Integrating education with human behaviour relevant to influence of coronavirus and negative emotions in a built environment (MICROBE)

Partner country report on current state of higher education and its relationship with humans' behaviour on influence of coronavirus and negative emotions in a built environment

Report prepared by: Municipality of Bologna and Foundation for Urban Innovation - *Italy*

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1   INTRODUCTION

The purpose of this series of country reports is to obtain general philosophical, pedagogical and practical understanding on the status of higher education and its impact on minimizing the influence of coronavirus and negative emotions in a built environment by applying behavior change in partner countries. It will also provide a basis for understanding and evaluating the capabilities of partner institutions on integrated education for influence of coronavirus and negative emotions in a built environment. The results of these reports will inform a capacity building framework, which will form the basis for development of modules on influence of coronavirus and negative emotions in a built environment during the MICROBE project. The reporting approach is based on the Capacity Needs Assessment Methodology (CAPNAM) proposed by the United Nations (2013).

The report includes chapters on the following:

- Context. Provides an overview of the regulatory, socio-political, and cultural factors that shape policy on the human behaviour relevant to influence of coronavirus and negative emotions in a built environment in the country in general, and education in particular.
- Scope and coverage of education policies on influence of coronavirus and negative emotions in a built environment by the Higher Education Institution (HEI). Examines the illustrative policy and planning issues relevant to integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment.
- Description of capacity types. Evaluates the existing state of capacities of HEI in the field of integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment. As defined by the CAPNAM analytical framework, the four types of categories are institutional, organisational, individual, and the knowledge base.

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2   CONTEXT

This section provides an overview of the regulatory, socio-political, and cultural factors that shape policy on the human behaviour relevant to influence of coronavirus and negative emotions in a built environment in the country in general, and the education in particular. Please answer following questions.

2.1   Socio-political and cultural context

What are the socio-political and cultural contexts providing the framework for educational policy planning in the field of human behaviour relevant to influence of coronavirus and negative emotions in a built environment in the country? Are there any regulations, plans, etc.?

Since the spread of the coronavirus (COVID-19) in Italy, started in February 2020, many people who contracted the infection died. The number of deaths amounted to 87,381 as of January 28, 2021. On December 3, 993 patients died, the highest daily toll since the start of the pandemic. The region with the highest number of deaths was Lombardy, which is also the region that registered the highest number of coronavirus cases and is the epicenter of the outbreak in the country.

Italy's death toll was one of the most tragic in the world. In the last weeks, however, the country started to see the end of this terrible situation: at the end of December 2020, the administration of the first doses of COVID-19 vaccine began.

Fig. 1 - Daily infection trend in Italy since the beginning of Covid-19 pandemic (source: Civil Protection Department COVID-19 Italy)

After the second wave of Covid-19 pandemic that hit Italy over last autumn, since the beginning of the 2021 we've been witnessing a slow decline of the curve. Nevertheless restrictions are still severe and applied nonuniformly all across the country, according to a combination of various factors.

In fact in Italy the government, due to the worsening of the epidemiological situation, has decided to apply a colour for each region (white, yellow, orange or red) by combining factors such as risk analysis, weekly incidence of cases and actual reproduction index Rt (also called infection index).

On the basis of these indicators, every Friday the control room of the Ministry of Health has attributed the color to the region and the respective restrictions.

This system has been updated and currently Italy has been divided into RED, ORANGE and YELLOW zones, depending on the seriousness of the situation. The territories or regions that enter the

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orange or red band must stay there for at least 14 days, then they will be re-evaluated, again on the basis of monitoring of scientific and non-discretionary data.

The Minister of Health will update the bands periodically. The assignment is based on the scientific data provided by the Technical-Scientific Committee.

The classification of a Region in one of the three scenarios indicated above is decided by the Ministry of Health on the evaluation of 21 criteria such as the Rt contagion index, the presence of outbreaks, the occupancy situation of hospital beds and places bed in intensive care. The monitoring capacity will also be taken into account, the so-called contact tracking. Then there are 6 other parameters that describe the ability to diagnose, investigate and manage contacts. For example, the percentage of positive swabs excluding the second and third tests on the same people, or the time from symptoms to quarantine and diagnosis.

RED AREA, HIGH RISK: The following shops and businesses remain open in the red area: bookstores, flower shops, computer and electronics shops, sporting goods, bicycles, car and motorcycle dealerships, shops selling cleaning products, hardware stores, toy and children's clothing stores, newsagents, pharmacies, perfumeries and herbalists and bookstores. In general, all food stores and supermarkets, as well as those that sell and basic necessities, from linen to soap, continue to be open. In addition to laundries and dry cleaners, hairdressers and barbers are also open. Industries, crafts, construction are also open. As for the catering, however, only home delivery is allowed.

ORANGE AREA. INTERMEDIATE RISK: This is called "scenario 3", with an Rt between 1.25 and 1.5 and a sustained and widespread transmissibility with risks of maintaining the health system in the medium term. All the limitations of the yellow zone are foreseen, with slightly less restrictive interventions than the red zone.

YELLOW AREA, AT MODERATE RISK: In the yellow band all the Regions that have a risk index compatible with scenario 2, where the RT is between 1 and 1.25 only nationally valid measures will apply here. That is, distance learning for high schools, ban on leaving home from 10pm to 5am and closing of all activities at night, stop for museums, closing of shopping centers on weekends, total

closure for bingo halls and betting centers. Furthermore, competitions are suspended, smart working is strongly recommended and the maximum capacity for local transport, from buses to regional trains, drops to 50%.

As far as education system is concerned, as a result of the last months trend of the spread of the coronavirus in Italy, the Government has decided to move the education of all grades online, with the exception of early childhood education.

Scholastic Autonomy, introduced in the national order more than twenty years ago, is a privileged tool to elaborate a strategy for the restart of the school year that responds as much as possible to the needs of the territories of reference in respect of the above mentioned health indications. The Regulation of March 8, 1999, n. 275, laying down rules on the autonomy of educational institutions, gives institutions the ability to build training courses functional to the realization of the right to learn and educational growth of all students, through the definition of precise areas of organizational intervention.

Therefore, in this context, it remains the opportunity for educational institutions to take advantage of additional forms of flexibility arising from the instrument of Autonomy, based on the space available and the needs of families and the territory, which contemplate, for example:

- a reconfiguration of the class group into more learning groups;

- the modular articulation of groups of students coming from the same or different classes or from different course years;

- school attendance in differentiated shifts, also varying the application of solutions in relation to the age groups of pupils and students in the various school grades;

- for secondary schools of the second degree, a use for students, appropriately planned, of didactic activities in presence and, in a complementary way, integrated digital education, where the context conditions make it a preferable option or the technological opportunities, age and skills of students allow it;

- the aggregation of disciplines into areas and subject areas, where not already provided for by recent innovations in the school system;

- a different weekly modulation of school time, by resolution of the competent collegial bodies.

