Hybrid Flexible Learning with MOOCs: A Proposal to Reconceptualize the COVID19 Emergency Beyond the Crisis

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***Abstract*— In the current pandemic emergency, where everything changed in a matter of hours, many fields have confronted the situation with emergency responses, in many cases, with openness and collaborative approach. In the context of education, some view the current emergency as an opportunity for digital transformation and innovation in education. However, the emergency responses to have the desired impact in the long term, need to be strategically thought-through and planned. In this paper, we argue that open practices, sound design and virtual mobility based on administrative support principles can bring opportunities for quality education. Moreover, we reconceptualize and recontextualize the notions of blended, hybrid and flexible learning within this situation. The current paper is a conceptual contribution drawing on a case of a university experience, with a radical transformation focus, contextualized in current covid19 educational emergency. To conclude, we propose a Hybrid Flexible Learning Framework based on two main pillars: virtual mobility and design that could be a useful conceptual tool for the current situation but also for future consideration, beyond the crisis.**

Keywords—MOOCs, virtual mobility, hybrid learning, Open Education, OER, flexible learning, learning design, educational transformation, higher education, Covid 19

I. INTRODUCTION

In the current emergency, many fields have confronted the situation with emergency responses interweaved with openness and collaborative approach. Even big tech and EdTech companies offered for free their proprietary licensed products. Many [1] also have viewed the current emergency as momentum and an opportunity for both – long-awaited digital and educational transformation [2]. While closely related concepts, we should consider these two as separate processes, due to the complex and multi-stakeholder nature of the field of education; the mere introduction of technology, while it changes some practices, does not necessarily result in educational transformation. While there are some opportunities in both directions, however, responses still need to be strategically thought through, rooted on the reflections during this emergency and further actions planned if we are to achieve educational innovation and transformation. These responses need to go beyond the technology and digital technology solutionism [3] dimension: resources and instruments alone, although, they change practices and "the business as usual", do not create educational innovation.

In this paper, we argue that open practices, virtual mobility based on sound administrative support principles can bring opportunities for quality education in the educational emergency and beyond. Starting from the overview of the current educational emergency, we bring main relevant concepts and experiences from the field of technology-enhanced learning (TEL), reconceptualize the notions of blended, hybrid and flexible learning within this situation. Moreover, the current paper draws on a university experience, presenting its case of a radical transformation effort, focusing also on the current covid19 educational emergency context. In the end, we reflect on the experience, and propose a *Hybrid Learning Framework* based on two pillars - virtual mobility and design (including learning design) that can be a useful conceptual tool for the reflection on current situation but also for future consideration, beyond the crisis.

II. BACKGROUND

A. An educational emergency and an experiment: deconstructing digital and pedagogical transformation in the context of COVID 19 pandemic

The current emergency undoubtedly changed the landscape of education in short and mid-term. During the COVID19 pandemic remote teaching, i.e. use of technology became an absolute necessity, which, in its turn requires a rapid paradigmatic change in many aspects of the educational experience. According to UNESCO, at its peak, from 31.03.20 to 05.04.20, there were 1,598,099,008 affected learners (91.3% of total enrolled learners) and 195 country-wide closures.

