Managing the Unexpected and Unforeseen in Educational Situations: Emergency as New Normal

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Abstract. The paper starts from the reflections that educational research has been able to perform collecting data and analyzing emergency didactic situations activated during the pandemics to understand how educational contexts would have become at the end of the world health crisis. The starting idea is the following: at this point it seems impossible to get back to a longed-for normality or to a supposed balance remembered as the code of the world – not just the educational one – before March 2020. Emergency is the new reality, as Covid-19, more than an isolated event, is the epiphenomenon of a not overcome ecologic and social crisis and therefore harbinger of a situation characterized by the sequencing and overlapping of several emergencies, with different granularity and scalarity that have to be managed though in their being previously unknown, unforeseen, and unexpected. In this situation the culture of one's own professional culture seems impaired. How can research and education offer useful tools to teachers and educators to understand and manage the new complexity?

Keywords: Emergency, learning ecosystem, vicariance, learning design, teachers' professionalisation.

INTRODUCTION

The recent Covid-19 pandemic has required an immediate re-thinking of educational systems, imposing an unexpected and global change, necessary to guarantee some continuity to the teaching and learning processes (Carrillo and Flores, 2020). The emergency is not over yet and also new phenomena of crisis are overlapping and disclosing.

What we have understood is that talking about getting back to normality is a utopia; contemporaneity can be represented as the ongoing passage from an emergency to another, in a perspective where local and global inevitably communicate and mutually matter.

If we hypothesize that emergency is new normality typical of educational and training systems, it is necessary to rethink the idea of emergency itself and the one of didactics in emergency: it becomes constant and no longer exceptional. It discloses in a widespread way at different scalarities and levels: in macro dimensions, it hits whole systems; in meso dimensions, it concerns some parts and some of their features; in micro dimensions it is situated in the class context.

BACKGROUND

The emergency constructs is not new within educational

contexts and therefore in educational research. The theoretical framework inside which it is possible to lead back the study of previously unseen didactic situations and required by the unforeseen is that of Education in Emergencies (EIE). Such approach was born at the end of the 90's of last century and it is placed within humanitarian-like actions implemented mainly in situations of either conflicts or climate catastrophes (Burde *et al.*, 2017), generally either in developing Countries or in poverty conditions. Then the EIE extended its interventions to either sub-groups or minorities living the emergency due to their marginal condition: refugees, young girls, people with disabilities (Burde *et al.*, 2019), in the awareness that the increase in the access to education in problem and crisis situations is linked to the decrease in conflicts, gender discrimination, fundamentalism (Sinclair, 2007; Kirk, 2011).

The development of technologies and communication mediated through screens have recently become some of the implementational strategies in those educational interventions: the net, in fact, has facilitated the access to educational programs to subjects, that due to the causes mentioned above were for example in situations of either isolation or did not have organized schools available (like for example the case of some earthquakes or the setting up of temporary camps for welcoming either refugees or asylum-seekers). The system of Emergency Remote Teaching, ERT (Whittle *et al.*, 2020; Stewart, 2021), is meant as a temporary passage of teaching to an alternative way due to crisis circumstances. It foresees the use of completely online didactic solutions for the education or the training that otherwise would be performed face-to-face or as blended courses or hybrid ones that will go back to that format once the crisis or the emergency lessens. The main task in these circumstances is not that of re-creating a strong educational system, rather that of supplying a temporary access to education and to the didactic supports, in a way that is fast to set up and available in an emergency or crisis situation (Hodges *et al.*, 2020). Due to the spreading of Covid-19 pandemics at a world level, the ERT widened from particular contexts, was hit by under-development and by wars or by local crisis, to a global context. In a situation of isolation and total interruption of usual activities, the recovering through the mediation of screens of a vital space like the educational one has certainly meant an opportunity for opposing to the spreading feeling of suspension and block in the flowing of one's existence (Reimers and Schleicher, 2020).

In the different countries of the world, didactic methods were experimented that, though involved in some conceptualizations and strategies belonging either to e-learning or to distance education, shaped up to be as a world of practices in itself. "It is a way of thinking about delivery modes, methods, and media, specifically as they map to rapidly changing the needs and limitations in

resources, such as faculty support and training" (Hodges *et al.*, 2020).

The new ERT trend started by Covid-19, more than preparing the world of education to similar experiences that could appear in the future, as different authors state (Rana *et al.*, 2021; Landa *et al.*, 2021) has offered new hints for reflection, useful in a context where emergency is not a temporary event but an element characterizing the present:

-       The didactics supplied in the Covid-19 emergency period has made both teachers and students understand that it is not enough to move the learning space from physical to virtual, but that a reinterpreting of pedagogical approaches is necessary to adapt to the "new normality" (Rapanta *et al.*, 2021)

To face emergencies that are more and more complex, previously unseen, ongoing and combined, the strategies deriving from the re-elaboration of previous experiences are not enough and neither is the mere adaptation to cognitive schemes and action schemes (Pastré, 2011), but an integral transformation in the teacher's attitude as well as in the student's one (Magnoler, 2017).

In an enactive perspective, the teaching-learning space becomes the core matter, and primary object of design. It becomes an integrated learning ecosystem populated by different training agents, a reticular connective tissue helping to rule complexity.

First of all, it is necessary to start from a re-definition of the term emergency to be able to think to a new didactic-educational paradigm embedding all the previous points.

MATERIALS: A NEW DEFINITION OF EMERGENCY IN EDUCATION

In the theoretical contexts stated above, the term emergency is declined in two big categories: natural disasters (i.e., earthquake, flood, and drought) and human-made crises (i.e., war, internal conflict, and genocide) (Obura, 2003). In addition to these, Pigozzi (1999) highlights silent/chronic emergencies such as persistent poverty, growing numbers of street children, and the HIV/AIDS pandemic. Kagawa (2005), in a review dated back in 2005, summarizes the interpretation given to emergency in an educational sense, connecting it to the concept of violence according to the definition developed within the Peace Studies by the sociologist Galtung (1969): the researcher underlines how it is linked to personal (in case of genocides or wars) and structural violence (in case of natural catastrophes or pandemics), though not considered in relation to cultural violence. Cultural violence is a symbolic violence that is expressed in countless media — religion, ideology, language, art, science, media, education — and serves to legitimize direct and structural violence and to inhibit or suppress the response of the victims (Galtung and Fisher, 2013). This

perspective is very interesting in the educational future: the emergency connected to such condition of endemic violence in fact goes out from what is occasional and becomes pervasive, in addition it enables to see that structural and personal violence are strongly interrelated and are connected to the same cultural violence.

This entwinement is reconnected to the different granularity of emergency, disclosing both at different levels and dimensions.

This leads us to the first shift in the idea of emergency in educational contexts: so far it has defined an exceptional situation, impacting on the usual organization of the system and of didactics (like Covid-19 pandemic) and it is a didactic reply, specifically set up in one of the above-stated contexts of crisis (like the schooling programs in war countries). The most evident feature is the one of being occasional: it is a temporary mode, activated while waiting for being able either to reactivate the usual ways or to set up a standard educational system.

RESULTS: TRAJECTORIES TO RETHINK TEACHING AND RESEARCH ON TEACHING

In light of this panorama, which are the perspectives that didactic research has to take responsibility for to support teachers and schools to move within such new paradigm?

The first challenge: building a design resilient to emergency.
It means that the designing action must have a medium/long-term perspective, to intercept the effects of emergency and the possible repercussions and consequences on the systems, and a short-term perspective, to give immediate and effective replies in the moment when the crisis arises. It is not possible to design emergency but it is possible to design flexible tools supporting the subject (both teacher and student) and enabling him to activate in an adaptive way in the moment of emergency.