The educational institutions will take care to ensure, for each student, the same educational offer, without prejudice to the opportunity to adopt different organizational solutions, to achieve educational activities or training in parallel or alternative to traditional teaching.

The local authorities carry out, therefore, in the territories of their competence, the reconnaissance of existing school spaces, also with the collaboration of the schools, to know data or to deepen specific situations of context; they prepare the adaptation of spaces never (or no longer) used as school buildings (data available in the information dashboard mentioned in the introduction), also proceeding to the assignment in use to the schools of spaces usually intended for citizenship, to be readapted for the purpose of school attendance, as well as the realization of external solutions of suitable size to accommodate classes, in internal spaces or even outside the school grounds.

The school managers will constantly communicate to the local authorities and to the bodies identified in this document the data related to the direct scholastic institutions.

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On the basis of the actions to be carried out and the relative costs to be faced, the territorial body of reference will take charge of the works considered necessary, following a joint assessment carried out with the single headmaster or during a special conference of services, agreeing with the school institutions the eventual economic co-participation or technical expertise of the project. For the widest realization of school service in the conditions of the present scenario, local authorities, public and private institutions operating in various ways in the territory, the Third Sector and schools can sign specific agreements, such as "Educational community pacts", subject to the availability of adequate financial resources. The involvement of the various public and private actors, in a logic of maximum adherence to the principle of subsidiarity and educational co-responsibility, takes place through the instrument of the conference of services mentioned above, called to evaluate the individual proposals for cooperation and the methods of implementation, through the above-mentioned agreements, which define the aspects of implementation. Thus implementing those constitutional principles and values, for which all components of the Republic are committed to ensuring the realization of education and upbringing, and strengthening the educational, civil and social alliance of which school institutions are necessary, but not unique, interpreters, this conference is also convened at the request of the same school institutions, in order to

- encourage the provision of other facilities or spaces, such as parks, theaters, libraries, archives, cinemas, museums, in order to be able to carry out educational activities complementary to the traditional ones, however aimed at educational purposes;

- Support the autonomous schools, taking into account the different conditions and criticalities of each, in the construction of collaborations with the various territorial actors that can contribute to the enrichment of the educational offer, identifying purposes, roles and tasks of each on the basis of available resources.

The ultimate goal is to provide unity of vision to an organizational, pedagogical and didactic project also linked to the specificities and opportunities of the territory.

It is also essential to have the active collaboration of students and families, who will have to continue to put into practice the general behaviors required to combat the spread of the epidemic, in the context of a shared and collective responsibility.

In this regard, the strengthening of the school-family alliance can be further concretized in the updating of the "Educational Co-responsibility Pact" which, where necessary, can be recalibrated in a form more responsive to the new cultural needs of sharing between school and family, becoming the place where adult educators recognize themselves, formally and substantially, in the achievement of the same objective.

https://www.miur.gov.it/documents/20182/2467413/Le+linee+guida.pdf/4e4bb411-1f90-9502-f01e-d8841a949429

As for staff training, as provided by both private companies and public institutions, each Regional Authority is entitled to issue specific regulatory Acts. For example, in the Emilia-Romagna area, training courses can only take place remotely, with the exception of one-to-one activities (for example, in the field of music or foreign language lessons, etc.). These can take place in person, only in compliance with the protocol approved by the Regional Governor's Act no. 87 of 23 May 2020 subsequently amended by the Governor's Ordinance no. 109 of 12 June 2020.

It's to be noticed how covid is currently affecting nursery and high schools choice made by parents and adolescents in Emilia-Romagna region, who usually make a decision on which school to be attended over next scholastic year at the beginning of the year.

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Analysing data some trends can be glimpsed: as for nursery schools, those ones located in the hill and those ones that prioritize outdoor educational activities are being preferred.

As far as high schools are concerned, trends show that thos ones offering more chances to get a job, in view of an uncertain future and probable economic crisis, are mostly picked, such as technical and professional schools. Among them information technology schools subscriptions raised by over 10%, most likely linked to the phase we're experiencing.

A problem concerning rooms enough for all the students expected to attend next scholastic year has raised: the risk is that classes will be too crowded and possible safety measures might not be accomplished.

2.2 Status of education

What is the current state in education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment? Is it important at your country? Please specify.

Italian universities do not have BSc or MSc study programs or separate disciplines on COVID-19.

Nevertheless, it's to be mentioned a project for monitoring and controlling the spread of covid-19 in the city of Ferrara, which it's locally promoted and developed by the University of Ferrara, Engineering department.

This initiative has been part of a wider project of an international network of University Research Centers directly involved in the health emergency. It's actually a laboratory which has both a scientific and engineering approach meanwhile keeping technical, building, environmental, planning, infrastructural, commercial, and economic aspects into consideration.

The highly innovative character of this research project lies in the ability to systematize and connect health data and analysis with urban planning, control and supervision of the territory, management of public space. The latter is also to be understood as public order and security, and therefore involving also civil protection issues.

It starts from the observation and tracing of the spread of the contagion, meaning with it the observation of all the variables considered significant, and from its subsequent linking to the territorial databases known in the planning field: national, regional, local infrastructures, settlement models, density housing, network of the main production systems and their connection, public and private transport network, commerce, daily and occasional commuter flows, economic flows.

Typically the strategic planning that the laboratory deals with is aimed at the "concentration" of people in a place, to "amplify" the local population density values (low for Ferrara) by "capturing" the transit of people, tourists, commuter workers, citizens of other neighborhoods; these studies are aimed at optimizing of the operation of these strategic places, public transport, widespread commerce, activities.

2.3 Funding

Is funding sufficient for integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment at your country? Please specify.

Various grants from the Ministry for education, university and research have been allocated to the school in recent months, a first part in summer 2020 during which the economic resources allocated financed various measures and structural works which made it possible in September to give lessons

in full compliance with the distancing of students: adaptation and functional adaptation of the spaces and classrooms, purchase of single-seat desks, purchase of protective devices and material for individual hygiene or environments.

Further funding from the same ministry then made it possible this autumn to finance interventions in favor of teaching for female students and students with disabilities, specific learning disabilities and other special educational needs, to enhance digital teaching. And then, again, to adapt the internal and external spaces of the institutes (including the rental of new spaces) to ensure the conduct of lessons safely or to purchase professional services, training and technical assistance for safety on workplaces, for medical-health and psychological assistance, for the removal and disposal of waste, to increase the workforce, for new furnishings, masks, sanitizing gels, school transport, replacement of fragile workers, schools in earthquake areas.

The Ministry of Education, University and Research has also communicated that in order to give psychological support to educational institutions to respond to the hardships and trauma deriving from the Covid-19 emergency and to prevent the onset of forms of distress or psychophysical discomfort, a supplementary allocation of funds already disbursed to educational institutions has been envisaged pursuant to art. 231, paragraph 1, of the D.L. 34/2020.

