French / Japanese Comparative Study of The Teaching & Learning Practices at The COVID Era: Inventory and Perspectives

JOHN AUGERI[1,a)] SHOJI KAJITA[2]

Abstract: The COVID pandemic raised an unprecedent challenge to the Higher Education world, by inducing a paradigm shift of Teaching and Learning practices in a dramatically short time. A recently launched study is seeking to apply a comparative approach on the Japanese and French experiences, to identify the similarities and to highlight the key specificities of the local and nation-wide responses to the pandemic in universities. It will also explore the forecasts of the new normal to rise at the post COVID era.

Keywords: Pandemic, Teaching & Learning, France/Japan, Comparative, Sustainability

1. Introduction

The COVID pandemic that begun on early 2020 raised an unprecedent challenge to the Higher Education world, by inducing a paradigm shift of Teaching and Learning practices in a dramatically short time. Concepts such as distance synchronous and asynchronous learning, hybrid learning, HyFlex, or online assessment, which were mainly practiced by innovators until then suddenly became the new normal of the daily activities for all students and educators, all across the globe. But beyond an already globalized landscape regarding the technologies and the educational patterns, some characteristics in the ways to face those challenges might be showcased, reflecting not only cultural, but also structural specificities, related to the Higher Education systems in each country.

A recently launched on-going study is seeking to apply a comparative approach on the Japanese and French experiences, as examples of the Asian and European cases, to identify the similarities and to highlight the key specificities of the local and nation-wide responses settled to face the impact of the pandemic on the universities' Teaching and Learning practices using ICT. As an outcome it will also explore the forecasts of the new normal to raise at the post COVID era, according to the three scenarios presented in the EDUCAUSE 2021 Top IT issues (*Restore*, *Evolve*, and *Transform*) in order to provide an insight of the measures settled as emergency ones, that could become sustainable on the longer term.

This paper intends to present the framework of the study, its methodology, the different topics covered, and to showcase some first outcomes regarding the comparative analysis between the French and the Japanese situations.

2. Framework

2.1 Range of the study and sample selection

This on-going study relies on a sample of significant institutions that, beyond its variety, reflects the multi-dimensional approach we seek to have of the problematic: political, technological, pedagogical and social. We indeed discuss these different aspects through three layers:

- Nation-wide policies and initiatives established by the ministries (related to Higher Education matters and beyond)
- Large scale cross universities initiatives, especially established by institution consortiums or professional associations
- Local initiatives (institutions, department)

The different institutions are chosen in order to create a significant sample, involving variety in terms of status (private and national for the Japanese universities), size, and specialties.

2.2 Methodology

The methodology consists of collecting quantitative and qualitative materials through visits and interviews of stakeholders; practitioners, faculties and students.

We intend to use these data, feedbacks and experiences to identify similarities and differences among the issues and challenges faced since the beginning of the pandemic, but also in the post-pandemic perspectives that might be considered, in order to highlight good practices potentially to be reproduced.

This paper focuses on the first trends observed and intend to compare the Japanese situation to the French one on the following aspects: general context of the pandemic, Teaching and Learning, students social issues, and post-pandemic forecasts & projections.

1 Ile-de-France Digital University, France & Academic Center for Computing and Media Studies, Kyoto University
2 Institute for Information Management and Communication/Academic Center for Computing and Media Studies, Kyoto University
a) john.augeri@unif.fr

3. General context of the pandemic

3.1 French lock downs and Japanese states of emergency

After having begun to spread in South East Asia on early 2020, the epicenter of the pandemic shifted to Europe from spring, hitting especially southern European countries such as Italy, Spain, and France. The evolution of the sanitary situation, and the respective national regulation systems led to different responses in the two countries we are studying.

In France a first nation-wide lock down was declared on mid-March, first for a 2 weeks duration, that has finally been extended up to 8 weeks. After a summer during which the pandemic significantly decreased, a second wave hit the country from October, and led to a second national lock down up to December, that has been slightly soften after that.