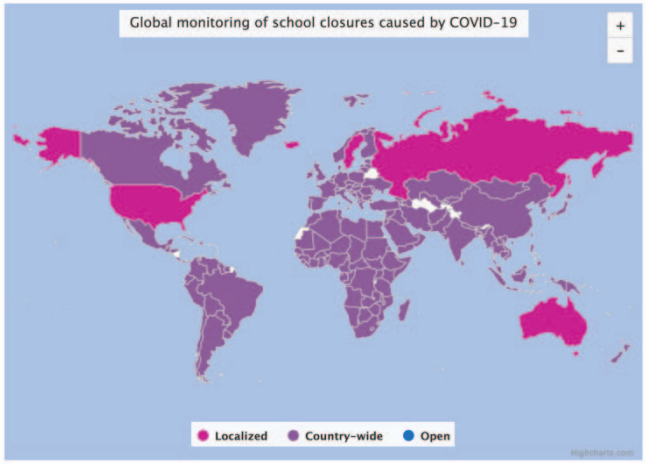

Figure 1 UNESCO Education Response Global monitoring

Countries with different infrastructures and resources responded with different solutions to the educational emergency but more or less similar challenges were encountered [4]. Many countries and universities had to be quick in their decision and introduce policy level, half-mandatory requirements to switch to remote teaching. Many initiatives started with top-down approaches and introduced policies and guidance to academic staff. For instance, many universities - around 300-400 in the US have had such guidance from their administration[1]. In Europe, this also included guidance and recommendations from the ministries (For instance, UK, Italy or EU level), as one of the most affected regions initially, also created a recommended resources list and plans to make changes in the European **Digital Education Action** plan[2]. Aside from some top-down approaches, we saw huge grass-roots movements in this area, many educators compiling curated lists of resources and tools to share, and helping peer educators to self-organize. Even whole organisations opened up resources and offered guidance in these difficult times, such as Online Learning Consortium, EADTU (European Association of Distance Teaching Universities), EDEN or Educause members sharing guidance and offering resources for free. UNESCO has intervened with a list [3] of recommended technological solutions and set up a **Global Education Coalition "***that aims to bring international organizations, civil society and private sector together to ensure students do not remain without education across the world.*"[4]

Moreover, the data collection on the existing situation started the same way: top-down as well as bottom-up approach. From this effort, for instance, we know, from one list (mostly consists of US universities, however, includes others too), most of the universities (258 out of 282) took a decision to extend spring break or delay the process to prepare for planned remote teaching, very few started right away or ended the semester overall. In many cases, teachers have been left with mere technologies to come up with quick solutions: for instance, "Zoom" became synonymous with remote learning, which entailed mainly synchronous teaching and learning activities.

Educational technologies have existed long before the crisis but this was mainly a niche for certain educational institutions or EdTech businesses. It was never the first choice for most of the teachers [5]. In this light, many countries, universities and teachers started planning for online learning without having this experience at all, or at least on such a scale. There are many infrastructural and basic considerations such as access to internet or technology, and skills of the university teachers including digital competencies; not all the universities are ready to transform overnight even in the most advanced economies such as the US or the EU, especially in rural communities.

Many called this situation a large-scale transformational experiment, which in fact, might be a valid argument. However, we need to consider that it does not match with the scale of experience educational institutions or academic staff might have [1]. While innovative diffusion [6] and adoption usually takes place in a certain logic and is usually gradual, in the current situation we have a diffusion of learning technologies at an unprecedented scale. What makes this massive scale "experiment" different is its necessitated, uncontrolled and forced character, that changes the logic for many things, first of all, the process of planning, implementation and evaluation, which entails data collection and analysis, and overall, the innovation *adoption and uptake*. At the same time, the current situation is an authentic, massive and up-close case study for education and especially for the field of technology-enhanced learning and distance education. While the situation demonstrated the potential of educational technologies, it also revealed the boundaries for transformation and educational innovation (and not the limited potential for it) in an authentic manner. By innovation we mean a transformative process, that is at the heart of educational innovation [7]. So, to sum up, there are several important dimensions to consider: *reorganisation* and *planning* (curriculum, resources, tools), *innovation* (transforming current practices), *reflection* (collecting the data on the emergency experience to reflect on future).

On the pedagogical, technological and educational policy level, first of all, there are macro, meso and micro level layers and actors in this change - state, institutions and teachers/students themselves. Educational experts have debated on what this situation might mean for the fields of online and distance learning and educational policy, and how much of this forced "transformation" represents a pedagogical innovation. One of the earliest attempts to frame the situation and the discourse has been suggested by Hodges et al in their article, "*The Difference Between Emergency Remote Teaching and Online Learning",* Published on March 27, 2020 [8]. The authors differentiate between the *Emergency Remote Teaching* and *Online Learning*, where emergency response means securing the mere access to

[1] https://bit.ly/3hkPsZ3

[2] https://www.europeandataportal.eu/it/covid-19/stories/education-during-covid-19-moving-towards-e-learning

[4] https://en.unesco.org/covid19/educationresponse/solutions

education, while online learning involves thoughtful planning and design of online teaching and learning experiences. So the authors believe that this is the leading model in the current situation and that "teaching" or "instruction" or knowledge transmission is what happens now as opposed to knowledge construction. Williamson suggests a term "pandemic pedagogy" [2] to denote its political economy side, as it is seen as a business opportunity. On one hand, there are educational technology experts and academics, and on the other, the ed-tech industry with big corporations like Microsoft, Google etc who have their own, long-term interests and view the transformation in a more technologically determined way. To this end, some have called for action to *"sustained scrutiny of the emergency actions and logics that are being put into place"* [9].
Selwyn believes that *"digital education infrastructures that we choose to erect in response the current crisis will come to (re)define public education for decades"*[9]. In this light, we can see some threats and opportunities in the current crisis: one of the threats is quality of the actual teaching/learning and assessment processes if not thoroughly and holistically thought through. At the same time, this new reality clearly can open up opportunities for digital and educational transformation, if planned, with a design in mind (on policy or learning level). While openness had been named as one of the directions we should look into within the emergency context and beyond [4], and to the best of our knowledge, not enough attention has been given to the pedagogical reorganisation processes, pedagogical innovation and digital pedagogy, and the role of learning design. In other words, the transformation that goes beyond the digital one, taking into account the role of educators and universities, especially the public sector[10].