On the long-term we can act in terms of anticipation and simulation: the design as a simulated action (Rossi and Pentucci, 2021) has in itself the capacity of imagining possible worlds, desirable and verisimilar (Giunta, 2020), forestalling them. In a dimension where emergency is normality, though not being able to foresee which unexpected event will take place, we can foresee that some unexpected events will take place. Foreseeing in this sense means being able to recognise the signals warning about possible future perturbations and that suggest possible actions to be performed. Foreseeing is essential for simulation, i.e "didactic tool that consists of imagining which consequences the manipulation of variables regulating the behaviour of a phenomenon could produce in time" (Rivoltella, 2014). The design therefore is no longer neither making a plan, nor a path, but a space and a zone of transformation (Pane, 2009) inside which one

can recompose knowledge, experiences, events and fragments. It is a systemic space with open interactivity, favouring non-linear, alternative, regulative and modifiable solutions (Pentucci, 2022).

It can be useful to recur to the concepts of transversal and transferability to give long-term design answers. Fluid and multimodal tools and resources, able to cross different (transversal) fields, can be reused in situations that show some similar features to the unforeseen ones typical of emergency: the Emergency Remote Teaching activated during the Covid pandemic is surely different from the Online Learning (Hodges *et al.*, 2020), but the expertise on e-learning has been exploited and reused to set up again the educational system moving it from the physical spaces of the classrooms to the virtual ones of the screens.

In the short-term, designing can also be a support to favour immediate replies to emergency. In this case the key-concepts are two: the one of mobilization, a tool that through reflection in action enables to recover resources, product of past cognitive and experiential processes to plunge them in the new reality with different goals and to solve new problems. The one of vicariance (Berthoz, 2013), that is the capacity of an organism to make use of many possible solutions to solve the same problem or, vice versa, of using the same resource to sort out many solutions. Applied to the teaching-learning process can represent the useful strategy to act under pressure and decide in uncertainty (Perrenoud, 1999), through different intentions and slight arrangement processes, either some activated theories (Vergnaud, 1996) or forms of organization of the action (Pentucci, 2018) deriving from situations that have already been experienced.

The construct of vicariance leads us to the second challenge: rethinking the teachers' professionalisation and the training.

It is anyhow about designing tools and processes of a formative type, useful not to suggest strategies, but to structure attitudes that can support the individual in facing emergency and pushing him to solve unpredictable problems in a creative and divergent way. For the teacher, it means to confront himself/herself with complexity, reasoning in terms of deviation and decentralization (Sibilio, 2017): these can be attitudes able to absorb emergency and make it functional and generative, through recovering, in educational terms.The idea of exaptation for biologist, i.e "features that now enhance fitness, but were not built by natural selection for their current role" (Gould and Vrba, 1982] resembling both the concepts of vicariance and redundance, proposed by Berthoz (2013) and Sibilio (2017), and the concept of functional reuse (Gallese, 2009), explained above as a way to face emergency in the near term.

For the teacher, the reification of these concepts in the practice is made explicit through the regulation in action (Perrenoud, 2001). For the student, it is about strengthening self-regulation, self-organization and

metacognition.

Those attitudes, complex and refined, can be structured only thanks to training and accompanying paths, aimed at encouraging and enhancing the capacity of taking decisions within a framework made of intentionality and not of improvisation.

The third challenge: the Learning Ecosystem. We are still in the dimension of designing in a global perspective therefore systemic, concerning networks and spaces typical of the educational action.

Designing nonlinear solutions means also designing Learning Ecosystems (Gutierrez, 2008), which can too be meant at two levels of scalarity, a micro and a macro one: at a micro level the ecosystems configure as learning environments that are adaptive, transformative, dynamic, supporting and directing practices. They enable the aggregation of knowledge, attitudes, experiences, tools, expectations of all the actors participating in it (Flessner, 2014). In addition, they favour the negotiation of different meanings and are ready to absorb what is new, producing new constructions and new ideas, provided with their own logic and identity. Microlearning, in its modular and metacognitive characteristic, can represent a type of learning design suitable to the new paradigm.

At a macro level, the ecosystem is the networks of interactions between training agents either formal, informal and no formal one is participating in an intentional and designed way to the training path. In that sense of ecosystem, the student "activates some self-definition processes as he is the only one that knows and goes through all the environments" (Rossi and Pentucci, 2021).

Finally, it is possible to set also a fourth challenge: rethinking educational research within a hybrid and participated future. New paradigms also require a renewal in the models and in methodologies, which have to undertake social, agentive and transdisciplinary characteristics. It is about establishing a didactic-pedagogical alliance between teachers and researchers to re-build, starting from below, those third educational spaces (Flessner, 2014) where the meeting and the hybridization between acted practice and shared research on the practice take place.

DISCUSSION: THE DIMENSIONS OF EMERGENCY

Nowadays, the nature itself of emergency arises in a different way; in particular the logics of scalarity typical of the meaning, which can be seen either at a macro, meso and micro level in comparison to different dimensions:

1)   In terms of spatial scale emergency acts on the interaction between local and global and on the dimension of entropy: the phenomenon of crisis can be at a global level, but it activates different emergencies at different local levels (Burde, 2007). For example, migrations are a world phenomenon, but the unexpected arrival of one or more children who does not speak Italian in a school, creates emergency situations that are differentiated and particular. On the other hand, the bullying or racist episode happening unexpectedly in a single class and that is amplified by the media attention can have some repercussions on the whole system as it breaks a presumed balance and discloses a national emergency in terms of peaceful cohabitation, tolerance, violence: it is impossible not to talk about it in a single context if it touches similar living experiences and it is perceived as meaningful by the subjects populating it.

2)   In terms of temporal scale, emergency is no longer temporary, rather permanent. From either long or short-term occasion or conjuncture, anyhow with an end, it becomes constant. The continuous change of fluid reality, the speed of evolution in technologies, and the fragmentation make every segment of the action both potentially unforeseeable even within an apparently regular and usual course. It can be the introduction in class of a new technological device arising the so-called "wow effect" for some minutes, the change of a teacher along the school year, the interruption of face to face lessons for a whole school term or for years, due to either wars or pandemics.

3)   In terms of a prospective scale, emergency can have either individual or collective dimensions and anyhow impact both on the individual and on the whole didactic process in a different way though mutually influenced. These three logics, though showing some different features, are deeply interrelated between them, so as that we do not talk about a simple change or passage, from local to global or from the short to the long-term. In a perspective typical of entropy, space, time and perspective interact and mutually influence.

Going into the core matter of practices and observing and analysing the teaching/learning situations, emergency therefore reifies in events, either global or local (involving either the world, a country, or a single class); either long-lasting or very short ones (either a year or a segment of action); concerning either a single individual or a whole community. These events are unforeseen (Magnoler, 2017) and disturbing due to different reasons: (a) they make it possible to act the way one knows and usually uses, as the problems introducing to the action are previously unknown and therefore impossible to be solved through one's own culture of organization; (b) they produce some dis-alignment, a non-synchronism between designed didactic action and the change that is occurring, questioning the coherence of the system; (c) their continuity, on the other hand, does not enable to face them through a view limited to the overcoming the immediate discomfort, without thinking of the effects of the relationship between physical, psychological and cultural and to the long and medium-term effects not only due to emergency, but also introduced by predisposed solutions.

If we accept the idea according to those events which

are recursive in the practice, to different but constant dimensions, we can talk about crisis, meant as dis-balance and divisions, causing some crisis, meant as change generated by a choice more or less aware and thought out.

CONCLUSION

In conclusion, we can say that talking about getting back to normality is a utopia; contemporaneity can be represented as the ongoing passage from an emergency to another, in a perspective where local and global inevitably communicate and mutually matter.

If we hypothesize that emergency is new normality, typical of educational and training systems, we can start experimenting with practices of didactics in emergency, useful to guide the teachers in the increasing complexity of future contexts. The challenge is to try to manage the emergency in its multiple scalarities and levels: in macro dimensions, it hits whole systems; in meso dimensions, it concerns some parts and some of their features; in micro dimensions it is situated in the class context.

STATEMENT AND DECLARATIONS

COMPLIANCE WITH ETHICAL STANDARDS

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