One of the measures, in particular, envisaged the financing of the first psychological-school first aid service, a sort of listening desk, which through a holistic approach, aims to offer education to professionals (teachers and managers) and students an articulated specialist consultancy. The intent is to promote well-being at a psychological and didactic-managerial level, orienting towards the definition of targeted strategies and methodologies functional to the resolution of school problems

In Italy, unlike other European countries, the school lacks psycho-pedagogical teams and specific services to support professionalism. Great attention was paid to the definition of an antivirus prophylaxis to be implemented to avoid contagions, however, an equally important and necessary prophylaxis for the management of stress, anxiety, fears and the inevitable frustrations that wind more or less manifest between the school staff, polluting the fundamental professional commitment with inadequate emotional experiences.

The trade unions, however, denounced the insufficiency of the resources allocated and the unequal distribution of these for which some regions were penalized compared to others.

Specifically, the protest concerns the impossibility of being able to recruit school staff in a number suitable to manage the current situation which requires an expansion of the staff both in terms of teachers, janitors, alternates, and in terms of extra-curricular staff addressing the covid-19 crisis and its psychological impact on students and school staff.

2.4   Educational needs

What are the needs in integrated education on human behaviour relevant to the influence of coronavirus and negative emotions in a built environment (please list up to 5 major needs at country level).

According to the UN, the pandemic caused "the greatest disruption of education systems in history, affecting nearly 1.6 billion students in more than 190 countries on all continents"; it's estimated that the closure of schools and other learning spaces has impacted 94% of the world's student population. Even children, adolescents and families have found themselves living in a new era: distance learning, lessons filtered from a computer monitor, homework downloaded and sent via email, whatsapp study groups, school from dining room at home. In addition to that also the

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measures taken to ensure the safety of the environments have changed the face of the school institution caught the school community in many ways unprepared.

In Italy pandemic soon had repercussions in the education system, thus schools and universities have been heavily affected as were closed since the first weeks. The schools have therefore implemented new ways and approaches of doing school to maintain contact with students and families as well as to continue with educational activities.

In particular, when it was widely clear that the health crisis would not be short-term and quick to resolve, the schools moved in the direction of the implementation of distance learning activities (henceforth Dad) of various kinds, sometimes to pursue didactic continuity and maintain contact with pupils and families. In this unprecedented scenario for Italy, the observation and analysis of the processes and conditions that have arisen in the educational field can be considered relevant for three main reasons, concerning: 1) the role of education in facing the crisis ; 2) the emergence of old and new inequalities in the school system; 3) the renewed centrality of school-family collaboration in remote schooling.

In this context, the role played by the digital divide must be taken into consideration. On the one hand, digital inequalities - both dependent on the more or less wide possibilities of material access to technological resources and connected to digital skills, possessed or absent, necessary to maximize the benefits for personal and social development (Hargittai, 2002) - are associated with traditional forms of inequality and contribute to their reproduction also in the school field (Hargittai, 2008; Cabrera et al., 2020). On the other hand, technology has long been considered an independent source of resources, privileges, relationships and power (Castells, 1996), which amplifies inequalities to the extent that the control of technologies and strategic skills to use them are distributed unequally among the population (Van Deursen & Helsper, 2015; Van Deursen & Van Dijk, 2010; 2014). To the extent that we talk about unequal access and use of digital media, greater importance is attributed to the school system (Gui, 2019) which, with its own approach to information and communication (generally speaking Communication and Information Technology) and through its infrastructures and teaching staff, appears to be one of the most strategic and effective factors in reducing unequal digital opportunities and promoting digital inclusion (Argentin et al., 2013).

The outbreak of the pandemic has highlighted the fragility of school system, especially in terms of social inclusion. The first element of fragility is constituted by the socio-economic status of origin: in 2018 in Italy there were more than 3 million minors at risk of poverty or social exclusion and 1.6 million those who lived in conditions of absolute poverty. Material poverty is significantly correlated with educational poverty, evidenced by both lower cognitive performance and less access to the cultural offer.

Foreign origin also has a clear disadvantage: foreign students have significantly lower levels of schooling in high schools than their Italian peers (65.8% versus 79.7%). The children most at risk are part of the first generations (about 47% of the total) and find it more difficult for linguistic and cultural reasons in reaching minimum learning levels.

Faced with the interruption of face-to-face teaching, they are potentially more at risk of dispersion. A final condition that requires special attention and care is that of pupils with disabilities or specific learning disorders, for whom the presence of the teacher and the sociability that is established in the classrooms are even more irreplaceable.

The coronavirus emergency, moreover, has reiterated (and made it evident) needs that already existed. In particular, those related to the digitization of the country. One of the main education

gaps can be seen, from this point of view, as a distance between those who had the tools to communicate, work, study, being able to react to the moment of crisis, and those who did not.

Istat data and Censis surveys witnessed dramatic inequalities emerged all cross Italy: between 12 and 20% of pupils (depending on the geographical area) didn't have access to lessons due to the lack of a device; the educational gap between equipped students and those ones are not has increased by 75%; early school leaving was over 5% in 40% of schools.

It has thus become evident that the development of the digital agenda is and will be increasingly linked to the fight against educational poverty. The digital divide is in fact added to the already existing factors of inequality: from social status to place of residence.

The digital divide is another dimension of educational poverty: 5.3% families with a child who before the crisis declared that they could not afford the purchase of a PC.

The digitalization process is not yet inclusive enough for minors and families. This is shown, among other things, by the share of families who, before the crisis, didn't have internet at home for economic reasons, particularly in the south. And even more the level of digital skills of young people, very far from the European average. An educational gap with other EU countries that cannot be compensated only with more computers and tablets.

As many researches showed it's not only about technological gaps, but it's also a matter of deep-seated social inequalities, for which a long-term strategy is needed, in synergy with that for combating educational poverty. When investing in digital school equipment, in fact, it must be remembered that the presence of a PC or tablet at school is a necessary premise, but not sufficient for a true digital school. The fault of the digital divide has gradually shifted from the possibility of accessing technological devices to the modality and capacity of use. In summary, an educational investment, as well as a technological one, is essential.

As a result of the quarantine, over 8 and a half million children and young people who previously attended different levels of education, from nursery to high school, have remained at home in recent months.