We posit that while tools and resources are necessary building blocks, planning - reorganisation of learning, and thoughtful design, supported by policy, are one of the most important factors for successful uptake of digital pedagogy leading to possible educational transformation. For this, we need conceptual tools and frameworks to reconsider the current situation and the existing body of knowledge from the field of TEL and distance learning. At the same time, we argue that existing initiatives, the body of knowledge and promises of TEL and distance education as a field of study that can be put in the forefront of the of educational transformation.

B. Open Education and MOOCs

From learning objects in the 1990s to MOOCs (massive open online courses) definitions of various forms of open education have been diverse[11]. Open education compasses resources, tools and practices to improve educational access, effectiveness, and equality worldwide[5] . Open education is a *"flexibility of space, student choice of activity, richness of learning materials, integration of curriculum areas, and more individual or small-group than large group instruction"* [12]. Open Education Framework developed by EU proposes that *"contemporary open education goes beyond OER and open research outputs to embrace strategic decisions, teaching methods, collaborations between individuals and institutions, recognition of open learning and different ways of making content available"*.[6]

In open education teacher is a facilitator of learning [11] and is enabled and afforded by open tools, resources and policies. With the emergence of MOOCs from one hand, open education acquired a new momentum and scale but on the other, new meaning have been added to the practice of open education and open educational resources.

C. Virtual mobility, credentials and Common Microcredential Framework

Enabled by the advances of technology, virtual mobility is a form of academic mobility in which students can study abroad without physically travelling to another higher education institution abroad [13]. To validate such learning experiences, there is a need for recognition of learning, just like that of physical mobility. Although, with the advances in the MOOCs, there is an increasing need from academic institutions to recognise previous or concurrent learning: *"Microcredentials have emerged as the most commonly used way to describe credentials that do not constitute a full degree or even a certificate, but that describes a meaningful collection of courses or related learning/training. At the most basic level, microcredentials verify, validate, and attest that specific skills and/or competencies have been achieved"*[14].

There are different types of credential systems that recognize and validate learning in MOOCs: different platforms have introduced different types of paths. In Europe, *Common Microcredential Framework* (CMF) was introduced to create portable credentials for lifelong learners. This is an initiative by EADTU [7] and unites the European MOOC platforms under an umbrella of *European MOOC Consortium* consisting of members such as FutureLearn, France Université Numérique (FUN), OpenupEd, Miríadax, and EduOpen. CMF is a response to the demand from learners to develop new knowledge, skills and competencies from shorter, recognised and quality-assured courses, which can also be incorporated into traditional university qualifications. The CMF is a framework for these goals across Europe's leading MOOC platforms and the universities within their networks.

D. Learning Design: Blended learning, hybrid learning and learning with MOOCs

Current situation acted as the most authentic large-scale experiment to uncover these important factors: a

[5] https://www.oeconsortium.org/about-oec/

[6] https://ec.europa.eu/jrc/en/open-education/framework-guidelines

[7] https://eadtu.eu/

balanced approach between institutional planning, reorganisation of teaching and learning, and planned design are needed to achieve an educational transformation. Definitions of learning design can vary, referring to the educational field, the artefact that contained the (learning) design decisions or the process of designing the artefacts [15]. Learning design is *"the creative and deliberate act of devising new practices, plans of activity, resources and tools aimed at achieving particular educational aims in a given context"*[16]. Sometimes this design is implemented in different spaces and different times and this phenomenon has been described by the term Blended or Hybrid learning, especially in the COVID19 emergency, when looking for solutions. While sometimes hybrid and blended learning are used interchangeably, they are not the same; Blended Learning is *"the thoughtful integration of classroom face-to-face learning experiences with online learning experiences"*[17]. The most widely used definition is the *"Face-to-face and computer-mediated interaction" or "integrated combination of traditional learning with web-based online approaches*"[18] [19]. Based on the COVID19 experience, we posit that in the current situation, among others, Blended Learning has acquired a new meaning: in some ways, it can be considered as a blend of synchronous and asynchronous activities - for instance, the planning for Flipped Classroom can consider not two spaces only: physical and digital but also the synchronicity of learning activities. To some, the hybridity lies in the blended nature of the learning spaces [20]. Hybrid learning is identified as an *"interweaving of formal and informal social structures in an activity system and the combination of digital and physical tools mediating an individual's interaction with the world and society"*[21]. At the same time, a Hybrid MOOC Framework [22] has been proposed, which includes many models of on-campus use of MOOCs. A systematic review [23] revealed that most institutions that undertake such an endeavour declaratively look for ways to innovate pedagogically with MOOCs and the Flipped Classroom is the most widespread among blended learning models with MOOCs. Furthermore, the review did not reveal a significant use of embedding MOOCs or OER from other institutions in the curriculum. So, we can see that the notion of Hybridity, in our case can extend to other notions such as OER, learning design and virtual mobility to mediate individuals' interaction with the world and society with different tools and resources on an institutional level, in a flexible way. In the next chapters, we will illustrate this point with the case of the University of Foggia.

