 2020.

The "Torino model" of distance teaching thus rests on three pillars: confidence in the human capital and skills available at the university, viz, its teaching faculty and technical/administrative staff; an efficient technological infrastructure capable of providing the digital performance levels required after Covid; the flexibility of the organizational and management model, which made it possible to satisfy the needs of the university's complex and extensive network of knowledge to the greatest possible extent.

NOTHING HAPPENS BY CHANCE

Barbara Bruschi - ***Deputy Rector for Teaching, University of Torino***

On February 24, 2020, when the first Italian universities closed because of the rising number of infections, it is likely that no one could have hazarded a guess at what would really have happened. Though we realized that were in the midst of a major crisis, we could not even imagine the crisis's extent and, above all, the effects it would have brought. Now, months later and with an entire series of data at hand, we can try to take stock of the situation and advance a few thoughts, not so much in order to mark the end of that period and the beginning of a new year, as to understand what in fact took place and if possible make the most of whatever good came of the crisis.

The following pages will illustrate some of the outcomes of the efforts made to cope with the emergency. In these few lines, I would like to say something about the background. In particular, I will focus on three aspects that characterized our model of action at the university in Torino: the teaching scenarios, the network, and the cultural capital.

In these months, the media continued to talk about distance teaching, as if the teaching universe of higher and lower education could be effectively covered by a single umbrella term. We know that teaching and learning are complex processes and that, as such, they can give rise to quite different types of intervention. Consequently, while a single label might be sufficient when informing the public of what was going on in the sphere of education, it is not sufficient in guiding academic decisions. From the outset, we believed that "distance" technology (doing everything by videoconference, for instance) was not and could not be the only basis for deciding how teaching would be delivered. We felt that it was necessary to start from the instructors' professionalism, from their different ways of holding classes, from the different disciplines, from the variety in communicating scientific content. Accordingly, we did not issue instructions about what tools should be used for remote teaching; rather, we suggested **scenarios**, necessarily based on the use of the technologies, but designed to be flexible enough to be adapted to each instructor's needs. At no time did we think that the success of the operations we were fielding would depend only on

the quality of the digital tools. Indeed, we were convinced that the necessary quality was to be sought in the skills of the faculty members, who had to be put in a position to decide independently which scenario best interpreted their way of teaching. Ours was an open model, that put the instructors at the center of the decision-making process, making them active participants in the choices that were made.

Starting from the same principle, we sought to make the most of the **network** relationships with faculty members, through regular meetings with the deputy heads of department in charge of teaching. We have always been convinced that only by setting up a mechanism of constant consultation at multiple levels could we deal with the great variety of circumstances that cropped up every day. Networking, sharing, exchanging ideas and mutual support were the key words of the emergency and the essential tools for handling a situation that called for immense effort and resources. These resources were and still are ready to hand at the university and are, at least in part, the product of a **cultural capital** that has been built up over the years. We were able to start teaching online very quickly because our university has been doing research on e-learning for over twenty years. Likewise, we have long worked on the culture of quality in teaching and on training instructors in innovative teaching methods. Nothing happens by chance, and the facts bear this out. We were probably not fully aware of how much human capital and how many skills we had at our disposal: as the data shows, the pandemic brought them to the fore.

Distance teaching at the University of Turin during the Covid-19 emergency

Francesco Ramella - *Codirector, Luigi Bobbio Center*
Franca Roncarolo - *Head of the Department of Cultures, Politics and Society)*

During the Covid-19 emergency, the University of Torino ensured that it continued to fulfill its educational mission through "distance teaching". But what was this experience like for the faculty members on the front lines of education? Did everything go well? And above all, once the emergency ends, what will remain from what this experience has taught us? Are there lessons to be learned that can improve teaching in what will become the "new normal" of university life"?

To answer these questions, a nationwide survey of the teaching that took place during the semester of the Covid emergency was carried out in June 2020, when a **sample of 3,398 members of the teaching faculty at Italy's state universities** completed a wide-ranging online questionnaire. In July, the survey was replicated with **all members of the faculty at the University of Torino**, including adjunct faculty. As a total of 986 questionnaires were completed, the response rate exceeded 40% of the university's tenured and non-tenured teaching staff. The survey was coordinated by Francesco Ramella and Franca Roncarolo and carried out by the **Luigi Bobbio Center at the Department of Cultures, Politics and Society in collaboration with the University of Torino**. Questionnaires were administered by the survey firm Questlab (http://www.questlab.it).

A brief summary follows of what the faculty members in Torino had to say.

It really wasn't too bad at all...

As the respondent's statements indicate, it seems that "everything turned out fine":

- Delays in starting classes were limited.

- Lecture hours did not depart much from those envisaged for normal years.
- The overwhelming majority of respondents were able to cover the entire teaching program.
- Most faculty members adapted their teaching strategies to distance methods.
- Life-streamed lectures predominated.
- The number of students in attendance did not drop.
- Examinations proceeded as usual.

Faculty members chiefly taught from home, with enough technological infrastructure to ensure that classes could be held and received technical assistance and teaching support for the transition to distance learning both from the university and from their colleagues.

A positive judgement despite the many difficulties

Respondents expressed a positive opinion of how the university and their departments dealt with the emergency, as well as of their own experience of distance teaching. Nevertheless, their responses also drew attention to the difficulties that were encountered and the negative and stressful aspects of the emergency:

- Most of the respondents whose roles involved coordination at the university, department or degree program level reported that a great deal of their time was taken up in organizational meetings, coordinating teaching faculty or communicating with students.
- The majority of the respondents reported that the time needed to prepare classes and to organize and hold exams increased.

Above all, the respondents had teaching problems stemming from having very little time to adapt their courses for distance teaching, the lack of familiarity with the new technological platforms, difficulties in interacting with students, reduced access to teaching resources and the difficulty in carrying out practical exercises.

A sizeable minority of respondents reported logistical problems associated with the lack of suitable spaces at home, the difficulty of reconciling teaching and home or family responsibilities, and the need to help students with technical issues. They also reported privacy problems associated with the fear that material created for teaching purposes might be improperly used and disseminated, that data protection could be jeopardized, and that the academic

authorities could exert more control and reduce faculty members' independence in teaching.

Lastly, a small minority had technical problems associated with the quality of their Internet connection or IT tools.

A comparison with the rest of the country

The panorama emerging from the survey conducted in Torino is not very dissimilar from the nationwide scene. **Among academics in Torino, however, there was a sharp focus on the teaching aspects of online classes, paired with a greater openness and willingness to change educational methods.** The percentage of respondents who declared that they found their experience with distance teaching to be professionally enriching and that it made them want to have more training in in-person and distance teaching methods and techniques was above the national average. There was also a more positive view of the new digital platforms' potential, and a greater willingness to try hybrid forms of teaching that combine in-person classes with online activities.

In all Italian universities, institutional support during the transition to online teaching played a crucial role. However, **Torino's strategy for responding to the crisis was less "centralized and controlling"** than that generally adopted elsewhere in the country, as it

a. Employed "coordinated decentralization" in which the schools and departments were more heavily involved in providing support to faculty members, and
b. Allowed faculty members greater independence in deciding their approach to distance teaching.

In addition, academics in Torino

a. Were able to enjoy a higher level of support, through a plurality of channels, and
b. b) Showed more aptitude for horizontal forms of self-help in the transition to distance teaching.

It was thanks to this stock of "social and institutional capital" that many faculty members in Torino were able to turn the challenge of distance teaching into a learning opportunity.

Teaching before and during the emergency: a few surprises

The survey provided an invaluable opportunity to compare the teaching methods used before the emergency and those introduced during the Covid-19 semester. It was thus found that:

- The teaching that took place in university classrooms, before the pandemic crisis, was much less static and based on the traditional "professorial lecture" than is generally believed, as it involved much more dialogue, interaction and innovation.
- With the emergency, the more innovative activities were sharply curtailed. Teaching was simplified, returning to the traditional "transmissive model", albeit with some room for student discussion.

What will remain from what the distance teaching experience during the emergency has taught us?

The faculty members in Torino who would like to move permanently to distance teaching account for a tiny minority of the respondents: 1%. By contrast, almost all believe that distance teaching cannot and should not replace face-to-face classes. Their opinions about the future, however differ:

- 58% would like at least some teaching to take "hybrid" form, combining face-to-face classes with online activities; these respondents believe that this would improve learning performance by providing students with more educational materials and more opportunities for interacting with instructors.
- 41% would like to return to the way things were before the emergency, retaining nothing of the experience with remote teaching.

Some lessons for the future

Crises reveal the weaknesses of social systems, as well as bringing often unexpected resilience, flexibility and response capacity to the fore. This was what took place as the University of Torino dealt with the Covid-19 emergency.

The fragilities and problems that the emergency brought to the surface were similar to those affecting other Italian universities:

- Enormous stress and overwork, which added to the burdens of a short-handed technical-administrative staff and teaching faculty that were already struggling to cope with innumerable bureaucratic chores.

- Faculty members' lack of training in teaching methods in general and in the new digital platforms.
- A drastic "impoverishment" in teaching methods despite faculty members' best intentions and the major efforts made by the universities.

However, the crisis also demonstrated an "unsuspected" ability to respond quickly and efficiently on the part of the University of Torino:

- In a very short time, faculty members were able to ensure that teaching activities could be continued online.
- Classes, exams and graduate theses proceeded regularly.
- The number of students attending courses did not drop.

Above all, though, the pandemic made the crucial importance of teaching—one of the missions that is too often taken for granted and neglected in Italian universities—clear for all to see. For the first time in many years, the approaches that had to be used during the Covid-19 semester made faculty members in Torino and throughout Italy question their teaching and its aims and methods. In particular, the experience of these months made the problem of the relationship between teaching and the new digital technologies more topical than ever before.

As the survey shows, a number of simple lessons supporting an evidence-based policy for teaching can be learned from the experience gained in the Covid-19 semester:

- In-person teaching is irreplaceable.
- By themselves, the new digital platforms cannot renew teaching. Using them effectively calls for appropriate training for faculty members and mature reflection on educational architectures and teaching strategies.
- The universities' responses must be both national and local: there must be a national plan as well as university-level digital and e-learning projects. This calls on the one hand for an infrastructure investment program, and on the other for specific attention to supporting faculty members' teaching skills.
- The new technologies can help build on the "good practices" for teaching innovation that were already at work in university classrooms before the pandemic crisis. Many of these technologies, rather than replacing in-person teaching, can enrich it by facilitating more interactive and collaborative forms of teaching.

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Francesco Ramella and Franca Roncarolo

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WHAT HAPPENED IN VIRTUAL CLASSROOMS DURING LOCKDOWN?

On March 8, 2020 a decree by Italy's Prime Minister suspended classes in all Italian universities, but gave them the possibility of providing "remote education". Less than a week later, three quarters of the country's lecturers had already shifted to virtual classrooms and so-called "distance teaching", or in other words, lessons offered via online platforms. For the overwhelming majority of these faculty members, this was the first experience of the kind in their professional careers. For an institution like the university, still regarded as an "ivory tower", far removed from everyday reality and having little concern for the outside world, this demonstrated an extraordinary ability to respond quickly and efficiently.

But what was distance teaching like for the faculty members on the front lines of education? Did everything in fact go well? And above all, once the emergency ends, what will remain from what this experience has taught us? Are there lessons to be learned that can improve teaching in what will become the "new normal" of university life"?

To answer these questions, a national survey on **distance teaching during the Covid-19 emergency** was carried out in June 2020. The survey was based on an extensive sample of 3,398 members of the teaching faculty at Italy's state universities who completed a wide-ranging online questionnaire. The survey was a panel study, as the same 15,000 academics who took part in a 2016 survey on the university's "third mission" were contacted (see the Appendix for further details).

In July, the survey was replicated at the University of **Torino**, this time involving the entire reference universe, i.e., **all members of the faculty, including adjunct faculty**. As a total of 986 questionnaires were completed, the response rate was quite good considering that the survey took place during the summer: over 40% of the university's tenured and non-tenured teaching staff. The sample was also representative in terms of gender, age group and role. This working paper will discuss the second survey, comparing the findings for Torino with the nationwide data, drawing attention in particular to aspects where Torino departs significantly—by 5% or more—from the Italian average. Coordinated

by Francesco Ramella and Franca Roncarolo, this second survey was carried out by the **Center "Luigi Bobbio" at the Department of Cultures, Politics and Society in collaboration with the University of Torino**. Questionnaires were administered by the survey firm Questlab (http://www.questlab.it).

THE FACULTY IN TORINO "GOT ALONG... JUST FINE!"

The COVID-19 health emergency caught all Italian universities, Torino included, by surprise. In a very short time — and surrounded by enormous uncertainty — they had to find alternatives to in-person teaching if they were to continue to fulfill their educational mission even during lockdown. The emergency thus put the spotlight on e-learning, as faculty and students found themselves having to experiment (willingly or less so, and with widely varying levels of familiarity) with Internet-based remote learning methods accessed via digital platforms.

How did it go?

We will start by saying that, in fact, it seems that "everything turned out fine".

- **Delays in starting lessons were limited.**
  - A full 76% of the faculty in Torino were able to start remote teaching by March 13 (Table 1). Even allowing for the fact that—in line with the Piemonte regional crisis center's guidelines—the university had decided out of an abundance of caution to immediately suspend the in-person exams scheduled for the winter session and the classroom lessons for the second semester, the data are quite positive. Just one week from February 24, over 42% of the faculty in Torino had already organized for online classes.

Table 1: *When did you start distance teaching? (%)*

	TORINO	ITALY
In the week of February 24-28	8,8	4,2
In the week of March 2-6	33,7	21,9
In the week of March 9-13	33,1	46,3
Later	24,4	27,6
Number of respondents	849	2838

- **Lecture hours did not depart much from those envisaged for each program.**
  - In the three- and five-year degree programs, 88% of faculty members held classes for the same number of hours as usual.
  - In the single-cycle, master's degree and doctoral programs, nearly all faculty members (96-98%) delivered the envisaged number of hours.
  - In the workshops, the percentage reached 90%.
- **The overwhelming majority of respondents were thus able to cover the entire teaching program established prior to lockdown.**
  - 76% finished the program.
  - Only 13% shortened it, while 10% increased the program by providing students with more online material.
- **The majority of faculty members *adapted* their teaching strategies to distance methods**
  - The percentage of faculty members who modified both the content and the structure of their courses exceeded the national average (Table 2). In some cases, they rethought their entire approach to teaching.
  - Only a few — 8% below the national average — made no changes.

Table 2: *Did you change the teaching strategies used in your classes during the second semester? (%)*

	TORINO	ITALY
No, I didn't change either the content or the structure of my courses.	15,5	23,9
Yes, I changed the content and the structure a bit to adapt them to online methods.	73,6	67,4
Yes, and I took the opportunity to rethink my teaching approach significantly.	10,9	8,7
Total	100	100
Number of respondents	843	2824

- **Streamed lectures predominated**
  - 68% of respondents live-streamed their lessons, at times alternating with pre-recorded lessons (Table 3).

  - 18% made audio or video recordings of their lessons and posted them online.
  - Only 13% provided teaching materials online or engaged in other activities *without* delivering live-streamed or recorded lectures.
    * A total of 61% of respondents posted educational materials online (lecture notes, slides, etc.), with or without audio commentary.
  - Among non-tenured faculty, the percentage that opted only for live-streamed lessons rose to 58%.
  - Among tenured faculty, the percentage that only posted educational material online was 22% (11% over the national average).

Table 3: *What form did your distance teaching take? (%)*

	TORINO	ITALY
I gave live-streamed lectures	42,9	66,3
I gave live-streamed and pre-recorded lectures	25,8	14,6
I gave pre-recorded lectures	18,4	12,1
I posted educational material online WITHOUT giving lectures	12,9	7,0
Total	100	100
Number of respondents	846	2834

- **The number of students in attendance did not drop**
  - For 69% of respondents, the number of students attending lectures was unchanged or even increased (Table 4).
  - The number dropped for 14%.

Table 4: *In general, compared to the number of students enrolled in your courses during the second semester, the number who actually participated in distance learning activities was . . . (%)*

	TORINO	ITALY
. . . higher	18,3	22,0
. . . substantially the same	50,7	53,1
. . . a bit lower	16,6	15,6
. . . a lot lower	6,9	4,7
. . . I don't know	7,5	4,6
Total	100	100
Number of respondents	843	2821

- **Examinations proceeded as usual**
  - At the time of the interview, 86% of the faculty members had held at least one online exam session.
    - Oral exams predominated, either on their own or accompanied by a written assignment and/or other form of final assessment (exercises, reports, projects, etc.) (Table 5).
    - In general, written exams were scaled back significantly.
      - Nationwide, written exams were reduced by half. Before in-person teaching was interrupted because of the health emergency, 61% of respondents had held written exams, while the percentage dropped to 27% after distance teaching was introduced.
      - In Torino, where written exams were already more common than elsewhere (they were held by 67% of faculty members), they continued to be used by 41% of respondents during lockdown, well over the national average.
  - In any case, 61% of the respondents in Torino, like their counterparts in the rest of the country, believe that they were able to assess their students' progress even with remote exams.

Table 5: *How did you assess your students' progress in your main courses before the Covid-19 emergency and during distance teaching? (%)*

	TORINO		ITALY	
	In-person	Remote	In-person	Remote
Oral exam	11,7	25,6	18,6	36,4
Oral and written exam	18,8	17,8	17,3	11,8
Oral exam and other assessment	12,1	20,6	20,3	25,9
Oral exam, written exam and other assessment	27,7	18,4	26,3	13,7
Written exam and other assessment	29,7	17,6	17,5	12,2
Total	100	100	100	100
Number of respondents	889	816	2948	2760

On the whole, these initial data indicate that:

a) The University of Torino demonstrated that it was able to respond well to the emergency and maintain its organizational stability.
b) Faculty members managed to overcome the challenge of distance teaching quite successfully.

To some extent, these findings are surprising, given that relatively few respondents — though more than in other Italian universities — were familiar with online teaching before the pandemic.

- Only 17% of the respondents had had prior experience with distance teaching (7% more than the national average).
- 25% had had some experience with e-learning (8% more than the national average), but it had for the most part been limited to posting educational materials online.

THE TECHNOLOGICAL INFRASTRUCTURE WAS GENERALLY ADEQUATE

Faculty members chiefly taught from home, with enough technological infrastructure to ensure that classes could be held.

- 76% of respondents delivered lectures at home, the rest from other places set up as personal offices.
- 80% of respondents reported that their Internet connection and IT tools were sufficient to enable them to opt for the teaching approaches they felt were most appropriate (Table 6).
  - In addition, the technological solutions available to them at home improved over time. In the passage between the first stage of the emergency (the first two weeks of class) and the second (the remainder of the semester), the percentage of respondents whose infrastructure was adequate rose by approximately 5 percentage points.

Table 6: *Were the Internet connection and IT tools available to you during the emergency good enough to enable you to choose the teaching approaches you felt were most appropriate? (%; stage II)*

	TORINO	ITALY
Internet connection		
No, not at all/Quite poor	15,5	12,0
Yes, fairly good/Very good	84,5	88,0
Total	100	100
IT tools		
No, not at all/Quite poor	15,6	12,5
Yes, fairly good/Very good	84,4	87,5
Total	100	100
Number of respondents	825	2716

- "Technological impediments" vary according to the respondents' age.

  - Under 50 years of age, only 13% of respondents report problems.
  - The percentage rises to 18% for respondents over 60.

- The variation according to place of residence is even greater.
  - The percentage of respondents who report having an unsatisfactory connection rises from 15% for those living in the province of Torino, to 22% in the other provinces.
  - The size of the city or town of residence is crucial. The percentage of respondents who report having an unsatisfactory connection doubles in places with a population under twenty thousand, and is as high as 40% for respondents living in a place with fewer than two thousand inhabitants.

THE TORINO MODEL AND THE "COORDINATED DECENTRALIZATION" STRATEGY

Though lectures were delivered in private homes, the overwhelming majority of respondents (86%) stated that they received support in making the transition to distance teaching.

- As in the other Italian universities, support in Torino was chiefly provided at the university level, and was mostly in the form of emails, written information and video tutorials (Table 7).
- Assistance and information was also provided by the decentralized entities (departments, degree programs, schools, etc.) that acted as proximity networks to amplify the effectiveness of communication and coordinate the general strategies with the many specific disciplines. Here we can begin to see the outlines of what might be called the "Torino model", a pluralistic approach based on integration between the central administration and the peripheral levels, achieved by consulting and interacting with the deputy heads of department in charge of teaching. The flexibility of the teaching scenarios thus developed, which inasmuch as possible were tailored to the different needs of each academic macro-area and adapted to the organizational cultures of the over 150 degree programs offered by the University of Torino, can be seen from the faculty members' responses to the questionnaire. In addition to acknowledging the training and support received from the central level, the responses reflect the wealth of initiatives fielded by the decentralized entities, who ensured that information was widely available on their websites, provided additional information through frequent e-mail messages (49% of the respondents in Torino stated that they received e-mails, as against a national average of 35%), produced video tutorials to aid in gaining an immediate understanding of how platforms are used (31% as against 17%) and organized training meetings (27 vs. 14%) as well as offering tech support and help desk services (39 vs. 24%).

Table 7: *What kind of training and support did you receive, and from whom? (%)*

	TORINO		ITALY	
	University	Department*	University	Department*
Written information on the website or intranet	57,9	36,8	55,0	23,9
Information e-mails	55,5	49,2	60,8	35,2
Video tutorials on using platforms	43,7	30,7	48,2	17,3
Training meetings	19,8	27,2	24,7	14,0
Tech support/help desk	38,1	38,8	44,6	24,5
Number of respondents	986	986	3398	3398

**Departments, degree programs and schools*

The following organizations and support networks were especially important from the technical standpoint (Table 8).

- The institutional networks (university, school and department offices and personnel in charge of degree programs) provided
  - Technical assistance to 62% of respondents (5% below the national average), and
  - Teaching support to 39% of respondents (6% above the national average).
- The professional networks (colleagues and assistants) provided
  - Technical assistance to 55% of respondents (8% above the national average), and
  - Teaching support to 47% of respondents (13% above the national average).
- The non-professional networks (friends, family, members of other professions), were more marginal, providing
  - Technical assistance to 27% of respondents (8% above the national average), and
  - Teaching support to 15% of respondents (6% above the national average).

All in all, "enough or a lot" of help was provided through at least one of the channels indicated in Table 8 to:

- 62% of respondents as regards technical assistance
- 44% of respondents as regards teaching support (10% above the national average).

Table 8: *How much help did you receive from the following groups in preparing and delivering your online lessons? (A lot + Enough; %)*

	TORINO		ITALY	
Kind of help	Technical	Teaching	Technical	Teaching
University offices and staff	35,7	17,5	51,5	19,3
School/Department offices and staff	51,1	26,7	48,9	20,7
People in charge of degree programs	40,9	32,6	38,1	23,8
Assistants (e.g., graduate students, fellowship holders, etc.)	18,7	18,2	21,9	18,1
Colleagues	51,0	44,2	40,5	27,6
Non-professional networks (friends, family members, etc.)	26,8	15,1	19,1	8,4
Paid consultants and companies	1,6	0,8	0,8	0,6
Total	62,3	43,6	61,7	33,8
Number of respondents (minimum/maximum)	551/767	546/711	1738/2558	1764/2186

Other significant differences between the figures from Torino and the national average involved the structures supporting the transition to distance teaching.

1. The first difference was in the architecture of the institutional networks, which as indicated earlier were more decentralized in Torino than elsewhere.
   (a) Here again, the "peripheral" organizations — or in other words, the schools, departments and degree programs — had a more active

presence in providing technical assistance and (to an even greater extent) teaching support.

2. The second difference involved the greater variety of support networks used by faculty members.
   (a) Though the institutional networks played the leading role in Torino as in the rest of Italy, faculty members in Torino were more active in drawing on their own social capital, i.e., on their personal professional networks of colleagues and assistants, and their non-professional networks (chiefly family members and friends).
3. The third difference was in the greater degree of attention given to the teaching aspects of transitioning online.
   (a) Reliance on support networks for help with teaching methods and educational content was well over the national average. These aspects were chiefly covered by the departments and degree programs on the one hand, and by personal networks on the other (Table 8).
   (b) Other indicators confirm this greater attention to teaching aspects of the online transition:
      i. As we saw earlier, a higher percentage of respondents adapted their courses or made innovations (Table 2);
      ii. As we will see below, more effort was made to prepare online classes, and there was a greater ability to avoid falling back on exclusively transmissive teaching methods during online classes.
4. The fourth difference is that there was a more active "invisible college", or in other words a high degree of horizontal interaction and reflexivity between faculty members, which in this case involved exchanges about teaching.
   (a) 44% of respondents turned to colleagues with their questions about online lessons, a percentage that was 17% above the national average.
      i. The links in this invisible college were stronger among non-tenured faculty and in the arts and humanities.
5. The last noteworthy difference is that the support networks' "coordinated decentralization" was part of a university policy that was less "controlling" than elsewhere and was thus perceived as more open (Table 9). Compared to the national average, the percentage of respondents who reported that they were able to choose the form of distance teaching they adopted independently was decidedly higher.

(a) Only a tiny minority of the respondents in Torino (4% as against a national average of 31%) felt that they had entirely lost their independence as teachers during the emergency.
(b) Conversely, the percentage of respondents who reported that they chose the form of distance teaching they adopted independently, with no restrictions or constraints of any kind (but obviously within the bounds set by the university guidelines), was 10 points above the national average.
(c) Lastly, almost three-quarters of the respondents — 71%, as against a national average of 53%—acknowledged that they were able to choose among multiple options made available by the university's teaching facilities.

Table 9: *Were you able to choose what kind of distance teaching you used? (%)*

	TORINO	ITALY
Yes, I was able to choose in complete independence, without restrictions.	24,9	15,3
Yes, I was able to choose from a number of options offered by my university/department.	71,5	53,5
No, I was not able to choose, I had to follow the instructions given by my university/department.	3,6	31,2
Total	100	100
Number of respondents	843/986	2716/3398

All in all, we can say that Italian universities responded to the emergency with three governance styles.

- Some had a decidedly controlling style: on average, 69% of respondents had no leeway in choosing how to do their distance teaching.
- At the opposite end of the spectrum, other universities allowed their faculty to be much more independent. In these universities, the percentage of respondents reporting that they were unable to choose teaching methods dropped drastically, averaging 14%.
- There was then an intermediate class, where the percentage of respondents who were given no choice averaged 43%.

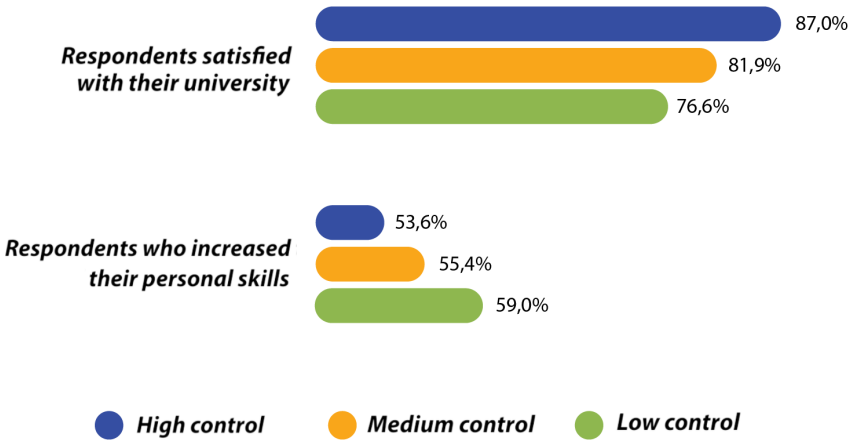
In general, a more controlling style was associated with more institutional support for transitioning online, and greater centralization at the university level (Table 9a). In other words, the controlling universities issued very precise and binding instructions about how distance teaching was to be done. In addition, they centralized support for transitioning online at the university level, rolling out a considerable number of services and support activities that contributed significantly to making faculty members' task easier. This, however, led to something of a paradox: a trade-off between institutional support and individual learning. On the one hand, it was in the controlling universities that both the departments and university management garnered the highest scores for how they dealt with the emergency. Presumably, this is primarily linked to the extensive support that these entities provided for the transition to online teaching, but it also may reflect the immediate sense of reassurance produced by a low level of entropy, but which not infrequently stands in the way of learning from experience and capitalizing on it. Not surprisingly, in the less controlling universities a higher number of respondents reported that they increased their professional skills during the emergency, thanks to the experience gained from distance teaching (Fig. 1).

Table 9a: *Levels of support by institutional response style (%)*

	ITALY			TORINO
Level of university control	Low	Medium	High	Low
Technical assistance				
University	3,8	3,8	4,6	3,1
Departments*	3,1	3,4	3,6	3,7
Teaching support				
University	1,7	1,6	2,0	1,8
Departments*	1,8	1,7	1,9	2,4
Total support (teaching+technical)				
University	2,7	2,7	3,3	2,4
Departments*	2,5	2,5	2,7	3,1

**Departments and degree programs, schools or faculties*

Figure 1: *Respondents' ratings of how the emergency was managed*



This "paradox" suggests that in the universities where faculty members had to rely more on their personal networks in dealing with the emergency—and/or, as we will see in a moment, support was more "decentralized and networked" (provided largely via the departments)— individual learning was more widespread and reached higher levels.

In its governance of the emergency, the University of Torino took a decidedly original approach. While it can undoubtedly be grouped among the less controlling universities, it differed from the others in this category in providing a great deal of decentralized support (at the school and department level) in teaching as well as in technical matters. In addition, faculty members drew heavily on their socio-professional networks. While this governance model — which we have called "coordinated decentralization" — may have made respondents in Torino feel somewhat less supported by the university, it also triggered widespread learning dynamics.

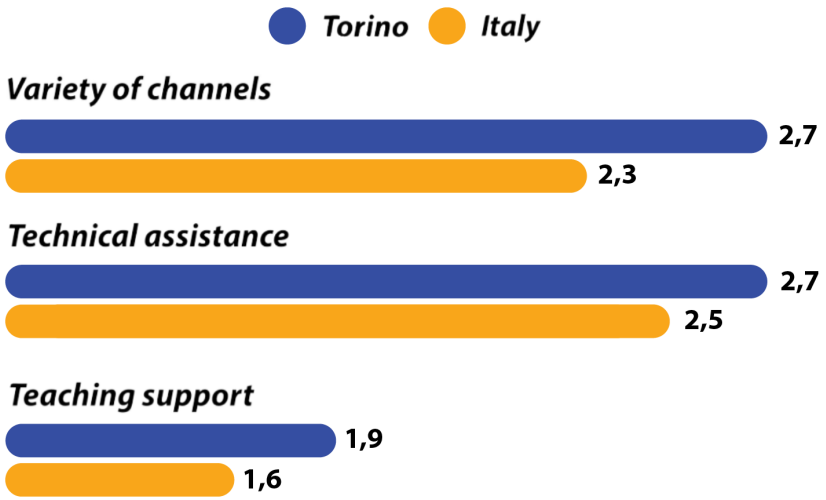
- The percentage of respondents who reported that they had received support from the university, while very high, was slightly below the Italian average.
- On the other hand, however, the percentage of respondents who felt that they had increased their professional skills was almost 10 points above the national average (see Table 10).

Summarizing, we can say that, taking into account all the support channels available to them, which included institutional networks as well as personal professional and non-professional networks, faculty members in Torino

1. Were able to draw on an amount of technical assistance and teaching support that was above the national average (Fig. 2) and
2. Used a wider variety of support networks and channels.

As we will see, both the "quantity" and the "variety" of the IT and support resources available through institutional and personal resources had a positive impact on the response to the emergency and on respondents' experience during the lockdown. These "learning networks" — typical of the learning organizations discussed in the organizational literature — are an essential part of organizational resilience. We will return to this point in the conclusions.

Figure 2: *Architecture of the support received by respondents in the transition to distance teaching.*



Note: *Average support from all networks (1-10 scale for support); number of networks/channels used by respondents (1-7 scale for channels*

OVERALL, A VERY POSITIVE JUDGEMENT

In the light of what we have seen so far, it is not surprising that around three-quarters of the respondents had a positive opinion of how the University of Torino and the departments dealt with the emergency, ensuring that teaching could continue (Table 10).

Table 10: *Ratings of the experience during the emergency (%)*

How satisfied were you on the whole with the following? (Very + Fairly; %)	TORINO	ITALY
Your experience with distance teaching	76,0	75,2
Your university's ability to respond to the emergency and ensure that teaching could continue	72,2	80,4
Your department's ability to respond to the emergency and ensure that teaching could continue	77,9	76,7
Thinking of distance teaching, how much do you agree with the following statements? (Very + Fairly; %)		
This experience enabled me to increase my professional skills	65,6	56,8
This experience made me want to have more training in teaching methods and techniques (in-person and distance)	56,6	50,9
Number of respondents (minimum/maximum)	794/806	2629/2678

A similar percentage reported that they were satisfied with their own experience of distance teaching.

- 66% of respondents felt that they had increased their professional skills (9% over the Italian average), or in other words, that they had acquired new knowledge and abilities thanks both to the information they received, and their own efforts to deal with the emergency.
- Among positive aspects of the experience, more than half of the respondents (6% over the national average) cited a greater awareness of the need

for more training in the methods and techniques of in-person and distance teaching.

This overall satisfaction explains why many respondents would like to retain something of this experience after the emergency ends (Table 11).

- 58% would like at least some teaching to take "hybrid" form, combining face-to-face classes with online activities.
- However, only 1% believe that distance teaching can *entirely replace* in-person teaching.

But there are opposite attitudes.

- 41% of respondents would like to return as soon as possible to the way things were before the emergency, retaining nothing of the experience with remote teaching.
- Perhaps — as will be discussed in greater detail below — these respondents fear that in a setting like Italy, which historically has shown little inclination to give higher education its due, continuing with distance education could make way for further cuts in the funding available for faculty recruitment and physical infrastructure.

Table 11: *What would you like to keep from this distance teaching experience once the Covid-19 emergency is over? (%)*

	TORINO	ITALY
Nothing, I would like to go back to in-person teaching	40,8	43,8
I would like teaching to be entirely online	1,0	1,7
I would like at least some teaching to take hybrid form (combining in-person classes with online activities)	58,2	54,5
Total	100	100
Number of respondents	929	3173

THE PROBLEMATIC SIDES OF DISTANCE TEACHING

The reasons for wanting to go back to "the way things were" are by no means baseless. They spring from a number of negative and stressful aspects of the emergency that our survey brought to light.

We will start with the unprecedented workload and organizational stress caused by the emergency. Distance teaching called for enormous effort on the part of universities and lecturers alike. From one day to the next, university management and technical and administrative staff found themselves having to try out completely untested approaches to training and providing technical and teaching support to faculty members who for the most part had never even imagined that they would end up lecturing online.

University managers under organizational stress

- During the Covid semester, 17% of the respondents in Torino (as against 24% in the nationwide sample) had coordinating roles, e.g., as pro-rectors, department heads, deputy department heads or degree program directors.
  - 76% of these respondents were fairly heavily involved in meetings for organizing the response to the emergency (Table 12);
  - 71% were active in communicating with students (6% over the national average),
  - 59% monitored distance teaching, and
  - 66% were engaged in coordinating teaching faculty (6% over the national average).

Table 12: *How involved were you personally in the following activities relating to distance teaching? (Very + Fairly; %)*

	TORINO	ITALY
Coordinating teaching faculty	65,6	60,1
Providing technical assistance for individual faculty members	29,6	34,0
Communicating with students and student representatives	71,2	65,3
Monitoring distance teaching	59,3	58,0
Organizational meetings with degree program directors, department heads, deans, pro-rectors or rector's delegates	75,7	70,5
Total	100	100
Number of respondents	169	809

Faculty under teaching stress

Distance teaching itself proved to be equally time-consuming.

- 85% of respondents (15% over the national average) reported that the time needed to prepare an online class increased. Rather than being a sign that Torino was less prepared for distance teaching than other universities (indeed, the amount of teaching done online in Torino was already above the national average), this should be interpreted as being indicative of the seriousness with which faculty members took up the challenge.
- 75% had to increase the time devoted to holding exams.
- 76% (10% over the national average) stated that remote assessment of students' progress involved a major organizational effort.

The difficulties that were encountered

It goes almost without saying that a large majority of respondents complained that they had very little time to adapt their courses for distance teaching (Table 13). More surprisingly, 74% of them stated that one of the critical problems with distance teaching was that there were fewer opportunities to interact with students and/or, for 52%, that practical exercises, workshops, labs and the like were difficult. This was unexpected, given that the international debate often regards the use of new digital technologies in teaching as a chance to

increase interaction between students and teachers in a variety of ways. We will return to this point later.

Table 13: *In your experience with distance teaching, how problematic were the following aspects? (Very + Fairly; %)*

	TORINO	ITALY
The little time available for adapting my course to online teaching	60,1	43,9
My familiarity with the necessary technologies and apps	34,0	26,5
The lack of a suitable space in the place where I held my remote classes	31,4	22,2
The difficulty in balancing the time needed for teaching with my family responsibilities	36,4	26,5
Having to help students with technical problems	22,3	16,5
Fewer opportunities for interacting with students	73,6	74,8
The difficulty in accessing educational resources (special-purpose software, library resources, etc.)	35,3	28,6
My teaching material is not readily adapted to online delivery	27,9	27,1
The difficulty in carrying out practical exercises (workshops, labs, etc.)	52,4	52,5
Increased control over my work by the academic authorities	6,8	6,7
Privacy and protecting students' and faculty members' data	21,6	20,0
The risks associated with improper use and dissemination of material created for teaching purposes	39,1	38,1
Number of respondents	986	3398

The problems encountered during the emergency can be grouped into 4 categories[1]

1. **Technological problems** , associated with the quality of the Internet connection or IT tools. *Such problems affected 19% of respondents in Torino*, as against a national average of 14%.

[1]The four categories were determined from a factor analysis which is available on request.

2. **Technical-logistical problems**, associated with the lack of suitable spaces at home, the difficulty of reconciling teaching and home or family responsibilities, and the need to help students with technical issues. *Such problems affected 44% of respondents in Torino*, as against a national average of 32%.
3. **Privacy problems**, associated with the fear that material created for teaching purposes might be improperly used and disseminated, that data protection could be jeopardized, and that the academic authorities can exert more control and reduce faculty members' independence in teaching. *Such problems affected 34% of respondents in Torino*, as against a national average of 32%.
4. **Teaching problems** , associated with the little available time, lack of familiarity with remote teaching platforms, difficulties in interacting with students, reduced access to teaching resources (libraries, etc.), difficulties in adapting course material to online teaching, and the problems involved with practical exercises. *One or another of these problems was reported by 75% of respondents*, as against a national average of 70%.

In each category, the percentage of respondents in Torino who reported having problems was above the national average. Given what we have seen about the greater range and extent of the support resources deployed in Torino, this cannot be interpreted as meaning that the support structure was inadequate. Rather, it reflects the higher expectations vested in distance education, which led respondents in Torino to judge their experience more critically.

A few more words are necessary regarding the category of "technical-logistical" problems. It is here that the figures from Torino show the greatest departure from the national average. In particular, we would like to draw attention to the rather high percentage of respondents who report that they did not have suitable space at home or that it was difficult for them to balance their teaching obligations and family responsibilities. As can readily be imagined, such problems were very widespread among younger respondents.

- Difficulties in reconciling family and teaching affected women much more than men (42% vs 31%), but varied significantly by age group.
  - 50% of respondents under 49 years of age had difficulties (gender differences were also found in this age group, though they were less pronounced: 53% of women vs 47
  - The percentage dropped to 33% in the 50-59 age group, and to 15% for the over-60s.

In the light of these considerations, the "Torino anomaly" can be explained by the different procedures used to assemble the national sample. As was noted at the beginning of this report, the nationwide survey was a panel study involving the same academics who participated in a previous investigation, where the percentage of respondents under 49 years old was inevitably much lower than in the Torino sample (given that participants had aged between the two surveys).

- Respondents under 49 account for 22% of the national sample, and 44% of the sample from Torino. If we take only the younger respondents in the national sample, the percentage of those reporting "technical-logistical" problems rises to 48%, which is not far from the figure for their coevals in Torino.

Teaching methods before and during the emergency: a comparison

Up to now, we have discussed the difficulties and problems reported by faculty members themselves.

However, the information collected with the questionnaire also enabled us to perform another type of analysis: a comparison between the teaching methods used before the emergency and those introduced during the Covid-19 semester (Table 14).

What was pre-emergency teaching like?

It is an often-repeated misconception that what educationalists call a *transmissive teaching model*, where the student's role is essentially passive, reigned supreme in university lecture halls. This teaching strategy is exemplified by the traditional professorial lecture, a teacher-centered approach where the student is relegated to being a mere listener.

Today, this stereotype is very far from the kind of teaching that actually takes place in universities. Our survey, in fact, found that three distinct teaching strategies were employed in Torino (and in the other Italian universities) in the period preceding the emergency[2].

1. A **"transmissive/dialog-based" strategy.** This strategy is the closest to the traditional stereotype, but with a significant variation. Though it chiefly features classroom lectures, it is often enriched by discussions between students and the instructor. *Approximately 22.4% of respondents in Torino adopted this strategy*, in line with the national average of 22.8%.

[2]The typology is the result of an analysis of in-person teaching methods prior to the lockdown (for further details see the Appendix).

2. A **"transmissive-interactive" strategy** in which the dialog-based model described above is enhanced through active student involvement in exercises, workshops, group work, etc. *Approximately 34.3% of respondents in Torino adopted this strategy*, against a national average of 32.6%.
3. A **"collaborative-innovative" strategy** where instruction is accompanied by the students' contribution not only in interpreting and processing the information they receive, but also in transforming it into personal competences. This type of teaching is based on interaction between the instructor and the students, and among the students. In addition to group work, this strategy often involves peer discussion and assessment to build transversal competences, as well as work designed to stimulate students' creativity and problem-solving abilities. *Approximately 43.3% of respondents in Torino adopted this strategy*, against a national average of 44.6%.

Table 14: *Please indicate your teaching activities prior to the Covid-19 emergency and your distance teaching activities (for your main courses) (%; multiple responses possible)*

	TORINO		ITALY	
	In-person	Remote	In-person	Remote
Classroom lectures	81,4	64,7	78,9	65,9
Discussions with students	72,1	50,0	70,6	50,0
Group work (reports, studies, etc.)	46,7	29,4	42,9	24,6
Exercises and other activities based on collaboration between students	53,2	27,7	52,5	23,7
Peer-to-peer discussion and/or assessment groups	22,1	12,3	22,1	11,1
Activities designed specifically to assess and improve student competences	25,5	14,7	26,8	13,1
Meetings with invited guests	40,7	17,6	42,3	18,7
Activities designed to stimulate students' creativity and problem-solving abilities	30,9	17,8	31,6	16,5
Workshops	37,4	16,2	38,0	12,9
Other (specify)	7,6	5,7	7,6	5,5
Number of respondents	986	986	3398	3398

As the survey shows, before the pandemic, university teaching was less static and more innovative than is generally believed.

- Contrary to expectations, the third type of teaching strategy—less conventional and more complex—is not more widespread among the "rising generation" of younger respondents. In Torino, it is slightly more common among the more senior respondents (senior in terms of academic status as well as age). This is less paradoxical if we bear two different points in mind. First, it is clear that this particular educational method calls for a high level of awareness and teaching skill that to some extent comes with age and experience. Second, we can suppose that this is the outcome of an incentives policy that discourages younger faculty members from investing in innovation in their teaching, which carries little if any weight in the type of evaluations used for career advancement, and is undoubtedly both demanding and time consuming.
- Another noteworthy point is that the collaborative-innovative strategy, though employed in all disciplines, is most frequently used by instructors in the social sciences, both in Torino (56%) and nationwide (59%). This is an area that includes political science, sociology, education sciences and psychological sciences, all disciplines that by definition address the normative and relational aspects of social phenomena as well as their socio-cognitive aspects.

What happened to teaching in the Covid-19 semester?

The more innovative activities were sharply curtailed. Teaching was simplified, retreating to the traditional transmissive model, albeit with some room for student discussion.

- Use of the first, or transmissive/dialog-based, strategy doubled. *With distance teaching, it was employed by 44.6% of respondents in Torino*, as against a national average of 46.8%.
- Use of the second, or transmissive-interactive, strategy remaining virtually unchanged. *It was employed by 31.2% of respondents in Torino*, as against a national average of 31.3%.
- Use of the third, or collaborative-innovative, strategy was more than halved. *It was employed by 24.1% of respondents in Torino*, as against a national average of 21.9%.

The same process of simplification was seen in examinations. While in-person teaching afforded many more opportunities for assessing learning outcomes, assessment methods were significantly simpler with remote teaching.

With in-person teaching:

- 11.7% of respondents assessed learning outcomes entirely by means of an oral test.
- 60.6% of respondents used two distinct forms of assessment (generally a written test and an oral test, or either a written or oral test combined with assessing exercises, reports and projects).
- 27.7% of respondents used three different assessment methods, viz., a written test, an oral test, and assessment of exercises, reports and projects).

With remote teaching:

- 25.6% gave only an oral test.
- 56% used two assessment methods.
- 18.4% used three assessment methods.

In evaluating this "impoverishment", it should obviously be borne in mind that it resulted from the fact that faculty members were faced with an emergency (often experiencing remote teaching for the first time in their professional careers).

However, it should also be added that this "problem" did not have the same negative impact on all respondents. Some, in fact, were able to maintain a more complex teaching strategy even during remote teaching. As is clear from Figure 3, these are faculty members who responded proactively to the emergency, leveraging their own social capital. Respondents who continued to use a "collaborative-innovative" strategy are distinguished from the others,

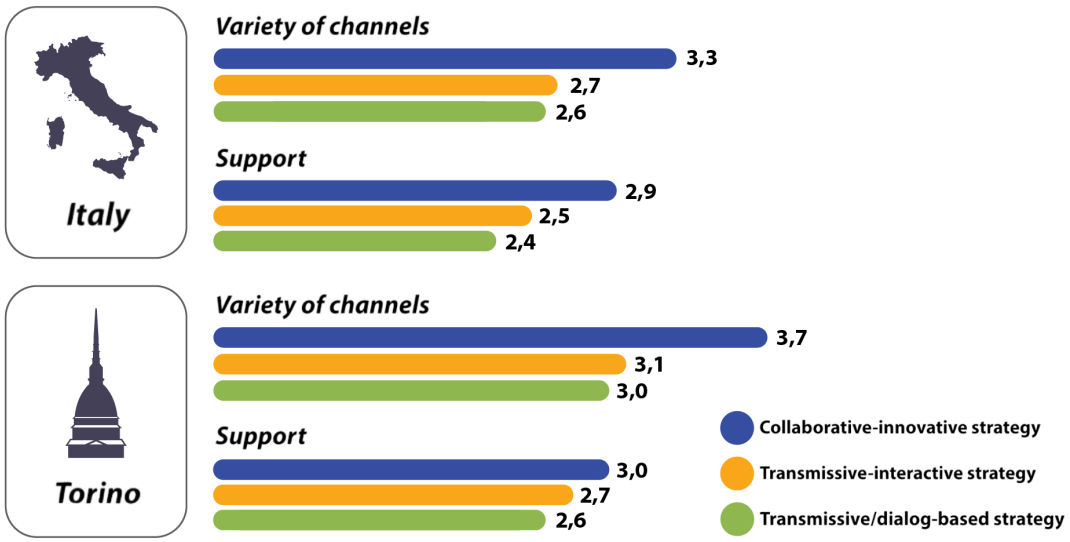
- First for their ability to draw on larger amounts of technical assistance and teaching support, and,
- Second because they used a wider variety of channels. This was true of both the Torino sample and the nationwide sample.

These findings confirm what the network analysis literature tells us about innovation, viz., that relational networks provide social actors with the essential means for achieving their goals. First, because they affect the quantity and quality of available resources (both tangible and intangible), and second, because they produce specific "information asymmetry advantages" through faster access to reliable information.

These studies suggest that in order to perform well in unconventional activities under extremely uncertain conditions, such as those that gave rise

to remote teaching, it is necessary to leave the usual routines behind and combine previously unconnected resources. This is precisely what academics with "mixed support networks" were able to do. By building bridges between actors belonging to different spheres in academia and elsewhere, they activated circuits for exchanging information and collaborating that had been separate. This enabled them to obtain a greater variety of resources, skills and information that improved the overall effectiveness of their actions.

Figure 3: *The teaching strategies employed for online classes, by level of support and variety of channels used by respondents in the transition to distance teaching (1-10 scale for support; 1-7 scale for channels)*



VIEWS OF THE FUTURE

In Torino, respondents' opinions of how the emergency was handled were decidedly positive, allowing for the difficulties involved and the uncertainty surrounding the decisions that had to be made. But when these academics think about the future, what are their views on the use of distance teaching or of hybrid methods combining in-person classes with online activities?

First, let's put one question to rest. As we have seen, almost all respondents believe that distance teaching *cannot and should not* replace face-to-face classes. Only a tiny minority — 1% — would like to move permanently to distance teaching. At the opposite extreme, 41% do not want to retain anything of the forms of teaching used during the emergency. At the same time, 58% are well disposed towards hybrid methods. This percentage is higher than in the rest of the country.

- Thus, over 60% of the respondents in Torino (7% more than the national average) believe that hybrid methods can improve learning performance in individual disciplines by making it possible to post more educational materials of different kinds online, and/or by permitting different ways of interacting with the instructor (Table 15). This is a sizable percentage, which bears witness to the fact that the faculty in Torino has a keen interest in improving their teaching, a widespread culture of quality which encourages investments in this area, and a systemic competence which is at least to some extent the result of long-term policies promoted by the university administration and enjoying the support of the departments and degree programs alike.

Table 15: *How much do you think hybrid teaching, which combines in-person classes with online activities, can contribute positively to the following goals? (A lot + Some; %)*

	TORINO	ITALY
Improving learning performance in individual disciplines (by providing more online material of different kinds, permitting different ways of interacting with the instructor, etc.)	61,3	54,5
Employing different forms of teaching (project work, competence building, interdisciplinary education, etc.)	53,0	47,3
Experimenting with learning methods based on student collaboration (through dedicated apps, discussion groups, etc.)	44,3	44,9
Eliminating the more routine parts of in-person classes to make more room for discussion and exploration	45,6	39,6
Developing students' critical thinking skills	32,1	27,5
Developing students' creativity	34,0	30,5
Increasing the ability to address and solve complex problems	34,4	30,1
Stimulate students' independence and active learning	45,4	40,4
Number of respondents	986	3398

A smaller percentage — but still around half — of respondents believe that hybrid teaching methods would make it possible to experiment with new educational strategies:

- Eliminating the more routine parts of in-person classes and leaving more room for discussion and exploration (6% over the national average),
- Facilitating activities designed to build competences and integrated interdisciplinary education (6% over the national average), and
- Encouraging more independent learning (5% over the national average) and greater collaboration between students.

Moreover, many respondents believe that distance teaching would be good for certain categories of student by enlarging the pool of potential beneficiaries of higher education and making it more inclusive (Table 16).

- Around three-fourths think it would help working students and increase lifelong education.

- Approximately two-thirds believe it would make educational "mobility" easier and provide more opportunities for people who live in rural areas, other regions or other countries.

Table 16: *How much do you think distance teaching can help enlarge the pool of potential students in the following categories? (A lot + Some; %)*

	TORINO	ITALY
Working students	77,9	76,8
Post-university age adults who want to continue their education	70,4	73,3
People living in rural areas	67,2	69,1
People living in other regions	68,2	69,4
People living in other countries	60,0	62,8
Number of respondents	986	3398

Over half of the respondents believe distance teaching would help students with specific learning disabilities (Table 17). Lastly, a smaller but still significant percentage believe it would help students at a socioeconomic disadvantage. That said, it should be noted that there is a certain polarization of views.

The percentage of respondents who express concerns about continuing with distance teaching after the health emergency is far from negligible. Though their views are for the most part similar to those of the nationwide sample, faculty members in Torino have, here as in other areas, certain distinctive attitudes that merit our attention.

Table 17: *How much do you agree with the following statements? (A lot + Some; %)*

	TORINO	ITALY
Distance teaching can help students at a socioeconomic disadvantage	43,5	47,6
Distance teaching can help students with disabilities	55,0	64,0
Continuing with distance teaching after the health emergency will make it more difficult to recruit new staff	44,8	39,8
Continuing with distance teaching after the health emergency will increase my workload and stress	61,3	56,6
Continuing with distance teaching after the health emergency will gradually increase Big Tech's (e.g., Google, Facebook, Apple, etc.) interference in university teaching	54,9	57,8
Number of respondents	986	3398

The first statistically significant difference is that respondents in Torino are less inclined to believe that distance teaching can help students with learning disabilities complete their programs (faculty members who state that they agree strongly or somewhat account for 55% of the respondents in Torino, as against 64% nationwide). This is a point that calls for further investigation. Though at the moment there is no satisfactory explanation, two hypotheses which to some extent complement each other could be advanced. First, we might wonder whether we are dealing here with classic perverse effect, and whether the divergent view taken by the faculty in Torino stems, paradoxically, from the University's long-standing policies of inclusion. The quality of these policies — which in some respects have made Torino a bellwether on the national scene — could have contributed to lowering expectations about digital technologies, fueling the conviction that they are "beside the point". Second, it is also likely that this view indicates that the respondents in Torino have tended to lag behind, and that their approach to inclusive teaching still relies chiefly on analog methods.

The other two views that set respondents in Torino apart from those in the rest of the country are less statistically significant, and are largely due to the different composition of the local and nationwide samples we mentioned earlier.

- 45% of the respondents in Torino (as against 40% of the survey participants in other universities) believe that extending distance teaching would make recruiting new staff more difficult.
- • 61% of the sample in Torino (versus 57% of the nationwide sample) is convinced that it would significantly increase their workload and stress.

In both cases, these views are chiefly held by the younger respondents (who, as indicated above, are more heavily represented in the Torino survey). Indeed, 47% of respondents under 49 (and 54% of those who are 40 or younger) fear that recruiting could be restricted if limits on the size of virtual classes are lifted. Similarly, respondents in the intermediate age groups — and who thus presumably have young children or teenagers with whom they share space and digital devices — picture a darker future for themselves, of stress and overwork. Thus, 67% of the respondents between 40 and 50 years old, especially among non-tenured or non-permanent junior faculty, regard the continuation of distance teaching after the emergency ends with grave misgivings, as against 53% of the over-60s.

IN-PERSON TEACHING VS HYBRID TEACHING: A PROFILE OF RESPONDENTS

But who are the academics who take a more favorable view of hybrid teaching methods? How do they differ from the others who would rather return to in-person teaching, just as it was before the emergency? We will start by looking at the "context factors", or in other words the influences exerted by the environment in which the respondents did their distance teaching (Table 18).

Table 18: *Preferences regarding post-emergency teaching according to context factors (% per line)*

Preferences	In-person teaching	Distance teaching	Hybrid teaching	Total	Respondents
Province of residence					
Torino	41,5	0,8	57,7	100	768
Other	37,2	1,9	60,9	100	161
City of residence					
Large (population over 250,000)	41,6	0,7	57,7	100	612
Medium (population between 20,000 and 250,000)	44,2	1,4	54,4	100	147
Small (population under 20,000)	34,7	1,8	63,5	100	170
Total	40,8	1,0	58,2	100	929

Note: In Tables 18 to 22, the asterisk indicates statistically significant relationships ($p < 0,05$)

No particularly important (or statistically significant) differences were found in this connection. Respondents who live in the province of Torino rather than the city itself, and in the smaller towns in particular, are more open towards hybrid teaching, given that they have to commute to work almost every day. Sociodemographic factors were also found to make little difference: women and older respondents were more inclined towards hybrid teaching (Table 19). Passing to the respondents' scientific and academic profile, the highest levels of

interest in hybrid teaching were found: among full professors and non-tenured junior faculty, among respondents who have management responsibilities and coordinate teaching, in certain disciplines (health sciences as well as agricultural and veterinary sciences), and among those who work in departments where online activities were already more common (Table 20).

These variables, which mostly tap individual attributes, show rather small departures from the mean and, with only two exceptions, are not statistically significant. They thus have limited explanatory power.

Table 19: *Preferences regarding post-emergency teaching according to sociodemographic factors (% per line)*

Preferences	In-person teaching	Distance teaching	Hybrid teaching	Total	Respondents
Gender					
Women	38,4	0,8	60,8	100	475
Men	43,5	1,1	55,4	100	453
Age group					
Up to 49 years	40,9	1,3	57,8	100	612
From 50 to 59 years	42,7	0,4	56,7	100	147
60 and over	37,2	0,5	62,3	100	170
Total	40,8	1,0	58,2	100	929

Table 20: *Preferences regarding post-emergency teaching according to scientific-professional factors (% per line)*

Preferences	In-person teaching	Distance teaching	Hybrid teaching	Total	Respondents
Type of department ($p = 0{,}02$)*					
No prior e-learning initiatives	44,4	0,9	54,7	100	565
Prior e-learning initiatives	35,3	1,1	63,6	100	363
Discipline ($p \leq 0{,}002$)*					
Humanities	52,5	2,6	44,9	100	158
Economics and law	43,2	1,1	55,7	100	183
Social sciences	40,3	0,0	59,7	100	119
Mathematical, physical and natural sciences	41,3	1,2	57,5	100	247
Engineering and architecture	55,6	0,0	44,4	100	9
Agricultural and veterinary sciences, etc.	34,1	1,1	64,8	100	88
Health sciences and medicine	26,2	0,0	73,8	100	126
Total	40,8	1,0	58,2	100	929

Several relational and attitudinal variables were found to be more important, including having held higher-level courses or used more innovative teaching methods prior to the emergency (Table 21). What makes the real difference, however, is the amount of support received in the transition to working online and the type of experience gained with distance teaching during the lockdown (Table 22).

Table 21: *Preferences regarding post-emergency teaching according to the type of in-person teaching strategy (% per line))*

Preferences	In-person teaching	Distance teaching	Hybrid teaching	Total	Respondents
Courses					
Teaches in three-year degree programs*	42,4	1,6	56,0	100	450
Teaches in master's degree programs*	29,2	1,9	68,9	100	106
Teaches in doctoral programs*	30,2	4,8	65,0	100	63
Had prior experience with distance teaching *	32,7	2,6	64,7	100	156
*In-person teaching strategies**					
Transmissive/dialog-based	50,6	1,1	48,3	100	176
Transmissive-interactive	41,2	1,5	57,3	100	274
Collaborative-innovative	34,2	0,6	65,2	100	345
Total	40,8	1,0	58,2	100	929

**p < 0,05; only teaching types that were found to be statistically significant are shown.*

Interest in hybrid teaching was thus found to be influenced by a rather wide range of factors, which can to some extent be simplified by means of multivariate statistical analysis. To this end, we conducted a binomial logistic regression, comparing only those respondents who expressed two diametrically opposed views:

1. Those who would like to return to in-person teaching once the emergency is over, retaining nothing of what they learned from the experience with working online, and
2. Those who would prefer a "hybrid" solution, i.e., would like at least some teaching to combine face-to-face classes with online activities.

For the sake of analytical parsimony, we constructed a model with 11 variables, which enabled us to correctly classify the vast majority of cases: 75%

of the respondents[3] (Fig. 1 and Table A2 in Appendix). In other words, these eleven variables exert an influence which either increases or reduces the probability that a faculty member will be willing to try hybrid teaching.