Japan experienced a first state of emergency on spring 2020, that was also followed in winter by a second wave. Despite not being a proper lock down, the government's recommendations led most of universities to switch as much as possible to online learning from the beginning of the 2020 academic year.

3.2 Impact on campuses

French universities, all of them being national, experienced an full closure for their face-to-face activities from March 2020, and had to organize their June end of the year examinations online. The back to school period of September 2020, fitting to a decreasing of the pandemic, saw a partial return of the students on the campuses, creating several clusters and finally leading to the re-closure that occurred with the second national lock down. On early 2021, following the universities governance request, but also considering the students mental issues (see 5.2), French government allowed one day per week face-to-face for each student (through hybrid or HyFlex configurations, see 4.1), which is still the situation at the time of this paper's writing.

Following the declaration of the first state of emergency, Japanese universities largely switch to online for a huge majority of their classes, and kept that situation during almost the entire 2020 academic year, fitting to the French landscape. Some private universities, though, taking benefit of their status, decided to keep a slightly larger part of face-to-face activities in some periods.

Considering the respective calendars, the pandemic has so far impacted two academic years in France (second semester of 2019/2020 and first semester 2020/2021) and one in Japan (2020, entirely)

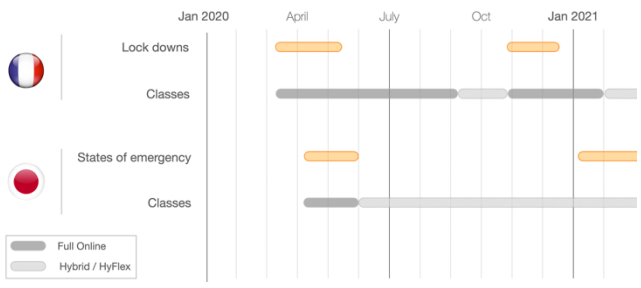

Fig. 1: Calendar of pandemic impact on campuses

3.3 Ministries' response

Considering the pandemic impact on the campuses, both of French Ministry of Higher Education, Research and Innovation (MESRI) [1] and Japanese MEXT [2] were immediately involved in responses. MEXT allowed special funding especially for costs related to the switch on online teaching. MESRI, on its side, launched on summer 2020 a more selective call for proposals intended to fund hybridation of courses [3], and created a collaborative online platform showcasing local initiatives in order to promote best practices, exchanges, and mutualization [4]. Beside the aids to institutions, France also started different financial support for students facing incomes difficulties (see 5.2).

3.4 Academic organizations involved in the COVID response

Beyond the autonomy of universities that is existing in both countries, that allowed them to decide by themselves the responses to set according to the national policies decided by governments, the pandemic triggered the involvement of several IT/ICT related and generic organizations, associations, academic societies and communities that especially allowed to share solutions and good practices for some of them, but also to act as groups of pressures towards political stakeholders and companies for some others. French counterparts of Japan's AXIES, JSET, JSISe, JANU, JANUL and NII, such as CSIESR (Association of IT departments), ANSTIA (Association of ICT and A/V departments), ADBU (Association of University Libraries directors), and VP-Num (Association of Digital Vice-Presidents), were thereby directly involved in seminars and workshops organization, as well as feedbacks and demands to the MESRI, and negotiations with industrials.

Feedbacks clearly highlighted that a campus wide centralized, coordinated and highly institutionalized action, rather than multiple local independent initiatives, created more efficient and less costly response. In France, the Digital Vice Presidents were generally appointed, leading tasks forces that can could also be observed in Japan. These actors also could get benefits of their mutual feedbacks through their national association exchanges. The variety of profiles involved in those task forces also appears as a key success factor: institutional, technical, pedagogical, TA, and users.