Number of pupils by level of education
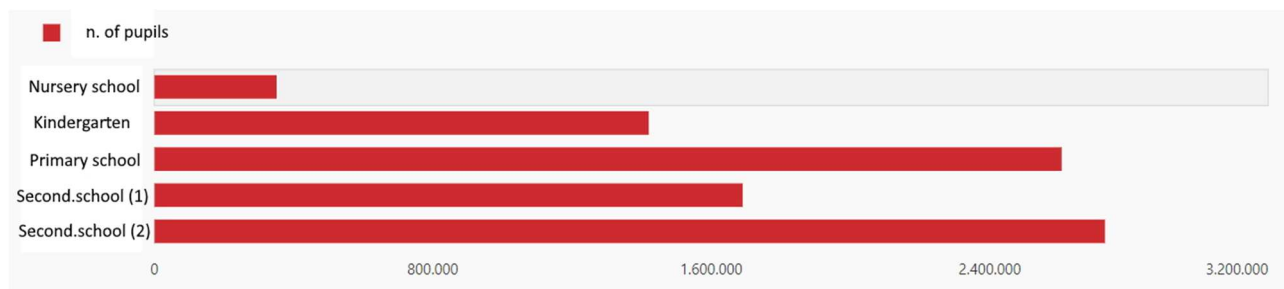
SOURCE: Openpolis - Istat and Miur data processe (last update: Friday 29 May 2020)

This resulted in a number of practical issues for them and their families to resolve. The need to reconcile the times of family life with those of work. The importance of having adequate equipment and fast connections to carry out the different activities: following online lessons, doing homework, work needs, etc.

An inclusive digitization for children and young people

It is this social framework that we must take into account when we point out that the emergency has imposed (or reaffirmed) certain needs, in terms of digitization.

Before the Covid emergency arose, the percentage of families with children who declared that they could not afford the purchase of a PC or internet access was by no means marginal.

A difficulty that is also confirmed in the recent publications of the Istat. 12.3% of school-age children don't have a computer at home, close to 20% in the south. We are talking about about 850 thousand young people between 6 and 17 years old. 57%, even in the presence of a PC in the house, doesn't have their own personal device, and must share it with the other members of the family.

Only 6.1% of children aged 6-17 live in families where at least one computer is available per component. Besides, over a quarter of people live in overcrowded conditions, the share rises to 41.9% among minors

The coronavirus emergency imposes, for the safety of all, physical distancing rules. The challenge to be faced, from institutions to social organizations, from families to schools, is that physical distancing doesn't become social distancing. The real risk is in fact that this crisis, even once it is over, will impose a model of social relations made up of non-communicating "bubbles". By legitimizing, behind real health needs, the already existing inequalities, as if they were inevitable.

And above all by making them increasingly acute, in a country with already profound territorial imbalances.

Percentage of families with children in potential economic hardship (2011)
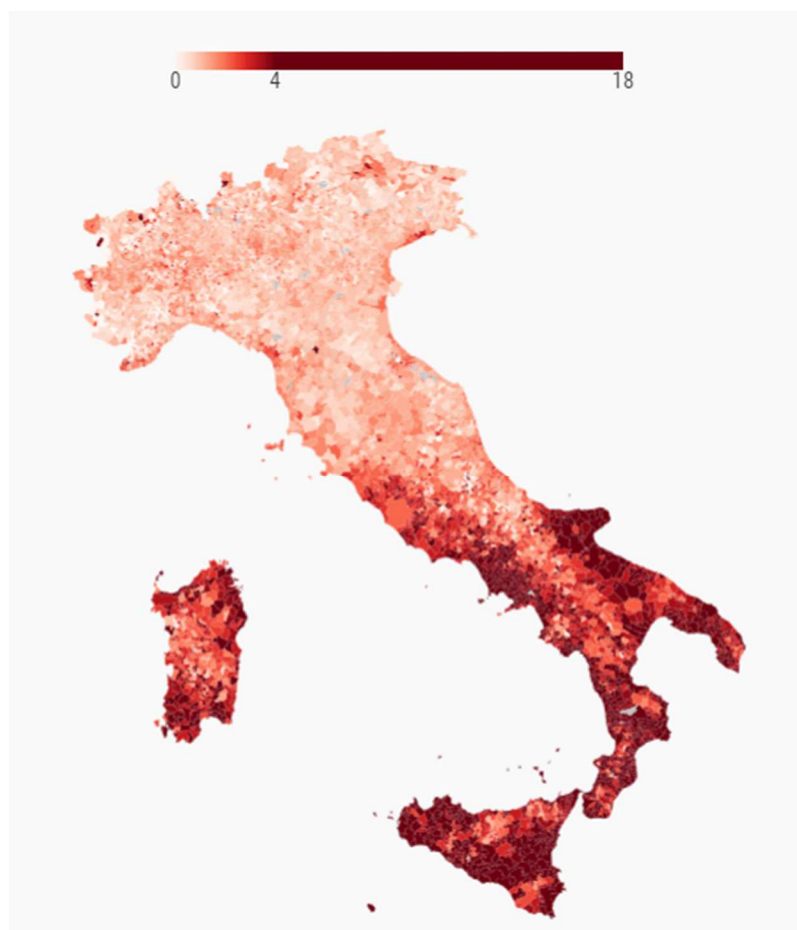
SOURCE: Openpolis - Istat data (last update: Saturday 31 December 2011)

Percentage of households reached by landline with download speeds of 30 Mbps or higher
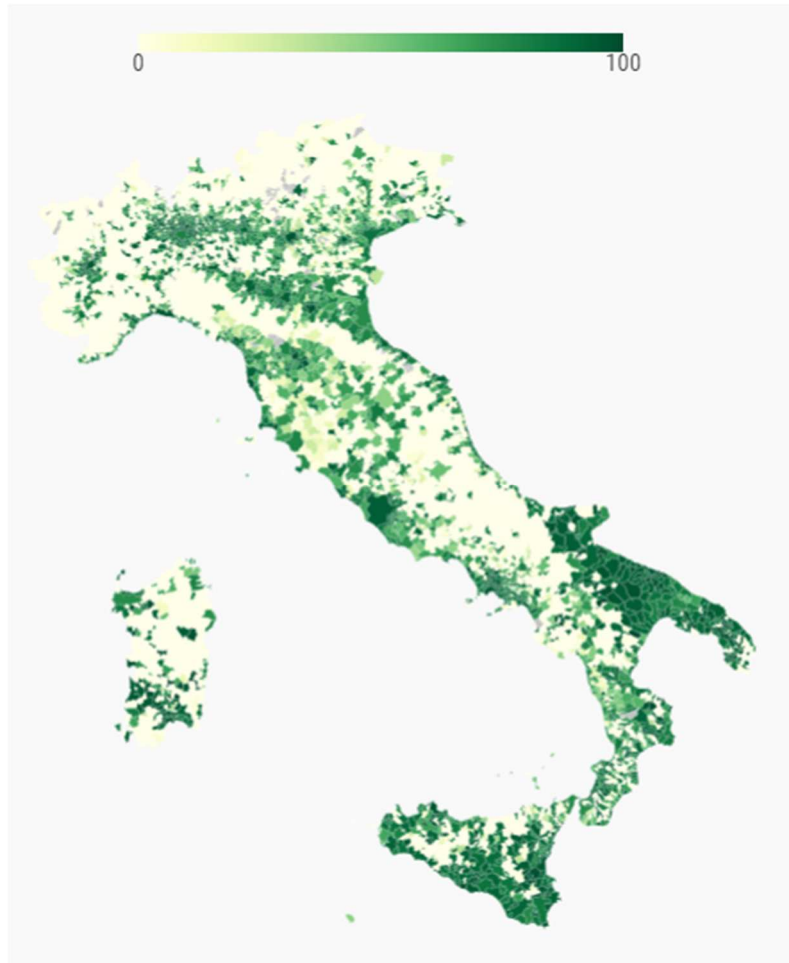
SOURCE: Openpolis - Agcom data (last update: Tuesday 29 October 2019)