III. THE CASE OF THE UNIVERSITY OF FOGGIA

In this chapter, we are going to present our case of the University of Foggia and its activities during the Covid19 emergency and overview it in detail.

A. The ecosystemic approach

The reconceptualization starts from a reconsideration of the pedagogical system of the entire university through the design of an ecosystem while putting the student at the centre of all institutional policies. This is a complex process, however achievable if we start by observing, recognising and problematizing the issue of access to knowledge and culture. The idea is that universities are not isolated, closed systems and should not be self-referential but be *collectors, amplifiers, and mediators* with the cultural communication system present outside the institutional system. Putting the student at the centre means redesigning all the university's services (i.e. the socio-technical system) that revolves around it; it also means rethinking *the role of the teacher* with a clear mediation function around the need of a new student which is actively involved in the construction of a shared project of learning design and co-design of the curriculum from the very first contact with the university. This process, therefore, is already activated in the incoming orientation phase: work towards understanding what the student's objectives are and how to plan them in the context of the university courses with the possibility offered by the most innovative dynamics of teaching; in fact, the student can choose whether to take blended courses, whether to attend mainly in the presence, or with a flexible component of distance learning and can also decide to have a virtual or real Erasmus experience.

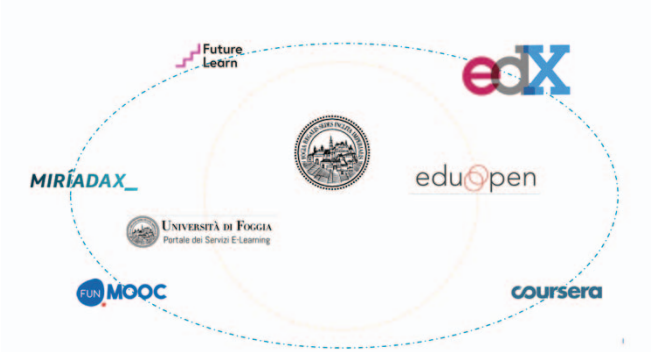

Figure 2 the MOOC ecosystem

In this process, the student is accompanied by teachers of the specialization but also by a system of psycho-pedagogical consultancy that accompanies them in the various choices. The idea is that students can choose formative credits not only within the university but also outside through the rich world of MOOC platforms on a global level, for example. It is a small fragment of virtual mobility but the main challenge lies precisely in the fact that the university opens up and becomes permeable. In this way, structured paths can also be entered within the system outside the organization itself and then brought back into the student's curriculum.

The idea of flexibility within a large learning ecosystem can be implemented through a series of innovative policies and instrumental actions planned for the next few years in a medium-long term. To create a system of this nature, an instrumental intervention linked to infrastructures is not enough but it is necessary to implement an almost radical transformation [24] of the university identity itself, which then becomes a hub, a *learning mediator* within the course of study. What is particularly significant is what happens along the *student's life path* and therefore goes beyond the three-year or graduate degrees but it is the continuous relationship of entry and exit from the university system that students can continue to build through a number of formative experiences and micro credentials (micro-

attributions of credits, recognitions, or certifications of students' skills). This can range from very short courses from 1 to 5 ECTS up to courses that reach the size of the study course. This can create a virtuous process that places the student within a training ecosystem also accompanying him/her outside the ordinary pathways of the university. In this sense, the university becomes *an agency* that not only assigns the qualification and therefore certifies the outgoing competence of the graduate but also becomes the most authoritative training agency. This can play a very important long-term role, especially in territories where there is a need to increase tertiary education attainment rates.

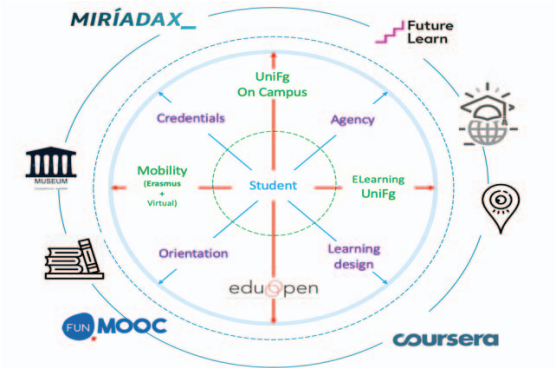

Figure 3. The MOOC-based Ecosystem approach implemented during COVID19 Educational Emergency

This transformation effort can be show-cased during Covid19 educational emergency. Several initiatives took place during this period in terms of teaching, research, communication and orientation. During the Emergency University of Foggia also made a decision to implement the *virtual mobility* as a part of a bigger radical transformation effort and recognise the learning paths on the institutional level, afforded by the CMF. Based on the preliminary data on the uptake of this initiative, overall, 467 students have participated and completed at least one course. The reported data refer to the time period of approximately one month (23.04.20 -21.05.20. As we can see from Figure 4, in one month, most of the students took more than one courses and mostly in specialisations for medicine and economy. At the end of the learning journey, the learning paths of the students have been recognised according to CMF framework.

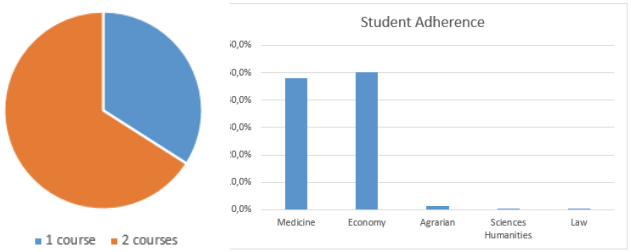

Figure 4. Student adherence to Virtual mobility during Covid 19 Educational Emergency

- 159 (34,04 %) have followed and completed one course
- 308 (65,96 %) have followed and completed one course and are following a second one.

IV. Conclusions and Discussion

In this paper, we have overviewed the COVID19 educational emergency based on previous work and illustrated through a university case. We have conceptualized the notions of hybridity and flexibility, which in this case are extended to the *virtual mobility* and are enabled by design, embedding decisions and institutional support such as credential recognition, among others. Therefore, our proposal (Figure 6.) is based on the abovementioned case and stands on two main pillars: *design* and *virtual mobility* and is contextualized within MOOCs. MOOCs can be embedded by design as a part of the learning course or by *virtual mobility* schemas.

We view this proposal as a conceptual tool and a starting point to enable institutions to implement Open Education principles and transform at the same time, make use of available, designed courses as planning, designing and availability teaching resources have become an issue during the COVID 19 Educational Emergency. By considering learning design, embedding MOOCs on institutional or design level (or both), and by recognizing informal learning paths, open and flexible learning (a possible paradigmatic change) can take place.

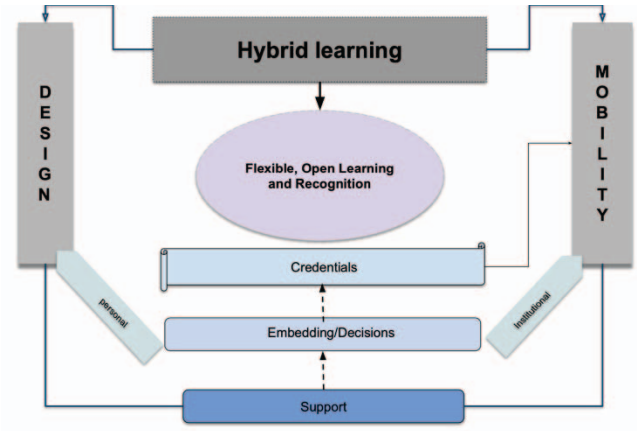

Figure 6. Hybrid and Flexible Learning with MOOCs

As already mentioned, to activate a transformation of this kind, the identity of the university, as well as the identity and the role of the university teacher shall be reconsidered. The challenge can be overcome through faculty development interventions, coaching, precise research interventions that start from the educational emergency of COVID19 that we are experiencing. This experience has allowed everyone to make at least one banal experience of technology use, which allows contextualizing this experience within a socio-technical system by making many steps forward to consciously use digital tools and active methodologies.

V. Future Work

The current work is a theoretical proposal based on one case. The phase three at UniFg is articulated in an accompanying path for teachers with intensive literacy courses for active and innovative teaching providing tools for effective use of

technologies and the hybridization of forms of knowledge of cultural communication.

Also, in future, we are going to study the current experience with objective and subjective measures to understand its extent, its impact on overall learning experiences with data collected on institutional, teacher and student levels. Furthermore, based on the results of this research we plan to extend and revise our framework.

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