4. Teaching & Learning

4.1 Types of Hybridation implemented

The total or partial closure of campuses had an obvious impact on the classes and lectures, by getting face-to-face activities impossible, or at best very limited considering the sanitary measures to comply to. The switch to online became the most visible consequence of the pandemic, through three typologies: full online, hybrid (mixing face-to-face and distance learning alternatively), or HyFlex (mixing face-to-face and distance learning simultaneously). The choice between them was mainly guided by the possibilities offered – or not – by the government policies regarding the response to pandemic.

The French lock downs settled in spring and autumn practically excluded any face-to-face activities (keeping in mind that

universities stayed physically closed up to the September back-to-school), making the full online the only solution to be applied. The restart of the academic year, in September, fitted to a timing of significant decreasing of the pandemic and softening of the restrictions in France, and thereby allowed to gradually switch to limited Hybrid or HyFlex in universities that decided to do so. This, however, for a short time as and the French second lock down, following the spread of the second wave of the pandemic in Europe, started from the end of October. At the time of this writing, partial face-to-face activities restarted (from February 2021) following a political decision, but remain limited usually to one day per week. In the limited face-to-face allowed periods, French universities tended to choose the Hybrid configuration rather than the HyFlex one. This choice, in a huge majority of the cases, was made at the institution level.

Comparatively, the situation in Japan was and still is less homogeneous, in the sense that the states of emergency, beyond the governmental recommendations they involved, allowed more flexibility to the universities – especially the private ones – in their re-organization than the French measures. Depending of the institutions, but also to the different departments, the three configurations could be observed, with a rate of HyFlex being more important than in France despite similar constraints and challenges to be highlighted regarding it.

The reluctancy observed towards HyFlex compared to Hybrid relies in both countries on by technical and pedagogical concerns. The A/V installation, first, is expected to go beyond light solutions often consisting to place laptops or tablets in the room in order to capture video and sound for the remote learners, who may suffer from bad experience regarding the visualization of the class and the contents, and the voice caption due to inadequate mic and camera capacities. Overcoming these technical limits is requesting heavier set ups that are more costly not only due to the equipment itself, but also to the human resources ideally to be allocated in order to ensure a high quality production (regarding the caption itself, but also the mix of different sources, and the management of the questions possibly sent by chat by the students). This assistance appears especially necessary considering the faculties' overload that interviews systematically highlighted, and that potentially has an impact on the pedagogical point of view, by raising a significant equity issue related to the difficulty to simultaneously deal with face-to-face and remote audience, and therefore to provide an equal treatment to both of them.

Globally, and as an illustration of these aspects, our analysis shows a correlation between the rate of classes organized in HyFlex rather than Hybrid, and the institutional context regarding the face-to-face activities. HyFlex definitely doesn't appear to be a pedagogical choice, but a response to an eventual pressure (from the local or the national level) to organize these latter.

4.2 Impact on Academic IT

The three configurations we just mentioned were requesting significant adaptations of the Academic IT, especially regarding distance learning features such as LMS and videoconferencing systems.

Following MESRI's measures aiming that objective in the mid 2000's, and the LMS were already systematically implemented in all French universities with a remarkable homogeneity translated in 98% of Moodle installations. In comparison, Japan shows a much more heterogeneous landscape on both of the quantitative and qualitative aspects. Institution-wide implementation of a LMS doesn't appear to be systematic, especially in small size private universities, and the technological choice are various. Beyond this distinction, universities on both sides experienced significant challenges regarding not only the question of the rescaling of the infrastructure that appeared to be necessary to efficiently absorb the dramatic increase of the LMS uses, but also the new features to be added in order to support the new practices related to the configuration adopted on each campus. This latter issue highlighted the relevancy of communities of practices that were especially possible in France thanks to the homogeneity of the LMS, and that allowed to mutualize practices, experiences and developments. More globally, and regardless any technical aspects, the institutions strategy regarding the LMS, and its level of integration in the academic process has been another key challenge in both of France and Japan, especially through the matter of the Faculty Development (see. 4.3)

Compared to the LMS, the videoconferencing platforms, until the beginning of the pandemic, mainly didn't show any campus-wide installation beyond some local uses. These latter, in France, especially relied on a nation-wide mutualized solution managed by the national academic network operator (RENATER). However, the rise of the pandemic, and the scale of needs led most of the universities to switch to the same main industry solutions chosen by their Japanese counterparts: Microsoft Teams, Zoom, and Big Blue Button. The related campus-wide implementations were unprecedent for most of the institutions, and raised first some significant security and user support issues.

4.3 Need for Faculty Development

The massive switch on online teaching, whatever the typology to be applied, raised considerable needs for Faculty Development, in order to support the new normal's teaching practices.

Practically speaking, and getting back to our three layers approach, we can mention nation-wide, large scale cross-universities, and local initiatives. These latter, for obvious practical and organizational reasons, were the most systematic, and the first ones to be implemented. These local initiatives showed a very large variety in terms numbers of sessions scheduled, topics covered, and engagement strategies (from large scale pretty unidirectional lecture type sessions to limited capacity workshops involving individual support). This variety, and the range of these initiatives was especially connected an eventual pre-existing formalized Faculty Development initiative they could rely to or not. As an example, Kyoto University's Center for the Promotion of Excellence in Higher Education (CPEHE) used its existing background and experience to launch a *Teaching Online@Kyodai* portal [5] and to schedule 41 workshops that counted almost 3.800 registrations. Large scale cross-universities initiatives might be found in France and Japan, with different level of formalization. Some informal initiatives rose spontaneously, such as social networks practitioners groups [6], based or not on pre-existing

communities, and some other ones, more formal, we settled by mutualization actors such as professional associations that found here a new action to lead for some of them, or cross-universities structures such as the Ile-de-France Digital University, that extended its already existing Faculty Development initiative by creating a special *Teaching with Digital* 10 modules course [7] (85 sessions that registered almost 800 registrations from 17 universities).

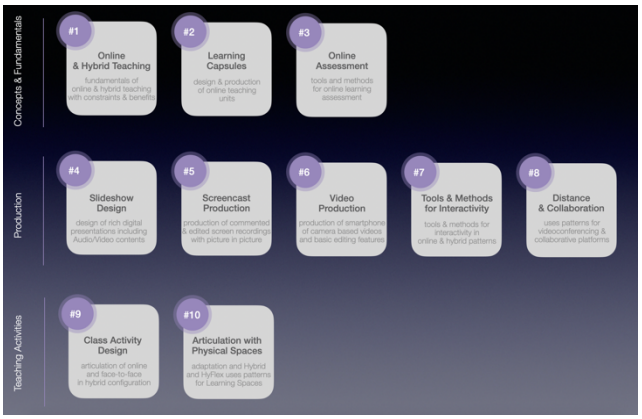

Fig. 2: Ile-de-France Digital University *Teaching with Digital* Faculty Development course

These training offers, and the global context of the pandemic, highlighted three main kinds of publics among the faculties that can be equally observed in France and Japan.

The usual innovators, first, didn't especially change their behavior, as they were already showing a genuine sensitivity for the innovation in teaching practices – especially through ICT -, before the pandemic. The switchers represent the biggest part of the counting, and deal with faculties that didn't show neither reluctancy nor specific sensitivity for change, but for whom the pandemic represented, even though not chosen, an opportunity to engage themselves in a review of their own teaching practices, by including the new patterns induced by the general context. Some of these switchers may have got support from usual innovators in a peer-to-peer way. Lastly, the reluctant faculties, that were until then traditionally rejecting any potential change in their teaching practices, were forced by the circumstances to move to solutions that wouldn't have considered in any way in the usual context.

Obviously, quantitatively and qualitatively speaking, the demands and the attendance to the Faculty Development sessions showed significant variation among these different categories, as well the global approach – not to say openness – they showed towards them. If the usual innovators didn't represent a challenge to engage, most of the French and Japanese examples highlighted a quite fast adoption from the switchers, who understood very quickly the benefit they could get from the sessions, and – maybe more surprisingly – a progressive but real evolution of the reluctant faculties' mindset. Ile-de-France Digital University's Faculty Development surveys shows, as an example, a rate 96% of satisfaction regarding the *interactive asymmetric videoconferencing* the were delivered, that includes feedbacks from faculties potentially belonging to the reluctant category, that might thus have shown an evolution of their mindset regarding the changes.

At the time of this paper's writing, different key success factors might be identified regarding the Faculty Development. Peer-to-peer interactions (faculties tend to give greater credit to session delivered by peers), institutional integration (the recognition of the Faculty Development sessions increase their visibility and their attractivity), tools/practice approach (faculties underline the necessity to add a pedagogical practice approach to the tool one when sessions are dealing with ICT), agility in the scheduling (the time schedule – for instance during lunch – and the repetition of a same session appear are essential to fit to faculties scrambled schedules), and customization to disciplines (as, here again, the sessions have to find a practical application beyond the theorical and/or technological one).

4.4 BYOD issues for Faculties

Faculties being requested to fully or partially teach online, thus remotely, the personal IT equipment question became crucial. The massive use of videoconferencing platforms raised some unprecedent needs. If the BYOD was globally a reality on both of the French and Japanese sides, quality A/V accessories (for example microphone), possibility to install the requested software, and – more significantly - connectivity issues have been a challenge in some cases. Limited bandwidth and data amount for Faculties using cell phone Internet connectivity might have been significant issue in the teaching activities.

5. Students social issues

5.1 Individual equipment and IT

The massively remote learning pattern that has been applied induced an equipment on the students side that had to be completed in several cases. Japanese students living with their family, especially, had to consider to buy specific furnishing in order to settle the necessary comfort for their daily activities at home, where they didn't spent so much time so far for learning activities. Desks and chairs that couldn't be shared, second screen for the watching of online lectures were some of the items mentioned.

On the purely IT point of view, if most of the students were already equipped in terms of laptop computer and Internet access, a digital gap could be observed for some of them (1.5 to 2% in France), and local (universities) and regional (prefectures) initiatives were settled to provide computers to the students who couldn't afford one [8]. The Internet connectivity might had represented a significant issue. The question of 4G plans including a data capacity large enough to handle intensive videoconferencing activities for all students studying remotely has also been raised as a potential inequity matter. In France, institutional and political pressures have been led to carriers, in order to propose discounted plans, alongside to 4G mobile routers to be provided to students by some institutions, as several Japanese universities did.

5.2 Mental issues

One of the most visible outcomes of the pandemic on the students has certainly been the mental issues that progressively appeared in

both countries. The feeling to belong to a "lost generation", the isolation, due to the length of the remote learning periods (in France and Japan most of the students almost didn't go on the campus from March 2020 to February 2021, time of this paper's writing), worries about an uncertain future regarding the job market, digital fatigue due to the amount of time spent in front of a computer screen, global questioning of the value of Higher Education (see 5.3), and money issues related to the loss of a student job were some of the symptoms of a phenomenon that led to some dramatic outcomes, highlighting the necessity of a mental support beside the purely academic matters. Some nationwide measures were taken in that direction, such as the psychological assistance voucher, alongside local the assistance services already existing in the universities, or the 1 Euros per meal program for low revenue students that were a part of a national program launched in France on early 2021.

Beyond the overall stopping of the social aspect of their student life, on an academic point of view students highlighted the loss of the reflexivity on their own work, that the usual group working activities make possible, and that virtually disappeared with the switch to online. Some experiences of an increased use of the breakout rooms features in the videoconferencing tools are expecting to become an answer to this issue, by overcoming the dilution effect of high number of students passively following the same online lecture , and adding Active Learning activities.

On the French side especially, the usual high number of foreign students were especially impacted by the pandemic, adding to the previously listed potential symptoms the one to experience a lock down far from their family, and in a foreign country. In Japan, some universities yet fostering international students programs suffered from the impossibility to physically welcome them (on the national level due to the borders closure, and on the local one due to the campus access limitations), and observed a lack of attractivity of the online alternative that may have been proposed.

5.3 Higher Education value

Beside the mental impact, the partial or total switch to online learning raised fundamental questions regarding the value of Higher Education. On the financial point of view, the low tuition fees of French universities (approximately 50,000 JPY per year) made that no significant lack of acceptation were observed following the switch to online. However, questionings quickly appeared regarding the value and the recognition of the diploma to be obtained in such conditions, in the perspective to the entrance to job market.

In Japan, the issues rather dealt with the higher tuition fees of private universities, especially, that were contested in some cases by students' families paying them, considering that the knowledge delivered online didn't fit the expectations, highlighting the gap to overcome regarding the perception of online learning.

Yet showing differences, the issues observed in both sides, highlight the challenge of the recognition (by employers, students, and students' families) of the online learning activities not as a degraded alternative of the face-to-face ones, that appears to be fundamental in the perspective of the post-pandemic possible scenario.

6. Post-pandemic forecasts and projections

6.1 Opportunity for Teaching and Learning practices ?

In France, 80% of the institutions judge that the pandemic was an acceleration trigger in their digital transformation [8]. In many of the interviews we have conducted in Japan, the pandemic, beyond all its dramatic outcomes, is also mentioned to be potentially considered as an exceptional opportunity to reconsider the Teaching & Learning practices, in a way that would have been almost impossible in normal circumstances. This assertion is obviously rather stated by actors that embrace the change quite positively (institutional actors engaged in Faculty Development, usual innovators, switchers), but might also find an echo from reluctant faculties, that acknowledged that the pandemic "forced" them to switch to practices that they wouldn't have neither considered nor accepted. In that sense, the COVID-19 could represent an unexpected trigger for change, that has, however, to be questioned regarding its sustainability.

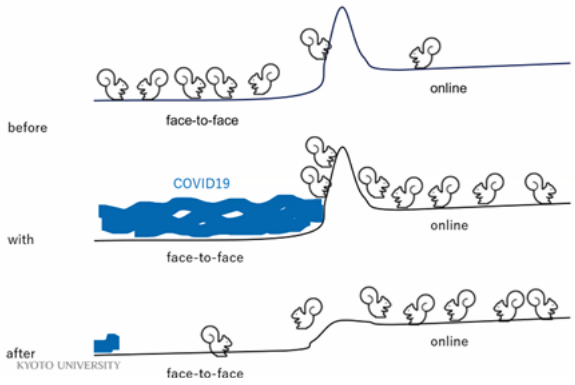

Fig. 3: Effect of the pandemic on Online Learning
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6.2 Sustainability of the COVID measures

During the EDUCAUSE Annual Conference held on October 2020, the traditional Top IT issues [9] for the forthcoming year was focused middle term scenarios for academic IT, and can easily be translated to the overall question of the ICT and the Teaching and Learning practices. The first scenario, *Restore*, consists to a total come-back to the pre-COVID situation as soon as the pandemic will be over. Therefore, it implies that the majority of the different measures, technologies, and practices implemented during the last months won't be maintained (typically a come back to 100% face-to-face classes). The *Evolve* scenario is more balanced, and implies some of the pandemic time settled measures to be maintained, for instance as and hybrid model in which the balance between face-to-face and online teaching would be adapted. The *Transform* scenario, lastly, means a lasting of most of the pandemic time measures as they currently are, for instance a mainly distance teaching configuration.

In both of the French and the Japanese sides, a huge majority of stakeholders, practitioners and faculties tend project themselves in

the *Evolve* scenario, not only because of the uncertain Higher Education landscape that will emerge from the pandemic, but also as they recognize it, a least partially, as the opportunity we were discussing (see 6.1). Return on investments being also taken in consideration. However, acceptation of a sustainable change after the pandemic period, thus without the related constraints, is identified as a potential issue.

6.3 Recomposition of the Learning Territories ?

The *Evolve* type scenario that concentrates most of the predictions – and hopes - implies significant evolutions compare to the pre-COVID situation, mainly structured around an hybrid configuration, and a mix of synchronous and asynchronous teaching patterns that may induce a recomposition of the different Learning Territories. That might include a distinction made between teaching activities such as lectures to be given remotely in a synchronous or asynchronous way, and face-to-face collaborative and Active Learning type activities to be conducted on the campus, using adapted facilities such as the Active Learning Classrooms and the Learning Commons [10], that could therefore get an integration in the institutions academic strategy they didn't reach before. This pattern might also involve new physical locations such as the transitional spaces that progressively appear in universities, and that interlay themselves between formal and informal spaces and provide a physical and functional continuity of the Learning Spaces all across the campus, and the out-of-the-campus third places already popular especially in Japan.

More globally, and in both sides, the question of the rational and tangible reasons to request students to come to the campus for face-to-face activities tend to be raised, alongside to other new fundamentals that might surge such as the real integration of informal learning activities [11]. These aspects, that certainly represent the most important conceptual changes, therefore hold the biggest challenge in terms of evolution of the mindset of stakeholders and faculties, regardless the country.

7. Concluding remarks and future works

Despite significant differences on the timing and the intensity of the pandemic, as well as the government response, France and Japan globally faced similar challenges and issues regarding the key matters of Teaching & Learning, and applied comparable responses. In both countries, and beyond all the challenges and the dramatic issues it raised, the pandemic has been widely seen as an opportunity for various transformations that, in normal conditions, would have been almost impossible to implement in such a short time. Digitalization of universities, and renovation of the Teaching & Learning practices appear to be the two most significant outputs.

The long-term acceptation of those changes, and especially the sustainability of a significant part of distance education in redefined hybrid models yet remains a potential issue, not only for reluctant faculties, but also to general publics who saw in the universities' COVID response a decreasing of the value of Higher Education. This matter, in highly competitive university markets such as the Japanese one, might translates itself in questioning the tuition fees, and therefore the business model of some private universities.

Despite the proceedings of the vaccination campaigns that started in France and Japan at the time of this paper's writing, the sanitary situation remains uncertain for the upcoming weeks, which might see some evolutions and adaptations of the initiatives we observe. Beyond their analysis, and keeping our comparative approach between France and Japan, in the next steps of our work we will especially focus on the entrance to the post-pandemic era, and on the fundamental matter of the sustainability of the measures, in order to qualify the real and long-term transformations that the COVID pandemic will have induced on the campus regarding the Teaching & Learning practices. If our first results clearly highlight an Evolve type scenario as the highest probability to become the post-COVID new normal on both countries' campuses, several questions still remain regarding the expected position of the trigger between online and face-to-face activity, and in other word the level of sustainability of the measures implemented during the pandemic. We especially seek to identify the internal and external dynamics, the actors and the motivations that will impact this balance, and to qualify the Teaching & Learning outcomes it will support, beyond any Return On Investment matter.

We also plan to broaden the scope of our study by integrating different aspects being subsequently impacted by the expected changes in Teaching & Learning practices. First, digital tools, such as the New Generation Digital Learning Environments (NGDLE) that may significantly enhance the Online Learning experience, and eXtended Reality technologies (XR, including Augmented Reality / AR, Mixed Reality / MR and Virtual Reality / VR) that might redefine the way to conduct practice workshops in the new configurations. Physical environments, also, especially by questioning the new role of the innovative physical Learning Spaces, that may find a way to overcome the threshold of the experimentation and significantly support the face-to-face part of these mutations.

Finally, still focusing on the post-COVID era, and getting back to the core of our comparative approach, we will study the impact of the Higher Education system model on the capacity to induce and support these systemic changes in the universities.

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