Percentage of pupils attending a school where there is no PC or tablet (a.s. 2018/19)

SOURCE: Openpolis - Miur data (last update: Saturday 1 September 2018)

When the more interactive forms of Dad have been activated in Italian schools, the fundamental role of so-called parental involvement has emerged, i.e. the collaboration of the family as a strategic resource in influence the scholastic and biographical trajectories of children (Macià Bordalba & Llevot Calvet, 2019).

According to the opinion of the Italian school administrators (Censis, 2020), parents have devoted much more time than usual to the school support of their children, especially those who attended primary and kindergarten, with an almost constant coaching of pupils which is essential to continue teaching. The ability, availability, commitment and competence of the parents has in fact depended on the possibility of following the teachers' proposals, evidently with many differences based on the aforementioned different resources, characteristics and opportunities enjoyed by families in Italy.

The socio-economic and cultural disadvantage certainly has direct repercussions on learning, as the sociological literature has amply demonstrated (Barone, 2006), but it also translates into other collateral effects, which in turn have more or less direct consequences on learning. Fragile families, in fact, have the immediate need to obtain the essentials to live, necessarily placing aspects concerning the school of their children in the background, or they have living spaces unsuitable for study, which can become even more cramped in periods of confinement.

The schools, also using the funds allocated by the government, provided, upon request, technological equipment (PC, tablet and Internet connection) to students and teachers in support of Dad. According to the Censis survey (2020), 84.2% of the school directors interviewed said they had provided equipment to allow students to make the Dad (and 23.5% to teachers); but what it's worrying most is that 6.6% admitted that they had not been able to reduce the technological gap because, despite the need, the school didn't have the possibility to provide them with devices.

Having a PC/tablet and a stable Internet connection certainly had an impact on the possibility of reaching all pupils and students with the educational offer. Also according to Censis (2020), 11.2% of school heads involved in the survey stated that all students of their school were involved in Dad, while cases of dispersion: at the national level, 49% of managers report, at the end of April, that they have not reached a share of students of their schools not exceeding 5%, 21.8% between 5 and 10% and 18% declared a percentage of pupils missing due to Covid-19 greater than 10%. In the south of Italy the largest share of pupils is not reached by Dad.

The digital inequalities just described, however, it's not only around the question of access to tools, thus distinguishing between those who have and those who have not, but it's also a matter of being able to profitably use these technological equipment, thus placing the emphasis on having the digital skills necessary to use the devices properly (Kenner & Lange, 2020). In fact, sufficient digital skills are also needed to guarantee children to participate in Dad; in the case of primary school pupils this is translated into support, at least initially, by an adult figure.

As for adolescents, if we take into consideration distance learning that involved over two and a half million girls and boys from secondary schools, a critical picture emerges bringing with it a risk of early school leaving. In fact, 28% of students declare that at least one of their classmates would have stopped attending classes since the lockdown this spring (among them, a quarter believe that even more than 3 children no longer participate in classes). According to the adolescents interviewed, among the main causes of absences from DAD, there is the difficulty of connections and the difficulty in concentrating in following the teaching behind a screen. Difficulties that seem to have a severe impact on their school preparation: more than one in three students (35%) feel more unprepared than when they went to school face-to-face and 35% this year have to recover more subjects than last year. Nearly four out of ten students report having had a negative impact on their ability to study (37%). Teens report feeling tired (31%), uncertain (17%), worried (17%), irritable (16%), anxious (15%), disoriented (14%), nervous (14%), apathetic (13) %), discouraged (13%), in a kaleidoscope of negative feelings that they mainly talk about with family (59%) and friends (38%), but which for more than 1 in 5 remain a heavy burden to keep inside, without sharing it with anyone (22%).

These are some of the data that emerged from the "Young people in the time of Coronavirus" survey, conducted by IPSOS for Save the Children - the organization that has been fighting for over 100 years to defend children at risk and guarantee them a future - on a sample of adolescents aged 14 to 18 who were interviewed to understand their opinions, moods and expectations. A voice, that of boys and girls that highlights the real impact, often underestimated, of the closure of schools and their operation in fits and starts. Starting from the phenomenon of prolonged absences which quite often bring forward dispersion: from the data collected, Save the Children estimates that about 34,000 secondary school students could be added to the missing school students at the end of the year.

Children feel excluded from the choices to combat the spread of Covid, which have seen them penalized by the interruption of school activities in the presence: 65% are convinced that they are paying firsthand for the inability of adults to manage the pandemic , 43% feel accused by adults of

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being among the main spreaders of the infection, while 42% believe it is unfair that adults are allowed to go to work, while young people are not allowed to go to school.

Tiredness (31%), uncertainty (17%) and worry (17%) are the main states of mind that adolescents have reported experiencing in this period, but also disorientation, apathy, sadness and loneliness.

Istat (National Statistics Institute) highlights the problem of digital access: 1 in 8 children or young people (12.3%) between 6 and 17 years of age, around 850,000 very young people, has no PC or tablet available, fundamental tools for staying in step with distance learning (2018-2019 data); in the South this share rises to less than 1 in 5 (19%). A very high share of 6-17 year old students (almost half: 45.4%, over 3 million 100 thousand children and teenagers) have difficulties with distance learning, due to the lack of IT tools in the family, or because they have to share them with other brothers and / or sisters, or because they have not sufficient skills. A share of 39.7% of 6-17 year old students, in fact, live in families where there are other students who should use the technological equipment at the same time to follow the lessons, but do not have a sufficient number available for everyone. They are joined by an additional 5.7% who live in families where there are no other students, but who do not have any technological tools available.

In addition to the difficulties relating to the availability of technological tools, a further issue is the availability of adequate living spaces. In fact, this aspect greatly amplifying the differences in the learning process of younger people. In 2018 in Italy, according Istat, over 4 out of 10 minors (41.9%) lived in conditions of overcrowding. This factor, in a period of lockdown, unabled young people to leave the house and forced them sharing with the rest of the family of the limited space available, greatly affects the ability of children and young people to concentrate on their studies, to follow with due attention the online lessons, to be able to do their homework with the due tranquility.