The analysis shows that this subjective willingness can be predicted by a combination of four latent factors[4]:

1. A positive experience with distance teaching during the emergency (v2; v3; v4).
2. A proactive personal attitude, as shown
   (a) During the emergency, through a willingness to adapt and renew one's teaching (v1), and
   (b) Prior to the emergency, by a "collaborative-innovative" teaching strategy (v8) and by having published more than the average for one's discipline (v5).
3. Being involved in certain academic disciplines and social/institutional networks, e.g.,
   (a) Working in certain scientific sectors (v7 health sciences) rather than others (v6 the humanities), and
   (b) 2) Having received a great deal of support in the transition to online teaching (v11).
4. Having had fewer problems teaching online (v10) and being less concerned about privacy issues and control by the academic authorities (v9)..

[3] As against 60% of the cases predicted by model 0 (that with a single intercept), or in other words without taking the variables selected in model 1 into account 1.

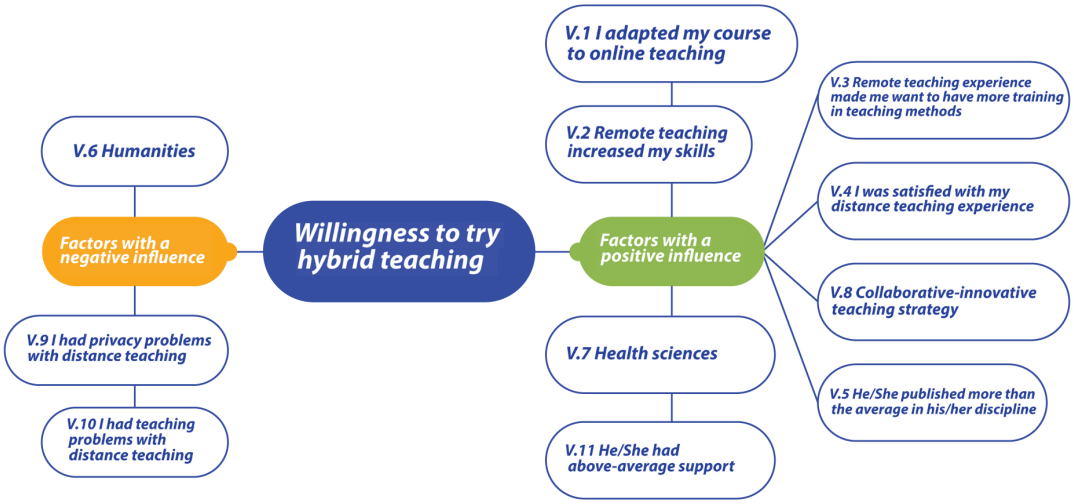
[4] These four dimensions were determined from an exploratory factor analysis.

Table 22: *Preferences regarding post-emergency teaching according to experience during the emergency (% per line)*

Preferences	In-person teaching	Distance teaching	Hybrid teaching	Total	Respondents
*Aid received during the emergency**					
Average or below average	45,4	1,4	53,2	100	504
Above average	35,5	0,2	64,3	100	423
*Number of support channels used**					
Average or below average	43,6	1,3	55,1	100	532
Above average	37,1	0,3	62,6	100	396
*Distance teaching enabled me to increase my professional skills**					
Strongly disagree	75,0	0,6	24,4	100	160
Somewhat disagree	52,7	0,0	47,3	100	110
Somewhat agree	41,1	0,0	58,9	100	168
Strongly agree	19,6	2,3	78,1	100	351
*Distance teaching made me want to have more training in teaching methods and techniques**					
Strongly disagree	67,5	0,9	31,6	100	212
Somewhat disagree	50,4	1,6	48,0	100	127
Somewhat agree	36,2	1,2	62,6	100	174
Strongly agree	16,4	1,1	82,5	100	269
*I was satisfied with my distance teaching experience**					
Strongly disagree	82,4	0,0	17,6	100	68
Somewhat disagree	62,8	1,7	35,5	100	121
Somewhat agree	38,3	0,0	61,7	100	269
Strongly agree	24,6	2,1	73,3	100	333
Total	40,8	1,0	58,2	100	929

*$p < 0,05$

Figure 4: *The variables influencing willingness to try hybrid teaching*



CONCLUDING REMARKS

The time has come to summarize some of our survey's main findings.

1. 1. Over and above the costs and negative aspects it has entailed for Torino and Italy's other universities, the health emergency served an **important function in making the crucial importance of teaching — one of the missions that is too often taken for granted and neglected — clear for all to see.**
    (a) Specifically, the lockdown showed that there is no substitute for in-person teaching. Almost all of our respondents agree that this is true. No technology, no form of platform-mediated teaching can replace the educational interaction that takes place when students and instructor are physically present in the classroom.
2. The crisis also demonstrated **an "unsuspected" ability to respond quickly and efficiently to emergencies on the part of Italian universities, and Torino in particular.** In the space of a few short weeks, faculty members were able to ensure that teaching activities could be continued online. Classes and programs were completed in full. Exams and graduate theses proceeded regularly. The number of students attending courses did not drop.
    (a) Given the context and the conditions, the satisfaction that respondents expressed — not only with their own personal experience, but also with the efforts made by the university and their departments — is thus more than justified.
3. The crisis highlighted **how far the real university is from the imaginary university** portrayed in the public debate, often stuck in outdated stereotypes originating decades ago.
    (a) This is especially true of "academic teaching". The teaching that takes place in university classrooms involves much more dialog, interaction and collaboration than is generally believed. Significant percentages of instructors use "innovative" forms of teaching, in Torino as in the rest of the country. Often, however, these are isolated experiments by individuals, attracting little interest and pedagogically ill-grounded.

4. This brings us to the fragilities and **problems that the crisis brought to the surface.**
   (a) First, the enormous stress and overwork resulting from the emergency added to the burdens of a short-handed technical-administrative staff and teaching faculty that were already struggling to cope with the innumerable bureaucratic chores introduced in recent years.
   (b) Second, many difficulties arose as a result of faculty members' lack of training in teaching methods in general and in the new digital platforms.
   (c) Third, and as a consequence of the first two points, there was a drastic "impoverishment" during the pandemic crisis in teaching methods despite faculty members' best intentions and the major efforts made by the universities.
5. The scene that emerged in **Torino is *not* so very different from that in the rest of the country, but there are some distinctive features** that should be pointed out.
   (a) First, faculty members in Torino devoted *greater attention to the teaching aspects of transitioning online*, channeling a great deal of time and effort into adapting their methods and course content to online classes.
   (b) This was also accompanied by *a greater openness and willingness to change teaching methods*. The percentage of respondents who reported that they found their experience with distance teaching to be professionally enriching and that it made them want to have more training in in-person and distance teaching methods and techniques was above the national average.
   (c) There was also a more positive view of the new digital platforms' potential, and a *greater willingness to try hybrid forms of teaching*, combining in-person classes with online activities.
   (d) The factor that *had the greatest positive influence on this willingness was the experience with remote teaching*. While the particular academic discipline involved had some influence, much depended on how open the respondent's attitude was during the emergency and, more generally, on whether respondents tended to be proactive. The respondents who had the most positive experience of remote teaching were those who in their in-person classes had already been more oriented toward collaborative and innovative forms of teaching, and who took an exploratory approach to the emergency, drawing on their social

capital and turning the crisis into an opportunity for reflecting on their teaching methods.

6. In all Italian universities, support from the institution played a crucial role in the transition to online teaching. By comparison with the rest of the country, **the university's strategy for responding to the emergency in Torino was less centralized and controlling,** as it
   (a) Employed "coordinated decentralization" in which the schools and departments were more heavily involved in providing support to faculty members, and
   (b) Allowed faculty members greater independence in deciding their approach to distance education.
7. In addition, faculty members in Torino
   (a) Benefitted from a higher level of support provided by a plurality of channels, and
   (b) b. Also showed a greater aptitude for horizontal forms of self-help, drawing on a high degree of reflexivity in the transition to online teaching through an active "invisible college".
8. It was thanks to this stock of social capital that many faculty members in Torino were able to turn the "challenge" of distance teaching into a learning opportunity.
   (a) In a variety of ways, the University of Torino provided training resources and opportunities, which
   (b) Respondents integrated with their own personal and professional resources to mount an effective response to the crisis.
9. These "individual" responses, supported by the social and institutional networks, enable organizations to learn and innovate, increasing their requisite variety and resilience. In organizations, resilience is the ability to respond to challenges by demonstrating that they are
   (a) *Solid*, or in other words able to cope with critical and unexpected events;
   (b) *Cohesive*, i.e., capable of maintaining a high degree of internal integration by motivating their members; and
   (c) *Agile*, or able to face emergencies promptly and arrive at effective answers to the problems.
10. There are, however, two ways of responding to a crisis.

(a) The first kind of response is in the short-term, when the organization is under stress, to provide an immediate solution through first-order problem solving.
(b) The second is a long-term response which puts what was learned from the emergency to good use in modifying the organization's structures and routines to prevent the crisis from reoccurring and/or improve performance. This is referred to as second-order problem solving.

The first kind of response is based on single-loop learning, or simple, local and occasional learning dynamics. The second kind calls for double-loop learning, a more complex process which is less contingent and has lasting structural implications. This brings us to the final point we will address here.

Crises are often opportunities, because they stimulate creative responses and trigger generative mechanisms that enable organizations to change course, moving away from old habits. Both at the local level (at the University of Torino) and nationally (in university policy), the approaches that had to be used during the Covid-19 semester made Italy's universities and instructors question their teaching and its aims and methods for the first time in many years. By contrast with the country's secondary schools, where a policy of technological innovation in teaching has been implemented for nearly a decade, the universities were caught largely unprepared by this challenge. Few had made significant investments in distance teaching and e-learning.

As is often the case, however, being latecomers can be an advantage. It made it possible to avoid many of the misunderstandings and illusions that beset secondary schools, such as the idea that new technologies can by themselves transform teaching and even solve many of the problems encountered in recruiting students. We believe that a number of simple lessons supporting an evidence-based policy for *teaching innovation* can be learned from the experience gained in the Covid-19 semester.

1. **In-person teaching is irreplaceable.**
2. **By themselves, the new digital platforms cannot renew and enrich teaching methods.** On the contrary: unless faculty members are appropriately trained in their use, the new platforms created to encourage e-learning tend to impoverish teaching. They are entirely unproductive without mature reflection on educational architectures and teaching strategies that also bears the distinctive features of each learning environment in mind

(distance teaching is one thing, hybrid teaching is another, and e-learning is yet another).

3. **The universities' responses must be both national and local.** In other words, there must be a national plan as well as university-level digital and e-learning projects. This calls on the one hand for an infrastructure investment program, and on the other for specific attention to supporting faculty members' teaching skills.
4. **The new technologies can help build on the "good practices" for teaching innovation that are already at work in university classrooms.** Many of these technologies, rather than replacing in-person teaching, can enrich it by facilitating more interactive and collaborative forms of teaching. Provided they are not used alone, but are supported by additional personnel recruitment, they can also help expand the pool of potential students and offer new approaches to lifelong education.

As we have seen, faculty members in Torino have highly polarized views of the post-emergency scene. 41% cannot wait to go back to the way things were before the emergency, retaining nothing of the experience with remote teaching. This reaction is entirely understandable, given the fraught circumstances surrounding their first encounter with the new digital platforms. At the opposite end of the spectrum, another 58% are open to hybrid forms of teaching, or in other words would like to try an integrated educational environment where in-person teaching is combined and enhanced with online activities.

Over and above this polarization, it seems that the basic attitude that the survey brought to light is not dead set against the new teaching methods and technologies. Many respondents believe that they can help in achieving a number of goals associated with the four priorities laid down in ET 2020, the strategic framework for European cooperation in education and training:

1. Make lifelong learning and mobility a reality
2. Improve the quality and efficiency of education and training
3. Promote equity, social cohesion, and active citizenship
4. Enhance creativity and innovation, including entrepreneurship, at all levels of education and training.

APPENDIX

Methodological note

The nationwide survey of distance teaching during the Covid-19 emergency was carried out in June 2020 by contacting the same 15,000 academics at Italian state universities who had taken part in a 2016 survey on higher education's "third mission" (Perulli, A., Ramella, F., Rostan, M. and Semenza, R., eds., La terza missione degli accademici italiani, Bologna, Il Mulino, 2018). These academics were asked to complete a questionnaire consisting of seven sections: the Covid-19 emergency and the suspension of in-person classes; distance teaching; preparing for distance teaching; the resources available for distance teaching; comparison with in-person teaching and assessment of the distance teaching experience; risks and opportunities for the future; respondents' personal and professional data.

Questionnaires were administered by the survey firm QuestLab using the CAWI technique. Three invitations/reminders were sent, one of which was made possible by the cooperation of the heads of department at the 62 participating universities. A total of 3,398 valid questionnaires were collected, with a response rate of 23%. The differences between the theoretical and actual sample were quite limited. To take the different levels of coverage into account, weights ranging from a minimum of 0.67 and a maximum of 2.32 were applied. The findings of the nationwide survey are summarized in: F. Ramella and M. Rostan, eds., Universi-DaD. Gli accademici italiani e la didattica a distanza durante l'emergenza Covid-19, Working Papers CLB-CPS, Luigi Bobbio Center at the University of Torino Department of Cultures, Politics and Society, No. 1/20.

The survey at the University of Torino was carried out in June 2020, using the same questionnaire and the same administration procedures as the nationwide survey. In this case, the entire teaching faculty in Torino was contacted, including adjunct faculty. Thanks in no small measure to the efforts of the heads of department, a total of 986 valid questionnaires were collected. The response rate was thus 28% overall, and exceeded 40% among tenured and non-tenured teaching staff. Here as in the nationwide survey, the differences between the actual sample and the reference universe were quite limited. To take the different

levels of coverage achieved by the survey into account, weights ranging from a minimum of 0.75 and a maximum of 1.8 were applied.

A typology of teaching strategies

The typology was constructed on the basis of a factor analysis of 10 variables from the nationwide survey relating to the type of *in-person teaching activities before the emergency*. The analysis—which was purely exploratory —brought two latent factors to light which represent semantically congruent subgroups of activities (Tab. A1). The first subgroup relates to a teaching-centered educational approach based chiefly on a transmissive strategy for conveying knowledge and on practical exercises. The second relates to an approach centering on individual and group learning which hinges on peer relationships and seeks to develop dynamic and transversal competences (learning to learn, problem solving, independent judgement and creative, dialogical and evaluative abilities).

Table A1: *The two indexes at the basis of the typology*

Index 1: "Transmissive-applicative" teaching approach	% respondents
Classroom lectures	81,4
Discussions with students	72,1
Exercises and other activities based on collaboration between students	53,2
Meetings with invited guests	40,7
Workshops	37,4
Index 2: "Collaborative-innovative" teaching approach	**% respondents**
Group work (reports, studies, etc.)	46,7
Peer-to-peer discussion and/or assessment groups	22,1
Activities designed specifically to assess and improve student competences	25,5
Activities designed to stimulate students' creativity and problem-solving abilities	30,9
Other (specify)	7,6
Number of respondents	986

We then decided to construct two additive indexes on a 0 to 5 scale. Scores were assigned on the basis of whether or not one or more of the activities classified in the two groups shown in Table A1 were used.
These indexes were then replicated for the Torino survey. To assess their reliability, we calculated Cronbach's alpha, a measure of the internal consistency of a multi-variable index. With dichotomous data, alpha is equivalent to Kuder-Richardson Formula 20, developed on psychometrics to measure the reliability of scales based on binary-choice items. For the Torino survey, Cronbach's alpha was 0.76 for the first index and 0.74 for the second. These values are above the generally accepted reliability threshold for this type of test (alpha >0,60/0,70), indicating that both indexes have good internal consistency.

The typology of teaching strategies presented in the text is thus based on the combination of these two indexes.

- The first type — the "transmissive/dialog-based" strategy — comprises all respondents with a low score (up to 3) for index 1 and a score of zero for index 2.
  - 50% of the respondents in this group based their pre-emergency teaching entirely on classroom lectures and discussions with students. The remaining respondents held face-to-face classes together with various combinations of discussions with students, exercises, workshops and meetings with invited guests.
- The second type — the "transmissive-interactive" strategy — comprises respondents with a high score (4-5) for index 1 and/or a score of 1 for index 2 (i.e., they engaged in one of the activities contemplated by the collaborative approach).
  - In addition to classroom lectures and discussions with students, this second type relied more frequently on group work as well as exercises and workshops.
- The third type — the "collaborative-innovative" strategy — comprises respondents with scores above 1 for index 2.
  - In addition to classroom lectures, discussions with students, group work and exercises (mentioned by almost all of these respondents), this type engaged in:
    * Peer-to-peer discussions (60% of respondents),
    * Activities designed to develop transversal competences (69%), and

* Activities designed to stimulate students' creativity and problem-solving abilities (78%).

The multivariate analysis: the model for predicting willingness to try hybrid teaching

Table A2: *Binary logistic regression for hybrid teaching (dependent variable: I would like to return to in-person teaching once the emergency is over vs I would like at least some teaching to take hybrid form)*

Model summary	Nagelkerke R^2	χ^2	gl	Sig.	Respondents
	,40	272,73	18	0,00	768
Variables in the equation	B	E.S.	gl	Sig.	Exp (B)
Vb5. I didn't change either the content or the structure of my courses.			2	0,00	
Vb5. I changed the content and the structure a bit to adapt them to online methods.	0,25	0,26	1	0,34	1,28
Vb5. I took the opportunity to rethink my teaching approach significantly.	1,93	0,55	1	0,00	6,90
Ve4-1. The remote teaching experience enabled me to increase my professional skills (strongly disagree)			3	0,00	
Ve4-1. The remote teaching experience enabled me to increase my professional skills (somewhat disagree)	0,49	0,32	1	0,13	1,64
Ve4-1. The remote teaching experience enabled me to increase my professional skills (somewhat agree)	0,77	0,31	1	0,01	2,16
Ve4-1. The remote teaching experience enabled me to increase my professional skills (strongly agree)	1,25	0,32	1	0,00	3,49
Ve4-2. The remote teaching experience made me want to have more training in teaching methods and techniques (strongly disagree)			3	0,00	

Model summary	Nagelkerke R^2	χ^2	gl	Sig.	Respondents
	,40	272,73	18	0,00	768
Variables in the equation	B	E.S.	gl	Sig.	Exp (B)
Ve4-2. The remote teaching experience made me want to have more training in teaching methods and techniques (somewhat disagree)	0,10	0,28	1	0,73	1,10
Ve4-2. The remote teaching experience made me want to have more training in teaching methods and techniques (somewhat agree)	0,68	0,27	1	0,01	1,97
Ve4-2. The remote teaching experience made me want to have more training in teaching methods and techniques (strongly agree)	1,34	0,30	1	0,00	3,83
Ve5-1. I was satisfied with my distance teaching experience (strongly disagree)			3	0,00	
Ve5-1. I was satisfied with my distance teaching experience (somewhat disagree)	0,94	0,45	1	0,04	2,57
Ve5-1. I was satisfied with my distance teaching experience (somewhat agree)	1,30	0,44	1	0,00	3,67
Ve5-1. I was satisfied with my distance teaching experience (strongly agree)	1,55	0,45	1	0,00	4,73
V5-1. In the last 5 years, I published more than the average in my discipline	0,67	0,24	1	0,01	1,96
V7. Humanities	-0,55	0,25	1	0,03	0,58
V7. Health sciences	0,79	0,30	1	0,01	2,21
V_Teaching strategy. I used a "collaborative-innovative" strategy in in-person classes	0,19	0,06	1	0,00	1,20
V_Problems. I had privacy problems with distance teaching	-0,51	0,19	1	0,01	0,60
V_Problems. I had teaching problems with distance teaching	-0,75	0,34	1	0,03	0,47
V_Support. Average level of support from institutional and personal networks	0,03	0,06	1	0,58	1,04
Constant	-0,87	0,79	1	0,27	0,42