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Covid-19 and UNIMORE students:
how the emergency changes the study and the university experience

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**Foreword**

The emergency situation caused by the Covid-19 pandemic has imposed changes in
the provision of radical teaching for the scope and for the mode. The elements of
uncertainty that we have known, from the declaration of the general state of emergency,
to the daily and growing impact of the infection, will remain in the individual and
collective memory.

As in many universities in Italy and abroad, the University of Modena and Reggio
Emilia has also dealt with the need for rapid decisions in a continuously changing context.
Not having an action plan in the event of a pandemic, UNIMORE has decided to give
continuity to the training projects for students: lessons, exams, tutoring and internships
have been reorganized providing ad hoc solutions that until a few months before could
have seemed unthinkable, taking advantage of those interstitial practices that had been
consolidated in some experimentation niches of innovations in teaching and interaction
with students.

It was not a matter of doing online teaching, but of building a real set of tools and
practices for remote teaching in an emergency context, a huge effort by the teachers
involved in teaching in this semester, by the course presidents of study, of the staff of the
didactic secretariats and of all the University services. Equally great was the commitment
of the students. Each of the protagonists of this collective commitment had to face
individual choices - on their work and study - in material, cognitive, relational and
organizational conditions that are not always optimal.

Knowing the living and studying conditions of students during the emergency phase
Covid-19 appeared as an indispensable element not only for understanding the current
phase, but also for orienting future choices for offering teaching and services to current
and future students.

The target

The survey was addressed to 27,792 Unimore students who had not yet submitted their graduation application on April 6th. The questionnaire investigated the personal and material conditions in response to the emergency and the various aspects of the organization of the study and distance learning[1].

The respondents

The sample of respondents is 5,341 students with complete answers and 1,437 with incomplete answers; 21,014 students did not answer (they did not open the online questionnaire). The average rate of complete answers is 19.2%, to which is added the 5.2% of students who started to fill in the questionnaire, but did not complete it. Overall, the area of greatest weight in the University, the Society and culture area, and - in all areas - the point of view of the female students compared to that of all the students is overrepresented.

The answers

The answers on living and study conditions and their intertwining with the specific focus on distance learning were read through a cluster analysis that identifies 8 groups of students.

**Cluster 1_Satisfied with online | Includes about 8% of the interviewees**

They are mainly female students, belonging to all subject areas and to all the years of the course, with a number of credits acquired both above and below the median of the credits of the students of the same year and of the same degree course .

They are satisfied, or rather, enthusiastic about the distance teaching experience. They have no study or interpersonal problems. They follow all subjects, are on par with the exams, have all the tools to benefit from distance learning and declare that they apply themselves more in the study, having more time available.

They think that distance teaching does not negatively affect relationships with teachers and classmates, motivations, study organization and concentration skills.

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[1] The survey, aimed at all students enrolled in the current academic year, took place in the period 8 April - 2 May 2020. The questionnaire was completed online via a link sent via e-mail, in compliance with the privacy and data processing. The questionnaire is made up of three sections: a first group of questions is used to define the personal data of the respondents; a second group concerns the material and personal conditions in response to the emergency; a third group deals with the various aspects of the organization of study and distance learning.

They are mainly female students, belonging to all subject areas and mostly enrolled in the second or fourth year. They have a number of credits acquired under the median of the credits of the students of the same year and of the same degree course.

They follow distance teaching enough and give a good mark to online lessons. They manage to organize themselves, but only some of the aspects of distance learning are positive.

They have no particular problems and follow the lessons by selecting the subjects.

They are mainly students, enrolled in a master's degree in the technological area with a number of credits acquired much higher than the median.

They point out that the main disadvantage of distance learning is the lack of interaction both with teachers and with other students (being enrolled in a course in the technological field, perhaps they cannot replace the experience in the presence of laboratories with online teaching). They follow the courses, proceed equally on all subjects and are equal, study more but think that their situation has worsened precisely because of the lack of relationships with colleagues and teachers and the impossibility of comparison. They also lament the lack of stimuli for study and the impossibility of asking questions in the classroom. Perhaps the difficulty of supplying a quantitative type of subject online without teachers on the blackboard. These students lack face-to-face teaching.

They are mainly female students, enrolled in the third year of the course in the science and life area, with a lower number of credits acquired than the median.

Although they appreciate distance learning, they claim to follow it little. They have problems with the organization of the home study, they are not on par with the lessons delivered online and they declare that they cannot concentrate on studying for problems related to the organization at home. However, they do not regret the lessons in attendance and appreciate some aspects of online teaching such as the greater free time available and the absence of travel to go to the University.

They are mainly students, enrolled in the fifth or sixth year of a course in the scientific-technological area. They have a higher number of credits acquired than the median.

They declare that they have no problems: they follow distance teaching, give it a good mark, are at par and are satisfied with the online. They study more, because they have more time, they manage to concentrate, they want to study, they manage to organize themselves, they have stimuli and they consider all aspects of online teaching positive.

They are mainly students, belonging to all subject areas and to all degree courses, above the median for the credits acquired.

They follow distance learning but are not satisfied with it. They study more, but perceive a lower level of preparation and give a low mark to online teaching.

They privilege the study of only a few subjects, they feel worse the way they interact with colleagues and teachers and they consider all aspects of distance learning to be negative.

**Cluster 7_Gli Sperduti (freshmen confused and overwhelmed) Includes about 18% of the interviewees**

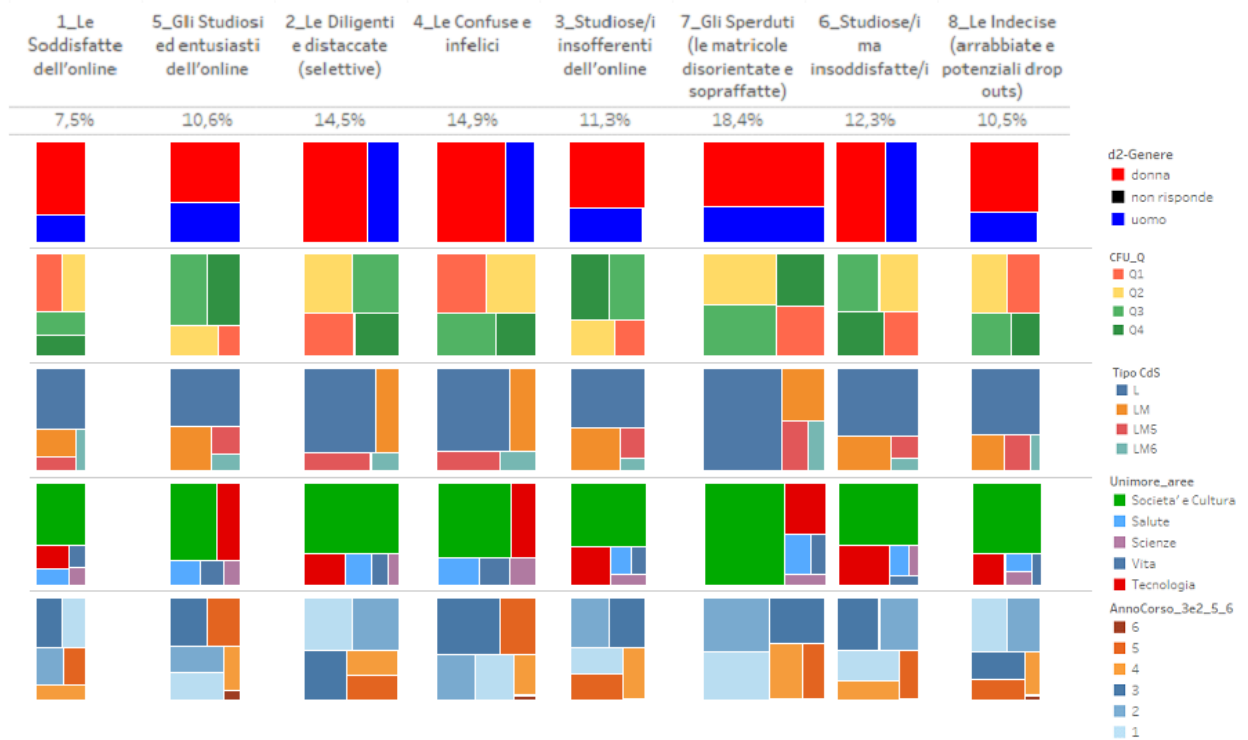They are mainly students, belonging to the society and culture area, enrolled in the first or second year.

They follow the online teaching enough and give a sufficient judgment, they study more but perceive a lower level of preparation. They privilege only some subjects: they cannot, with the recordings and the lessons in streaming, to be in par with all the courses. They do not consider their level of interaction with teachers to have worsened but they consider that with other students to have worsened.

**Cluster 8_Le Indecise (angry and potential dropouts) | It includes about 11% of the interviewees.**

They are mainly female students, enrolled in the second year of a course in the society and culture area.

They give a negative mark to online teaching and follow it little. They are not on par with the exams but they declare that they have not changed the way they study and have not changed the level of interaction with teachers. They express a negative evaluation on all aspects related to distance learning and, in particular, they show the lack of interest and concentration linked to online.

Graphical representation of clusters by gender, training credits gained, type of course

| 1_Le Soddisfatte dell'online | 5_Gli Studiosi ed entusiasti dell'online | 2_Le Diligenti e distaccate (selettive) | 4_Le Confuse e infelici | 3_Studiose/i insofferenti dell'online | 7_Gli Sperduti (le matricole disorientate e sopraffatte) | 6_Studiose/i ma insoddisfatte/i | 8_Le Indecise (arrabbiate e potenziali drop outs) |
|---|---|---|---|---|---|---|---|
| 7,5% | 10,6% | 14,5% | 14,9% | 11,3% | 18,4% | 12,3% | 10,5% |



**d2-Genere**
- donna
- non risponde
- uomo

**CFU_Q**
- Q1
- Q2
- Q3
- Q4

**Tipo CdS**
- L
- LM
- LM5
- LM6

**Unimore_aree**
- Societa' e Cultura
- Salute
- Scienze
- Vita
- Tecnologia

**AnnoCorso_3e2_5_6**
- 6
- 5
- 4
- 3
- 2
- 1

and areas Broadly speaking,

three groups of students can be identified.
- ▪ About 1/3 of students have easily integrated teaching remotely into their ordinary study activities with enthusiasm or by discipline (Cluster 1, 5 and 2)
- ▪ about 1/4 of the students are confused and intolerant for remote teaching (Cluster 4 and 3)
- ▪ about four out of ten students are "lost", dissatisfied with learning and confused about how to get out of this situation (Cluster 7, 6 and 8).

What we observe during the emergency has its roots in what was already taking place before the emergency, in the conditions of life and study and in the attitudes and results achieved. For some students the emergency has aggravated conditions already present, while for others it does not seem to have significantly affected their course of study. What the multivariate analysis allows to identify are precisely the specific characterizations that for each group can contribute to delineate targeted and differentiated actions to meet the needs of the different student profiles.

Food for thought

In an essay published a few years ago, which commented on the success factors of PISA test results in Finland, Charles Sabel et al. (2010) observe that the high average results had been achieved not so much by focusing on excellence, but by raising with differentiated support those who have more difficulties. It is on the basis of these considerations that the research team created the survey on the living and studying

conditions of Unimore students during the Covid-19 emergency: knowing those conditions allows you to evaluate what actions to take to offer your support differentiated that responds to different needs, creating better opportunities for everyone.

This investigation attempted to quickly grasp the changes imposed by the emergency in order to go in the direction of supporting a community - that of the students - potentially very vulnerable in the face of the emergency. In these concluding observations we propose a discussion of the results, highlighting the critical issues that emerged from this analysis to help provide a framework to be used in the strategic action of the University, but also of individual departments and courses of study. The widening of the survey on individual departments could be an opportunity to listen to their students, thus strengthening the dialogue started with this investigation.

The local dimension. UNIMORE (in the Modena, Reggio Emilia and Mantua offices) has enjoyed a protective factor compared to other realities where the origin of the students is much more varied. In fact, the data tell us that **73.4% of the respondents did not have to radically change their housing situation** because they lived with their family of origin in the regional territory. Despite this, not having to physically reach the lecture and library places was particularly appreciated by the students. However, there is a strong variability from department to department, from the working condition (especially the female students), from the course of study and from the number of academic credits accumulated. All in all, the University's territorial vocation has eliminated a factor of stress and organizational discomfort that the students instead experienced when they preferred to return to their families of origin in a more distant region.

The adequacy of the university structures and the conditions at home.

If the cancellation of the logistical movements may have made online services appreciated, it is absolutely to be underlined how **the students complain about having to stay away from departments, libraries and study rooms and from the sociability of university life**. The *lockdown* has, in fact, made clear how university structures are an indispensable infrastructure for university life and learning. Not only because these structures also represent places of aggregation, sociability and critical confrontation, but above all because they offer comfortable study environments, material and electronic resources (books, e-books, magazines, encyclopedias) and connection levels not always available in the own home. In fact, the most common problems concern study tools in the home. Certainly, electronic devices and an internet connection suitable for study support activities are essential elements for accessing lessons, consulting, downloading and printing teaching materials, studying and taking exams, but students do not always have them at home. **3.3% of the students who answered the survey do not have an electronic device for studying, 2% have only a smartphone to study or obsolete or loaned devices, and almost 13% of the students have a poor connection o bad**: these conditions do not allow everyone to follow the lessons at a distance, not everyone always

manages to follow them live or download the recordings or teaching materials. The conditions for conducting the exam remotely may also be critical.

This important fact on the infrastructure gap in domestic and university spaces must make us reflect on the essential traditional character - in the presence - of the University. Outside the emergency, the social and economic inequalities present in the country can affect the availability of silent environments, suitable for individual study, and of electronic devices and connectivity. Another semester of distance learning will have to identify ad hoc tools to re-establish ties, make the places and materials of the study accessible, in safe conditions.

Distance teaching.

Very quickly didactics moved to a virtual dimension, placing students and teachers in front of new challenges, with their difficulties and advantages. **The vast majority of students followed online lessons with sufficient average satisfaction**, with no major differences in terms of course year. The degree of satisfaction instead varies between scientific-disciplinary areas. The factor that most explains this variability recalls the availability of electronic devices that can be a functional equivalent to the equipment offered in universities.

Alongside the satisfaction, however, there is the **clearest feeling of load and fatigue**. Spending many hours in front of a monitor to follow the lessons makes it more difficult and tiring to take notes and to carefully follow the lessons, compared to the presence in the classroom, also because of the difficulty in staying focused. In fact, finding the right concentration is more difficult in the case of remote lessons, especially when the conditions of the domestic spaces force a coexistence in an environment also intended for other activities. The situation is partially aggravated by a multiplicity of communication channels, not always clear and of immediate usability, which affects the general motivation to study. **Compared to a third of the students who embraced teaching remotely with enthusiasm, two thirds complain of confusion and intolerance, bewilderment and dissatisfaction**.

The organization of the study.

Even if we purify the data from the effects of the emergency that has found everyone unprepared, it is undeniable that **about 40% of the students expressed problems in the organization of the study** and three quarters of the students reacted to the emergency by changing their way of studying. Confirming the importance of university infrastructures, it is precisely the closure of libraries and the absence of interaction with colleagues that have made the organization of the study more difficult. Although these elements may also indicate a poor autonomy of the individual student, an aspect that is beyond the analysis of this research report, it should be emphasized that the availability of digital technologies and services has partially mitigated these shortcomings because it has allowed virtual meetings with colleagues of course, even for those who had always kept away from it.

The analysis returned a very significant and in some ways unexpected gender difference in this age group and working condition. If there is no gender gap on many indicators of the modality and the difficulties experienced in the study, the female students report an additional element of aggravation in the study: their difficulties depend on sharing the roles of care and management in the domestic sphere. Having to deal with minors, the elderly or the sick negatively affects the ability of the female students to study time compared to the students, referring to the issue of the unequal distribution of workloads in the domestic and extra-domestic sphere that evidently also weighs on young female students.

The survey highlighted some specific aspects of fatigue due to the time spent in front of the screen: a condition that objectively must be addressed by offering students indications on how best to use the teaching also taking into account the effects on posture, vision and concentration. The investigation showed that there are also other difficulties, which are independent of the emergency. These topics should be examined with ad hoc insights to more effectively support the potential that students could express in the context of study. In this direction, we recall what is already offered by the service of *counseling* the Marco Biagi Department of Economics and by the services of the specialization school of psychiatry in Modena, which has created a sort of vademecum with some useful tools for dealing with quarantine and in general the emergency we are experiencing.

The eight clusters. The multivariate analysis completes the picture of the students who can be grouped into eight clusters. Specific combinations of material conditions, organizational and study choices lead to the identification of eight well-defined groups with respect to remote teaching: Satisfied, Diligent but detached; the impatient; the Confused and unhappy; enthusiastic scholars; Scholars / dissatisfied; the Lost; the undecided. The detailed description makes the articulation and combination of the salient features of these clusters intelligible, offering interesting ideas.

Open answers. The automatic analysis of the texts of the open questions on strengths, weaknesses and suggestions on the subject of distance learning gives a chiaroscuro synthesis. The strengths mostly concern the greater flexibility in the use of teaching and for some students the greater interaction between colleagues and teachers. Conversely, the lack of interaction and difficulty in using the teaching are the weaknesses of other groups of students. Still others report the ineffective management of online lessons by teachers, the limitations of the technology of online lessons and the uncertainty for conducting exams, workshops and traineeships. The suggestions look beyond the emergency, and in particular the maintenance of distance learning for those who study and work is suggested. But as regards the emergency teaching carried out remotely, it is suggested to define a clear framework of rules, asking the teachers to respect it rigorously: on the exams, but also on the didactic organization.

There are in fact traits of remote teaching forced by the emergency that are typical of a phase that we will overcome in the coming months, but there are other elements that have their roots on what was already taking place before the emergency, in the conditions of life and study and attitudes and results achieved. The teaching and services offered to students in the coming semesters will have to take these characteristics into account in order to get out of this phase without dispersion. Indeed, there are elements to get out better than before: without focusing only on excellence, it is possible to invest in a collective effort to increase the level of satisfaction and overall effectiveness of university teaching.

References

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Metadata, data and visualization tools of the results available online

Open access database [data available anonymously]: Survey on the living and studying conditions of UNIMORE students at the time of the coronavirus http://dx.doi.org/10.25431 / 11380_1203517

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Visualization of the elaborations with Tableu Public [data available anonymously]: IU_Unimore Survey on the https://public.tableau.com/views/IU_itarev_5luglio2020/IU_Ita?:language=it&:display_count=y&:origin=viz_share_link

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This work is dedicated to Unimore: to all the students and the technical, administrative and teaching staff who together and with the support of their families and the whole community have faced the emergency. It has been a complicated journey, which this survey tries to explore in order to improve the conditions and opportunities we want to create both for the emergency that remains to be faced and for the future that we would like to build.