Further deepening the data of the IPSOS research, regarding the presence of cases of Coronavirus at school, more than 7 out of 10 children report positive cases among students and / or teachers: in 4 cases out of 10 they are classmates (41%), in 1 case out of 4 (26%) of their teachers. Although the presence of Covid cases at school among students and / or teachers generated concern in 74% of the interviewees, positive children were supported by classmates in the vast majority of cases (82%); in some cases (14%), however, the interviewees report that the infected children have turned in on themselves and in some cases, even if limited (8%), unfortunately they have been blamed by their classmates.

In general, the main difficulty experienced in the use of distance learning is represented by the difficulty in concentrating to follow the lessons online (cited by almost one out of 2, 45%) and by the technical problems due to the internet connection / network coverage of one's own or of teachers (41 and 40% respectively); technical problems due to the lack of digitization of teachers and boredom (33% each) follow. Looking at children's equipment, almost 2 out of 10 teenagers (18%) say they have a device shared with others and almost one in 10 (8%) find themselves attending classes in a room with other people.

More than 7 in 10 teens (72%) believe that learning new things and socializing with peers are more difficult with DAD. A slightly lower share (68%) considers it more difficult to concentrate during lessons and 1 in 2 (51%) finally believes that it is more difficult to comply with the school program. There is no agreement as regards the distance / presence comparison on the difficulty of taking an oral question (the sample is more or less equally distributed among those who believe that with DAD it's easier/more difficult/equal than classroom teaching).

As for the way of teaching, the students' judgment is particularly interesting. Over a third of the students, 37%, say that all of their teachers continued to lecture in the exact same way as before,

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"as if we were in the classroom" instead of behind a screen; 44% maintain that most of the teachers have behaved this way, but some teachers have introduced some new features; 19% of students, on the other hand, say that most of their teachers have experimented with new ways of teaching. Among the innovations introduced, the students report, in order, the enrichment of the lessons with videos and films (65%); use of "asynchronous" mode, digital lessons uploaded by teachers to the platform and then freely usable by students (49%); use of interactive exercises, educational games and tests (40%); use of App (27%), and so on, up to a 3% of "role-playing games".

The social sphere is also negatively impacted by being away from school: for almost 6 out of 10 students (59%) their ability to socialize has suffered negative repercussions, as well as their mood / state of mind (57%) and a share not much less (52%), say that their friendships have been tested. For 18%, relations with their families have also worsened, although an almost corresponding percentage (19%) instead records an improvement in family relations during this period of forced cohabitation (more among 16-18 year olds, 21% compared to 15 % of 14-16 year olds).

Almost one in 4 children (24%) thinks that being dropped from school is also having negative repercussions on their health. Difficulties also in terms of extracurricular activities, suspended for most of the children who practiced them: on average almost 1 interviewee in 20 declares that they will no longer resume the activities that they had to suspend (individual or team sports, music and singing courses, theater , oratory and more).

Although the vast majority of young people have been led to reflect and recognize the importance of being together "physically", a non-negligible share (23%), on the other hand, affirms that they have understood in this period that in reality it is not so important to get out of home because thanks to new technologies one can stay in contact with other people. The absence of physicality (83% of young people report having seen their friends less often in person, a percentage that rises to 88% for 14 and 15 year olds) has been replaced by the digitization of contacts (71% increased the use of Chat and messages and 50% of videocalls).

Distance teaching has generated new initiatives aimed at providing teachers in difficulty with various types of support, a sort of offer of "digital solidarity". Dedicated platforms of institutions, museums, publishing houses, etc. they made available in-depth material, contents and operational cards, audio, video, maps and powerpoint lessons that teachers were able to experience in their daily work.

We have seen how there is no single perception on the value of Dad on the part of parents and students: a fact like this must lead us to reflect on how to integrate Dad in everyday school, making it a value for learning.

The question, debated on several fronts, remains open whether the Dad has contributed to accentuating the pre-existing inequalities among students to the point of questioning their full enjoyment of the right to study. The political decision-maker and the whole of society will have to question themselves on this issue in the near future and identify the most appropriate solutions.

Overall, what emerges is that distance learning has caused tensions and difficulties between teachers, parents and students but, at the same time, has given the opportunity to reflect and build new unexpected ways to create bonds, ensure socialization and reconfigure the school in its dual role as a channel for the transmission of knowledge and as a training ground for the citizens of the future.

2.5 Educational gaps

What are the gaps in integrated education on human behaviour relevant to the influence of coronavirus and negative emotions in a built environment (please list up to 5 major gaps at country level).

3 POLICIES RELEVANT TO HIGHER EDUCATION, AND THEIR RELATIONSHIP WITH HUMAN BEHAVIOUR ON INFLUENCE OF CORONAVIRUS AND NEGATIVE EMOTIONS IN A BUILT ENVIRONMENT

This section examines the illustrative policy and planning issues relevant to integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment. Please answer following questions.

3.1 Policy and planning

Please describe policy and planning issues currently being addressed by the HEI in the field of integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment.

Urban and territorial planners and policy makers, considered the impact of covid-19 on the public and private spaces and by critically reflecting on their tools, can make a significant contribution so that communities are better prepared to face that challenge and its consequences.

There is an urgent need to rethink some characteristics of spatial planning and urban policies and to do so in a conscious perspective of a state of growing instability.

We now know that we are facing a condition of profound uncertainty, irreducible to risk and therefore not calculable or insurable. As the issue of climate change has amply demonstrated, we must therefore act in a context that challenges the usual models of risk management. Therefore, we were unprepared. Planning really means preparing, but since it is not clear what to prepare for, it is a very different planning activity from what we know, or that we think we know. Within these observations, therefore, the theme of the role of planning and its relationship with conditions of extreme uncertainty emerges.

Within a framework of experimentation 'forced' by the pandemic, different forms of action have been mobilized and some observations on the spatial dimension emerge from these.

First of all is clear the importance of the public (and the central role of some social forces) to address the dramatic problems triggered by the pandemic: the market is unable to offer solutions but the role of the public is fundamental. Public action is necessary. Without an efficient and effective public, without institutions, the market is unable to guarantee the health and safety of citizens, nor to produce fundamental public goods, including space.

In the city of Bologna in the framework of a research and an action plan called "R-innovare Bologna", all the city stakeholders have been involved to reflect on what city will have to be after pandemic, and act as a consequence.

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Public administration, together with universities, economic and social bodies, citizens, associations, since, the "COVID-19" emergency has imposed, and continues to impose, to experience the city and its spaces differently, in particularly those intended for social relations and mobility,have reflected on the dimension of "proximity" and the presence of public spaces spread throughout the city: they represent an enormous value in the qualitative dimension of people's lives.

This process has identified different actions for the near future, in order to:

● increase in the quality and quantity of widespread public spaces;

● strengthen proximity and neighborhood networks;

● reduce pollution.

To achieve so, It's been put into practice a sustainable response to mobility by means of an active mobility (cycling and pedestrian): city planners together with citizens and communities are enhancing the pedestrian usability of all areas of the city, places that are widespread and connected to each other by a more dense cycle network, to be created by circulating all the creative and collaborative energies of the city, re-nourishing immediately the civic imagination, thus giving immediate answers to new needs, but starting to build at the same time the Bologna of tomorrow: a more sustainable, more resilient and even more on a human scale.

As for the public space, it's been planned the expansion of the so-called "zones 30", and "residential areas" to give priority to pedestrians and cyclists and limiting the pervasiveness of the car.

New pedestrian areas are conceived as experimental interventions of pedestrianization of road sections now used for car traffic or parking, through creative interventions of tactical urban planning, aimed at creating new large spaces to be used for play / recreational / sporting / cultural functions of proximity.

There will be three categories of pedestrian areas:

● Pedestrian areas near the school entrances (enhancement, safety and expansion of the spaces near the schools: painting on the ground, transformation of driveways or parking areas in pedestrian areas, widening of the sidewalks, possible insertion of seats e planters, possible movement of the lost stop to another position in the vicinity, speed limitation or other etc.)

● Playground (drawing of games on the ground on asphalted areas already pedestrianized to come declassified in order to be able to manage them consistently with the green spaces that alongside, inclusion of urban furniture, including green and any elements of physical toys (seat, planter, baskets etc.))

● Urban regeneration through tactical urban planning (more complex interventions of transformation of road areas little or badly organized, aimed at obtaining new spaces for socializing, for play, for activities playful and for commerce and with the aim of mitigating the environmental impact of the built city and increase the functional and architectural quality of the urban space).

3.2 Gaps in policy and planning

Please describe other, if any, policy issues that are not currently being handled by the HEI but should be considered.

As the National Council of Architects, Planners, Landscape Architects and Conservators (CNAPPC), health systems should be trying to recover the dimension of the territorial presence. The territorial

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articulation, at different scales, of the pandemic and the lack of territorialization of policies and interventions for the emergency have shown that only by assuming the variety of settlement, demographic, socio-economic forms of the territories it is possible to act effectively, making also fraught with gaps and inequalities between individuals and social groups.

Several italian cities are looking for adaptation actions - cycle paths, redefinition of public space, dehors, "15 minutes" neighborhoods. In some cases these are the result of solutions already planned and whose implementation has been accelerated, in other cases they are temporary and reversible solutions, but which foreshadow lasting changes.

Some actions are the consequence of what we found ourselves having to face during the lock-down and which however showed the need and potential for a more flexible use of physical space with the function of protection in case of danger, but also of a possible way of life that is more interesting and free: houses that are also places of work and leisure; condominium spaces that can finally be used for play and relaxation; offices that can free up spaces for different activities; buildings that can change their function to adapt to new needs with a flexibility that has so far been little known; suburban or remote places that may regain interest as places where many remote activities can be carried out effectively.

Looking at this set of elements - what we know now, what is empirically happening in reaction to the crisis, and what it means to prepare - we can begin to see clearly what are the traits of policies and planning forms capable of dealing with situations of radical uncertainty. An uncertainty that can only be tackled starting from the recognition of systems of opportunity, available resources and their combination and by returning value and guidance to public institutions capable of producing, accumulating and circulating forms of innovation and social intelligence.

In that sense the "Open Squares in Milan" project, complies these objectives.

It mainly concerned (but with some important exceptions, such as the forecourt of Porta Genova station) peripheral areas and which brought the paradigm of tactical urbanism to the reduce the weight of cars, but also to conquer residual and generally underutilized spaces for collective use, involving settled communities as much as possible. The "Reinventing Cities" operation, and in particular the projects presented in the 2020 Call for the redesign of Piazzale Loreto, also show a push to re-naturalize spaces that for decades have been subtracted from any use other than the automotive one.

This renewed attention to safe spaces because they are freed from cars, characterized by the flexibility of uses and by strategies of variable appropriation by different populations, is however subject to some risks. The first is that of privatization, highlighted by the often poorly governed proliferation of the dehors of the premises that end up colonizing and occupying the pavements and accentuated by the rules of distancing. The second is that of the ephemeral nature of the interventions, which don't always seem capable of prefiguring permanent spaces, capable of lasting over time. The third is that of the connection between individual interventions and the urban contexts in which they are located, which requires attention not only from the point of view of urban design, but also from the point of view of the social construction of care and uses.

Some recent projects regarding Milan seem to be working to avoid these risks: the pedestrianization project of Piazza Freud, in front of the entrance to Garibaldi station, the first step to reconnect the station and Piazza Gae Aulenti in a pedestrian fabric, shows the importance of linking spaces and routes. The project for the Fossone in via Novara, which aims to reactivate the beds and the system of water gradually disappearing, operates within the framework of a renaturalization strategy that must be continuously measured with respect to the more general design of space and mobility. The

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progressive and incremental definition of Grande Forlanini, as a metropolitan park strongly connected to the green-blue shoulder of Lambro, offers important indications on the centrality of the policy and management dimension of the projects.

These examples, very different from each other, therefore show how an effective policy of public spaces needs an effective urban design, but also attention to the social dimension of the practices of use of spaces and a capacity for care and management that it must involve the administration, but also the social actors and users.

In Trieste a large group of architects and sociologists met for three days (3-6 September) to dictate the guidelines for a "Charta Trieste", an attempt to elaborate a vision of the future city, updating the Charter of Athens of 1934 by Le Corbusier. Since urban planning will be the number one topic of the 21st century: it will be in the urban ecosystem that our human future and the sustainability of our economic-social model will be decided, given that now 60% of the world population lives in cities. Changing the way we live and organizing cities in an eco-sustainable way will make the difference between destruction and / or survival.

N.B. The responses to these questions do NOT require describing each policy and planning issue but only the identification of the type of issues being addressed and those not being addressed. The questions are only meant to understand the scope of coverage of important issues by the HEI.

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4 CAPACITY TYPES (UNIVERSITIES ANSWER ALL POINTS. ITALY AND BULGARIA GIVE ANSWERS OPTIONALLY)

This section aims at assessment of the existing state of capacities in the HEI for integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment. As defined by the CAPNAM analytical framework, the four types of categories are institutional, organizational, individual, and the knowledge base.

4.1 Institutional capacities

This part describes the institutional capacities at HEI level. Please answer following questions.

1. Please provide brief presentation of the HEI.

2. Please describe general model of studies according to different levels (bachelor, master, PhD).

3. Please provide key facts and figures about the HEI:

3.1. Number of students:

3.2. Number of academic staff:

3.3. Student/Academic staff ratio:

3.4. Number of Faculties (please specify):

3.5. Number of graduates:

3.6. Number of study programmes:

3.7. Number of international academic partners:

3.8. International rankings of the HEI (if any):

4. Please describe main education and research areas of the HEI.

5. Is there any strategic priorities given to integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment at HEI level? Please specify.

6. What are the needs at HEI in integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment (please list up to five major needs):

7. What are the gaps at HEI in integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment (please list up to five major gaps):

4.2 Organisational capacities

This part describes the organisational capacities pertinent to integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment at HEI. Please answer following questions.

1. Is integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment sufficiently included in the curricula of HEI? Please specify according to different levels (bachelor, master, PhD):

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1.1. Study programme level (Please list relevant study programmes):

1.2. Study subject level (Please list relevant study subjects/modules):

1.3. Study topic level (Please list relevant study topics):

2. Is funding sufficient for integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment at HEI? Please specify.

3. What are the needs at HEI in integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment related to organisation of study process (please list up to five major needs):

6. Please list up to five major gaps in integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment related to organisation of study process:

4.3 Individual capacities: Staff skills

This part describes the individual staff capacities pertinent to integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment at HEI. Please answer following questions.

1. How many academic staff works at your unit? (which implements the project):

The Training Unit of the Municipality of Bologna is part of the HR and Organization Area. Its mission can be described as planning and organising training courses for the Municipal Employees in order to enable them to perform their task efficiently and effectively. The Staff is composed of 6 People: 1 Training Manager, 3 employees working in the organisation of the courses, 2 employees being in charge of the administrative activities. Depending on the topics, courses are held by Municipal Staff, private companies experts, or University Professors.

2. Is there sufficient number of teachers who specialise in integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment? How many?

2.1. At university level

2.2. At your unit/department: In the case of the Municipality of Bologna, the Safety and Logistics Unit, is responsible for issuing prevention guidelines and specific Protocols concerning appropriate behaviors to be adopted by Employees in order to minimise the effects of Coronavirus. These measures are established in collaboration with the City Healthcare Unit. The Municipal Safety and Logistics Manager is also in charge of teaching courses dealing with such measures. The Medical Staff belonging to the City Healthcare Unit can cooperate in the definition of the courses' programs and participate as trainers, too. However, it must be pointed out that all the information/training initiatives dealing with the Coronavirus influence, are focussed on showing safe and correct behaviors. So far, the "emotional side" of the matter has not been included into our programs.

3. Is there sufficient number of researchers who specialise in human behaviour relevant to influence of coronavirus and negative emotions in a built environment? How many?

3.1. At university level:

3.2. At your unit/department:

4. Please describe the current state of the staff training in HEI. Is it sufficient?

5. Please describe the current state of the staff training on human behaviour relevant to influence of coronavirus and negative emotions in a built environment. Is it sufficient?

The actions taken by the Municipality of Bologna in order to minimise the pandemic risk within its premises, can be labelled as:

1. information activities
2. training initiatives.

As for the former, a specific section has been created within the Intranet, containing the relevant information in terms of prevention. They have been elaborated and agreed upon by the Municipal Safety and Logistics Unit, together with the Medical Staff of the City Healthcare Unit. They have also been included into a specific Protocol shared with the Municipal Trade Unions.

In addition to the above, the Municipal CEO, in line with the national and regional regulation, has issued official communications to the Employees, providing specific organizational instructions. These changed in line with the fluctuation of the figures related to the effects of the pandemic among the regional population.

Furthermore, also the Municipal website, together with the Municipal social media and the other information channels that can be accessed by Citizens, have created a specific section containing the available information and the municipal services concerning the pandemic. Such section is available also in English and is totally accessible.

As far as the training activities are concerned, the Municipality of Bologna has recently held a course on the Coronavirus prevention and safety measures. Such a course was targeted to the Employees' Representatives for Safety Matters.

As for the general Staff, beside the information initiatives described above, the Training Unit and the Safety and Logistics Unit are currently working on a videocourse, aiming at reinforcing our Colleagues' attention to the Coronavirus safety measures.

6. Does the academic staff have flexibility in designing its own skill development plans or does it have to follow a centrally determined package?

The Municipality of Bologna is a PA and, as such, it spends taxpayers' money in order to perform its institutional activities. Therefore, everything must be carefully planned, accounted for and communicated to Citizens, via the Municipal political bodies (the Mayor, the Executive Board and the City Council). Thus, while establishing the objectives and the contents of Staff Training, the Administration mainly pursues:

- compliance and consistency with the priorities and objectives established in the general planning documents of the Municipality of Bologna
- the response to skills' updating needs as highlighted by managers, and based on the objectives to be pursued, the evolution of the external and internal context
- basic training for new hires, including employees involved in professional reconversion processes
- the enhancement of Staff skills, consistently with the job positions and tasks to be performed
- the development of leadership skills aimed at Top and Middle Managers.

In short, skill development plans must be carefully designed in line with the general and specific objectives of the Administration.

7. Is there staff stability, or does it suffer from high turnover among such professionals?

There's a general stability among the PA staff.

8. What staff skills are required for integrated education on human behaviour relevant to the influence of coronavirus and negative emotions in a built environment (please list up to five major needs).

1. organizational
2. behavioral
3. knowledge of national and local regulations
4. main healthcare guidelines
5. technological / digital
6. communicational
7. stress management
8. empathy.

9. Please list up to five major gaps in integrated education on human behaviour relevant to the influence of coronavirus and negative emotions in a built environment related to staff skills.:

- Re-building new in-presence relationships with colleagues and managers after working from home
- Re-organising one's private and professional life so as to re-balance them
- Learning to view colleagues and users not as potential disease vehicles, but as an asset
- Keeping updated both easily and timely on possible new safety measures.

4.4 Access to Information, Knowledge and Technology

Access to information, knowledge and technology is becoming increasingly critical for sustaining long-term growth and development of education. It relates to the capacity to enable academic staff and students to mobilize, access and use information and knowledge, including access to and effective use of internet. Please answer following questions.

1. Do students and teachers have access to the novel educational resources on human behaviour relevant to influence of coronavirus and negative emotions in a built environment? Please specify:

1.1. Printed learning materials in national language: **YES**

1.2. Printed learning materials in English or other languages:

1.3. Online learning materials (open-source videos, simulators (calculators and software), case studies, text material) in national language: **YES**

1.4. Online learning materials (open-source videos, simulators (calculators and software), case studies, text material) in English or other language: **YES**

2. Does HEI use MOODLE for educational purposes? **YES**

3. Does HEI use computer-based intelligent systems, MOOCs, computer learning systems, big data mining for educational purposes? Please specify: **NO: only webinars and e-learning courses**

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4. Does HEI use software for integrated education on human behaviour relevant to the influence of coronavirus and negative emotions in a built environment? Please specify: **NO**

5. What Information/Knowledge/Technology is required for integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment (please list up to five major needs):

- national and local norms
- healthcare guidelines
- case and behavior management procedures.

6. Please list up to five major gaps in access to information, knowledge and technology pertinent to integrated education on human behaviour relevant to influence of coronavirus and negative emotions in a built environment: