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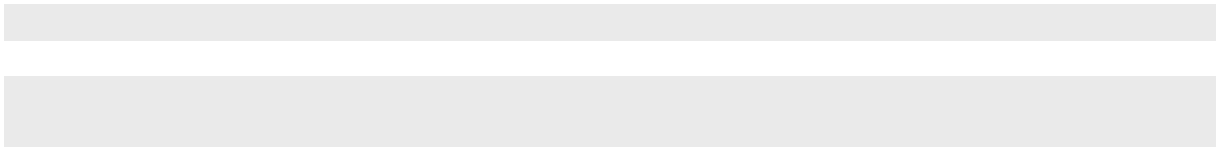
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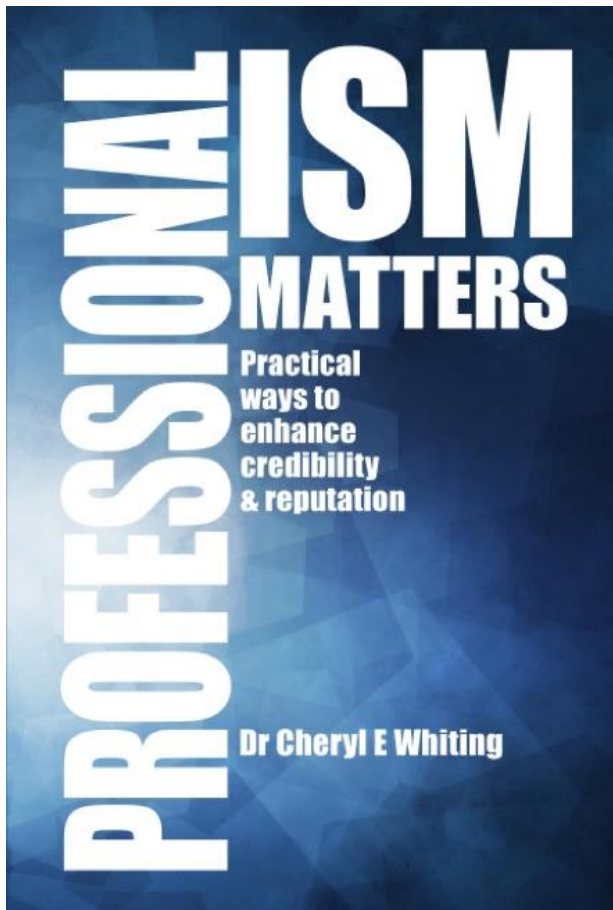Honorary Board Member – Oxford Awards Club, U.K

PROFESSIONALISM MATTER
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Professionalism Matters is an all-inclusive guide for those who aspire to be their professional best and want others to be equally equipped to act with professionalism.

The book written by Dr Cheryl Whiting offers insight into issues that matter most in achieving client satisfaction, maintaining standards, developing credibility, and building a positive reputation. It aims to challenge assumptions, develop self-awareness, and inspire success.

Of value to new and experienced freelancers, contractors, self-employed and small to medium-enterprise employees with client-facing roles, who want to improve and survive in a competitive market, where challenges in working practices are ever-present.

Professionalism Matters expands understanding of what it means to be a professional and what it takes to stand out as someone with integrity, offering practical advice on how to become the professional that everyone admires.

Professionalism Matters is published by Tantamount (August 2023). ISBN: 978-1-909929-95-1. It contains 12 chapters (416 pages) covering a range of professional issues and topics and is currently available as a paperback priced at £18.99* or as an e-book priced at £8.99 via Amazon.

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Investigating the Synergistic Relationship between Platform Enterprises and Small and Medium-sized Enterprises (SMEs): A Systematic Review

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The purpose of this article is to evaluate the value contribution of Platform Enterprises (PEs) towards Small and Medium Enterprises (SMEs) and to understand the role of PEs in the proliferation and growth of SMEs. The study employs a Systematic Literature Review (SLR) and bibliometric analysis approach to assess the relationship between PEs and SMEs, e. A dataset of 2405 peer-reviewed articles published is utilized through R-Studio, Biblioshiny and Vosviewer to examine the value contribution of PEs towards SMEs across various disciplines. The study finds that PEs have played a significant role in supporting SMEs by providing them with multiple solutions to sustain their businesses during the pandemic and to proliferate under Human-centric, Sustainable, Inclusive and Holistic approach of Industry 5.0. The SLR highlights various ways through which PEs have contributed to the growth and success of SMEs, including access to new markets, increased customer reach, and enhanced efficiency in business processes. The research is limited by the availability and scope of the literature reviewed. As the study relies solely on published articles, there might be a publication bias. Moreover, the dynamic and rapidly changing nature of the platform economy may require constant updates to the findings. The results of this study could guide SMEs in recognizing the value of collaborating with PEs to enhance their competitiveness and sustainability in the market. Moreover, the findings can help policymakers in promoting an environment that fosters the development and growth of PEs, ultimately benefiting SMEs. This paper is the first to systematically review the relationship between PEs and SMEs, addressing a gap in the literature. By analysing the value contribution of PEs towards SMEs, this study adds new insights to the understanding of the platform economy and its implications for SMEs. This paper is a research article based on a systematic literature review and bibliometric analysis of the relationship between Platform Enterprises and Small and Medium Enterprises.

A New Multidimensional Pedagogical Approach for Learners with Educative Challenges

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This study reports pedagogical research in the implementation of innovative gamified learning interventions in a Romanian justice centre for youths. The main purpose of the study is to gain a better knowledge of how participants learn individually, as well as, to determine how, if at all, serious games might generate constructive problem solving and collaborative learning in a carceral environment.

Methods: The sequence of the game was designed to meet both research and pedagogical goals. This research approach includes mixed methods to promote inclusion for young adults with educative challenges through a progressive learning pathway for re-engaging with learning. The game highlights notable challenges and events that players need to tackle in their learning achievements and successful strategies. The player transforms the environment of the game and at the same time, the player is transformed by the environment of the game. The transformation of the game environment stems from the results of the player's activities. The transformation of the player emerges from the building of knowledge, and the development of skills and sensitivities necessary to interpret and transform the circumstances faced in the game. Participants are 15 young students, between 18-20 years old, from Buzias Justice Rehabilitation Centre, near Timisoara (Romania).

Results: The game led to: (1) awakening: helping the player to develop awareness of the challenge; (2) rising: promote behaviour change, enabling young people to develop new knowledge and sensitivity, assimilate and test strategies in an alternate reality. Moreover, serious games can generate meaningful, unpredictable, and uncontrollable events in order to engage users holistically and elicit users' adaptation in simulated gameplay scenarios.

Conclusion: Serious games may offer: (i) intrinsically-motivating learning experiences, driven by identified and explored meaningful goal-oriented actions supported by game feedback; (ii) opportunity to engage in otherwise unattainable scenarios and roles and to explore effects of decisions and actions across time and space. Recommendations for educational professionals responsible for the application of these innovative learning interventions to develop competencies in a challenging context, are presented.

Teaching and Learning challenges and opportunities in a dynamic post-pandemic environment

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The purpose of this research is to understand and analyze the challenges and opportunities for educators and learners in a changing post COVID-19 teaching and learning environment. This research is an extension of a research project conducted to identify and assess challenges of remote learning during Pandemic. Finding of the original project indicated educators faced challenges such as lack of engagement, policies, and norms. Lack of experience in using digital tools and motivation were indicated as contributing factors for this lack of engagement in online environment. Key recommendation from the project was need for educators to identify professional development opportunities for remote delivery and adopting bi-modal pedagogical approaches in future interactions of courses. Post-pandemic teaching and learning environment is different and continuously changing, this presents some unique challenges and opportunities. A document analysis was conducted to further understand these challenges and opportunities. This analysis included published material since 2021. Analysis indicated that some education institutes have

recognized the need to combine what has worked in their traditional face-to-face pre-pandemic educational environment with their learning from the remote teaching experience during pandemic. The challenge of keeping teachers and learners engaged, motivated and in good mental health during this transition was highlighted. This was acknowledged that technology is central to learning in post-pandemic education environment. This analysis further emphasized that professional development and training is key for educator to ensure success in this new environment which demands knowledge of best practices in hybrid, blended and online teaching strategies. Findings suggest that it is important for educators to humanize contents of their courses to assist building human connection and relationship, as face-to-face contact decrease in courses. Challenges related to assessment and invigilation were acknowledged with possible solution even in digital environment, services such as Ex amity and TOP HAT that use webcams, screen videos and other features can be used. The analysis also highlighted the challenges and opportunities for educators in using Generative Artificial Intelligence (AI). It is evident that there is mixed feelings among educators about the use ChatGPT, it presents some opportunities such as generating prompts to get started, and use it for getting ongoing feedback for teaching and learning. At the same time there are limitations such as generating wrong information, biased information and privacy issues. The analysis concludes that there is a need to identify how these generative AI tools could be used safely and constructively in teaching and learning.

Computational thinking using Rapid Algorithmic Prototyping Tool for Ordered Reasoning Approach

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At the point when students are figuring out how to foster calculations, they frequently invest more energy managing issues of punctuation as opposed to taking care of the issue. Furthermore, the literary idea of most programming conditions neutralizes the maximum of learners. RAPTOR is a Drag and Drop programming climate, planned explicitly to help the learners with imagining calculations keeping away from grammar stuff. RAPTOR flowcharts are made outwardly what's more can be executed clearly by following the execution through the program punctuation which is vital to this flow-chart-based programming. Learners favored communicating their calculations outwardly, and became more effective in making calculations utilizing RAPTOR than utilizing a customary programming or composing pictorial representations.

Keywords: RAPTOR, Flowchart, programming, execution

How HES-SO Western Switzerland faced COVID-19: Concept, students' vision and future implications

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Abstract

The University of Applied Sciences Western Switzerland (HES-SO) is the second higher education institution in Switzerland, with 21,500 students and 6,000 professors. Teaching is provided in small groups, face-to-face, but the use of blended learning has been developed since 2004.
In March 2020, when the entire Swiss education system shifted to distance learning, HES-SO was well prepared to face this challenge, as it had anticipated the risks, and established a taskforce in charge of developing support services for faculty and students (pedagogy, teaching, mental health, support for the civil society (health), educational costs). This paper presents the global experience focusing on three topics. First: anticipation: How was this institution able to transfer more than 30,000 people from presence to distance in less than one week. Second: evaluation: After three semesters of distance teaching, the rectorate launched a survey to collect students' feedbacks. Almost 900 students offered extensive comments and propositions for the future, providing fruitful insights on how teaching and learning should be improved in the future. Third: consequences: how will the institution integrate the outcomes of the global experience.

Keyword: covid19 strategy, distant learning, students' feedbacks, learning policy

1. INTRODUCTION

Context

E-learning, co-modal teaching, blended learning are different methods of distance learning which, until 2020, were used in university institutions dedicated to distance learning (Open University, Quebec Tele-University, etc.) (Nuruzzaman, 2016, Perraya, 2014). In Europe, some universities have been integrating distance learning for some years to highly contribute to their academic reputation (Utrecht university, Netherlands, Uppsala university, Sweden, University of Liverpool, and Laureate online, etc.)
Until 2020, most tertiary institutions, if they used distance learning at all, tended to use blended learning, (Chandra Sekhar Raoo, 2019) retaining face-to-face time as the

central framework, enhancing it with online supplements delivered through Learning Management Systems (LMS) such as Moodle.

All forms of distance learning are based on two modes: synchronous, which uses media to communicate in real time, and asynchronous, which uses other media to communicate in delayed time, or a mixture of both. Video conferencing is a synchronous system, whereas LMSs such as Moodle are asynchronous systems, although they can integrate video conferencing via applications such as Big blue button.

The COVID-19 has forced most Universities worldwide to teach remotely, and revealed shortcomings, difficulties, ineffective habits, and new opportunities. As a powerful leverage for change, the COVID-19 forced institutions to reorganize education.

Thus, in March 2020, Switzerland closed all educational institutions for 6 weeks (Unesco, Schools closures), and then extended the closure of non-essential businesses and universities several times thereafter. From 16 March 2020 to 13 June 2021, for three semesters, courses were first delivered entirely via distance learning and then only partially.

At that time, the HES-SO was similar to all other universities in the country. None of its 46 BA programs and 20 MA programs were offering distance learning. At most, the institution offered a dozen Massive Open Online Courses (MOOCs), intended for the wider audience rather than for its enrolled students. However, the institution had two advantages to face this new situation: the habit of using Moodle in blended-learning mode since 2005 and a proven e-learning center.

Current situation

The European Commission (EC 2001) defines e-learning as "the use of multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services, as well as exchanges and collaboration at a distance" (European Community, 2001) Two modes of distance learning are considered: synchronous mode, which concerns real-time training, and asynchronous mode, which dissociates teacher-student interactions and is carried out off-line.

In 2020, the HES-SO did not provide any distance learning programs, neither certifying nor graduating. Other Swiss institutions (La Fern Fachhoschule, UAS distance learning, Unidistance, distance university) specialize in this type of offer. Only one Mooc in sustainable finance, aimed at obtaining a Certificate of Advanced Studies (CAS), was organized according to the 80% distance, 20% presence ratio.

The HES-SO students had not chosen to study at a distance. Curricula and content were not adapted to this modality and few teachers were trained to meet the challenges of distance learning.

The experience of both teachers and students was centered on the classic classroom approach, in small groups according to the course of study, with close links and support for the students. At the HES-SO, the average class size is 30 people, and few courses are given exclusively in lecture halls.

The challenges of distance

In distance learning, three key elements related to any training system are modified:

- the production of learning resources: learning content can no longer be based on synchronous orality, with the teacher speaking in ex-cathedra mode, dispensing knowledge that can be adapted in real time to the students' listening capacity and questions. At a distance, it is necessary to have resources prepared in advance, which consider the needs of the audience in question. Analysis prior to the production of resources is therefore fundamental. It implies having a multidisciplinary team in charge of this reflection, including professions such as educational engineers, documentalists, teachers and technical specialists. These people ensure that the intersection between the needs of the target audience, the resources and the dissemination are met adequately.

> At the HES-SO: while teachers were lecturing, they accompanied the lectures with PowerPoint-type resources, video extracts, articles for further reading and numerous specific exercises. Just over a third of them made these resources available on the HES-SO's Moodle platform, allowing students to access them outside the classroom. Some training resources therefore existed, but they were often disparate and poorly organized. The continuity, the way to use them was not expressed, and the instructions were given orally in class.

- Student monitoring: in face-to-face teaching, students are monitored as the course progresses: answers to questions, activation of student interest through targeted remarks and questions, monitoring of group work or private discussion at the end of the session. At a distance, this follow-up is conducted via video-conferencing systems, by telephone or in asynchronous mode, via e-mail. The modalities of this follow-up must be clear for both parties, must be described, and planned.

> At the HES-SO: in-class monitoring was conducted in the traditional way, in synchronous mode, particularly for the management of project work groups. Out-of-class monitoring concerned Bachelor and Master theses by offering sporadic support to students with questions or encountering difficulties. Few professors had the experience necessary for distance learning.

- Student assessment: in face-to-face mode, end-of-module examinations usually happen in classrooms, where students would gather to take written or machine-based tests. Teachers or teaching assistants supervise them to ensure that cheating and contact between students is prevented. These examinations are conducted in synchronous mode.

> At the HES-SO: most examinations, apart from group work, were conducted in class, under the supervision of the teachers concerned, either during lessons or, in the case of end-of-module examinations, in specific rooms. Depending on the subject, these examinations were conducted via Moodle (homework or quizzes) or on hard copies. Assessment was therefore the most challenging task to switch to distance learning, the value of the diplomas highly depending on the quality of the assessment.

2. ANTICIPATION

The Education Department oversees educational issues at the HES-SO Rectorate. At the end of February 2020, no one believed that the Swiss schools, and especially the universities, would be closed, but the Vice-Rector in charge decided to prepare the ground in case they were closed. The HES-SO e-learning center, responsible for managing the Moodle LMS, producing MOOCs, and providing Moodle training for teachers, was mobilized a fortnight before lockdown. The mission was to produce all

the resources necessary to support teachers and students to switch to distance learning in an appropriate manner.

As distance learning requires an unexpectedly heavy workload for teachers, the first week of distance learning was declared a "blank week" by the rectorate, thus allowing teachers to train and prepare the resources necessary to maintain their teaching.

To prepare for the presence-distance switchover of more than 30,000 people, the e-learning center worked as follows:

Firstly, by exploring the websites of Italian universities, the first to close their training sites. They had all developed a communication system centered on a dedicated web page from which to access self-study resources and online courses. As the HES-SO is organized in decentralized physical campuses across Western Switzerland, the Moodle homepage became the rallying point. A page containing explanations, videos, and training texts, and listing the pedagogical advisors was set up. Concurrently, the Center's current activities were stopped, and its fifteen employees were assigned to the telephone helpdesk to cope with future demand. The number of available lines was quadrupled. The Moodle platform was upgraded to manage above-average traffic, and disk space was increased to 7.7 TB.

Secondly, all the resources necessary for the training of teachers and students were gathered or created, in collaboration with the HES-SO professional development center Devpro, and the pedagogical advisors. To ensure coherence within the School, the Rectorate validated two unique systems: the MS-Teams videoconference system for synchronous teaching and the Moodle LMS for asynchronous teaching. From the end of February to 15 March 2020, the activities of the Center focused on the design and production of documents and videos targeted at the needs of teachers for this situation: how to create an organizational structure in Moodle, how to create a red thread document to explain the course to students, how to create interactive resources, how to launch a videoconference, etc.

Thirdly, a webinar entitled "Distance Learning - Day by Day Method" was organized on Monday 16 March 2020 to train teachers to integrate distance learning into their lessons. Unfortunately, as soon as the closure of the schools in Switzerland was announced, all video conferencing systems in Switzerland, such as Zoom, Teams, and other local applications, went down. Therefore, it became impossible to organize this webinar in the way it was planned. Sensing an important level of expectation, the Center created a YouTube channel and used Open Broadcaster Software (OBS) to provide the service. More than 800 people followed this live webinar, whereas pre-lockdown webinars were attended by about 15 people at best. The video was made available after the live event and to date 8,300 people have viewed it. The next day, a webinar on the use of Teams was well attended. To date, 16,000 people have viewed this resource.

Students were not forgotten, specific videos were developed, such as "how to learn at a distance", "how to keep motivated" or later "how to prepare for a distance assessment".

In the end, the Center produced more than 40 tutorials (including animations and webinars), created more than 1,000 courses in Moodle, and produced a short Mooc "A short and easy way to build your distance learning course", for a total of more than 100,000 views.

3. RESULTS

At the HES-SO, teachers who had no courses on Moodle, massively asked the Center to create spaces. As video conferencing was not yet part of the teaching staff's routine, their needs were transferred to Moodle.

The HES-SO schools allowed the teacher to freely choose between synchronous or asynchronous teaching, but the use of the applications was imposed. Most teachers (60%) opted for videoconferencing, 37% applied a hybrid method: synchronous teaching with videoconferencing and deposit of documents, quizzes, assignments in Moodle. Only 3% of the teachers used only Moodle in an asynchronous format.

Videoconference

MS-Teams was not originally designed for teaching but offered functionality more related to project management. Various difficulties arose. Understanding the system, organizing classes, adapting to a constantly changing interface. Moreover, the animation of the sessions by teachers confined at home was not always optimal. The difficulty in knowing how to position oneself in front of the webcam, in neutralizing interruptions from one's family, and the passivity of the students were problematic. Students quickly got into the habit of turning off their cameras and teachers gave their lectures in front of pads containing simple initials, which undermined interactivity. A minority of students logged on without following the lecture, however the majority worked well. Initially, the idea of using video as a perfect replica of face-to-face teaching resulted in teachers getting bogged down in long and tedious sessions for both them and the students.

As both students and teachers did not always have a private room to study or to follow/teach a videoconference lesson, it was difficult for them to find the quietness necessary for good concentration. In addition, depending on their class schedules, spending a full day in a videoconferencing session was more mentally demanding than spending a full day in a classroom session. Some teachers found interesting solutions: asking students to leave their homes (allowed in Switzerland during this period) to read a document, an article, or to carry out an exercise outside, and then return to their rooms to exchange views; dividing the course into small units alternating between theoretical contributions and exchanges; devoting the course to the follow-up of project groups and allowing the work to take place outside the vision of the teaching; asking randomly selected students three quarters of the way through a session what they thought of the course up to that point, and what the course had brought them: This was almost certain to bring out remarks, points to be clarified, where the traditional request "do you have any questions" was often met with a heavy silence.

LMS

Many teachers had previously used the Moodle course as a simple repository, placing all the resources in one section. Not only did they have to structure the course in several sections, but they also had to design an accompanying document explaining how their Moodle space should be used. Some teachers made short "instructional" videos before each section, others made "walkthrough" videos, and some did not change their habits.

Teachers who often used PowerPoint presentations to illustrate their lessons were trained to add sound to their documents. A pre-crisis study had shown that the two most popular training resources for students were audio PowerPoint and quizzes.

Forms of distance learning deployed

While the spring semester of 2020 took place totally at a distance, based on synchronous and/or asynchronous teaching, the other two semesters saw the generalization of a new practice in the institution: co-modal teaching (Hybrid flexible courses). According to Beatty (2019), 'HyFlex courses are class sessions that allow students to choose whether to attend classes face-to-face or online, synchronously or asynchronously'. This mode of teaching has been successful in integrating students who are in contact with or affected by the virus. It was not implemented in the usual way, as it was strictly reserved for affected students, and not, as is done in Canada for example, by allowing students to choose between the two modes of teaching. Some HES-SO schools have invested considerable sums to install specially equipped

rooms (camera tracking of the teacher's movements, automatic student

interventions, etc.). In other schools, some teachers simply used their laptops, with

Teams switched on and facing the whiteboard, and wore a Bluetooth headset to

interact in real time with the class present and the distant students. The Hyflex

proved interesting, although it involved a heavy cognitive load for the teacher. In

this model, it is a matter of not forgetting the remote students, including them in the

interactions, answering their questions, and being able to manage the material

while giving the lesson.

4. EVALUATION

After three semesters of distance learning, the HES-SO wanted to know what students thought about this period. How did they experience it? Under what logistical conditions? Despite the difficult context, did they appreciate the distance factor? What did they want to see developed in the future?
A quantitative survey entitled "Learning at the time of COVID" was designed and disseminated for three weeks on the HES-SO communication networks. The survey consisted of 42 closed questions and one open question: "To conclude, I would like to tell the HES-SO...". 878 students responded to the questionnaire, 450 of whom answered the open question. The total number of HES-SO students was 21,500, the vast majority were registered on Moodle. With a confidence level of 95% and an error rate of 5%, the number of returns necessary for the statistical validity of the survey was 379.
The data presented below are extracts from the survey selected to illustrate the

theme.

Student portrait

The average HES-SO student is a woman, aged 18 to 25, enrolled in a Bachelor

program. The demographics of the survey show the same figures. Many female

students are enrolled in Business, Health, and Social Works programs. Switzerland offers

a good and fast Internet infrastructure, which is reflected in the responses of the survey
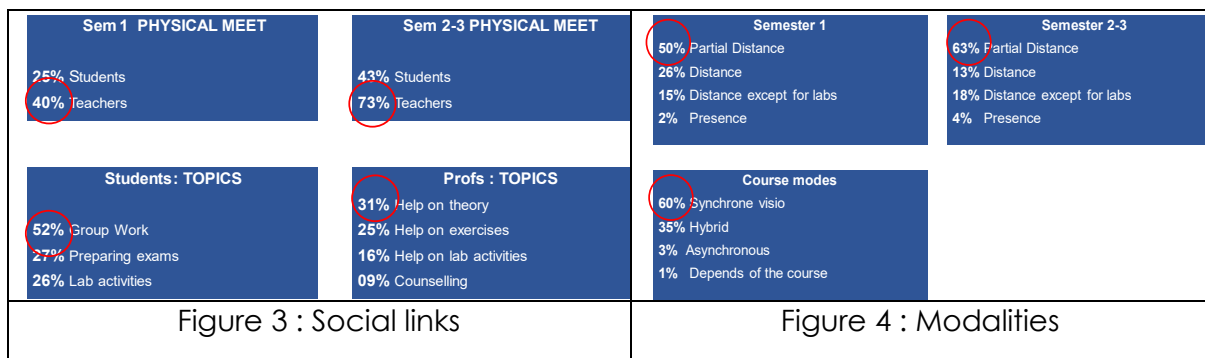
participants. Most students lived at home with their parents and felt that they could study in a quiet environment.

I AM	AGE	HOUSING	CONDITIONS
44% a man	0% <18	58% Live with parents	68% Calm
55% a woman	72% 18 to 25	16% Flat sharing	32% Study-friendly
0% I do not recognize me in this distinction	23% 26 to 35	15% Alone, own flat	14% Noisy
1% do not want to answer	5% > 35		

PROGRAMS	FIELDS OF STUDY	AT DISPOSAL	INTERNET SPEED
75% Bachelor	38% Engineer	84% Wifi	31% Fast
24% Master	24% Business, Management and Serv	69% Laptop	41% Fast enough
2% Continuing education (CASm DAS, eMBA)	20% Health	63% Smartphone	0% No Internet connexion
	16% SocialWork		
	1% Music		
	>1% Performing arts		

Figure 1 : Demographics and logistics	Figure 2 : Logistics

Social links

During the first semester taught at a distance, with limited contact and outings, students turned towards teachers more than towards other students. In the other semesters with fewer social limitations, the proportion of meetings increased, especially in the Teacher category. Most contacts were needed for clarification of theoretical concepts, suggesting that classroom interaction is necessary for comprehension. The figures also show the propensity of students willing to prepare for exams with their colleagues.

Sem 1 PHYSICAL MEET	Sem 2-3 PHYSICAL MEET	Semester 1	Semester 2-3
		50% Partial Distance	63% Partial Distance
		26% Distance	13% Distance
		15% Distance except for labs	18% Distance except for labs
25% Students	43% Students	2% Presence	4% Presence
40% Teachers	73% Teachers		

Students: TOPICS	Profs : TOPICS	Course modes	
	31% Help on theory	60% Synchrone visio	
52% Group Work	25% Help on exercises	35% Hybrid	
27% Preparing exams	16% Help on lab activities	3% Asynchronous	
26% Lab activities	09% Counselling	1% Depends of the course	

| Figure 3 : Social links	Figure 4 : Modalities

Experience

Students select videoconference as the worst method (52%) probably because many professors were using this tool similarly to teaching in the classroom, in a very vertical teaching. Besides, it has been proven that it is more difficult to stay focused during video sessions than in face-to-face situations, especially as people need to work

harder to process non-verbal cues like facial expressions, the tone and pitch of the voice, and body language; paying attention to these elements consumes a lot of energy. This phenomenon, known as 'Zoom fatigue' in the professional world, has been documented in education because of the extensive use of video conferencing sessions in schools (Leikomaa, 2021). However, students do not vote in asynchronous courses, via LMSs such as Moodle. 28% find this method to be the least appropriate. Interestingly, 30% felt that the value of the asynchronous course depended on the subject matter of the course, while only 20% of those who selected videoconferencing as the lesser effective method felt the same way.

The mixed method (synchronous and asynchronous depending on content and tasks) is the students' favorite method (24%). It is also the least rejected method (14% against 52% (video) and 28% (Moodle)). Positive points of distance learning stand out: 53% enjoyed learning to work alone, and 40% enjoyed learning to manage new digital tools, 49% enjoyed experimenting with new ways of learning. On the other hand, 83% deplored the lack of contact with other students, the difficulty in motivating themselves and the contribution of distance to the ambient gloom.

24% of students prefer the hybrid system, which they feel offers the best of both

methods. Only 11% prefer video and 14% prefer the use of an LMS in asynchronous

mode.

| Figure 5 : Favorite methods | Figure 6 : Ranking methods |
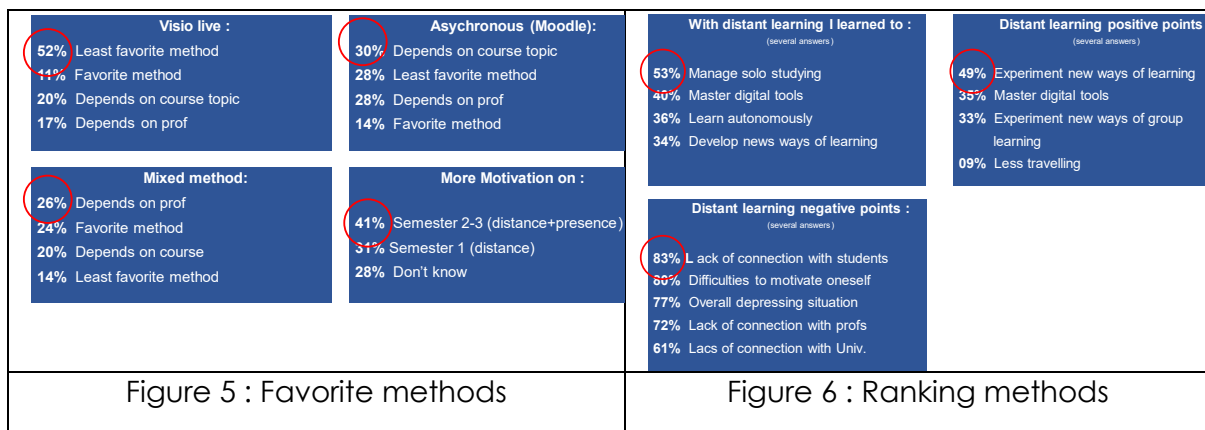
Learning efforts and examination results

There are three means for measuring academic success. The dropout rate, successful exams and obtention of degrees. With regards to the latter statistics, we must wait until 2023 to find out whether the graduation success rate for students enrolled in the first year of the spring semester 2020 at the UAS-SO, shows a lower tendency compared to usual years.

We already know that the dropout rate at UAS has remained stable. On the contrary, the rate of enrolment in training has even risen, as education has become a haven in an uncertain and worrying context.
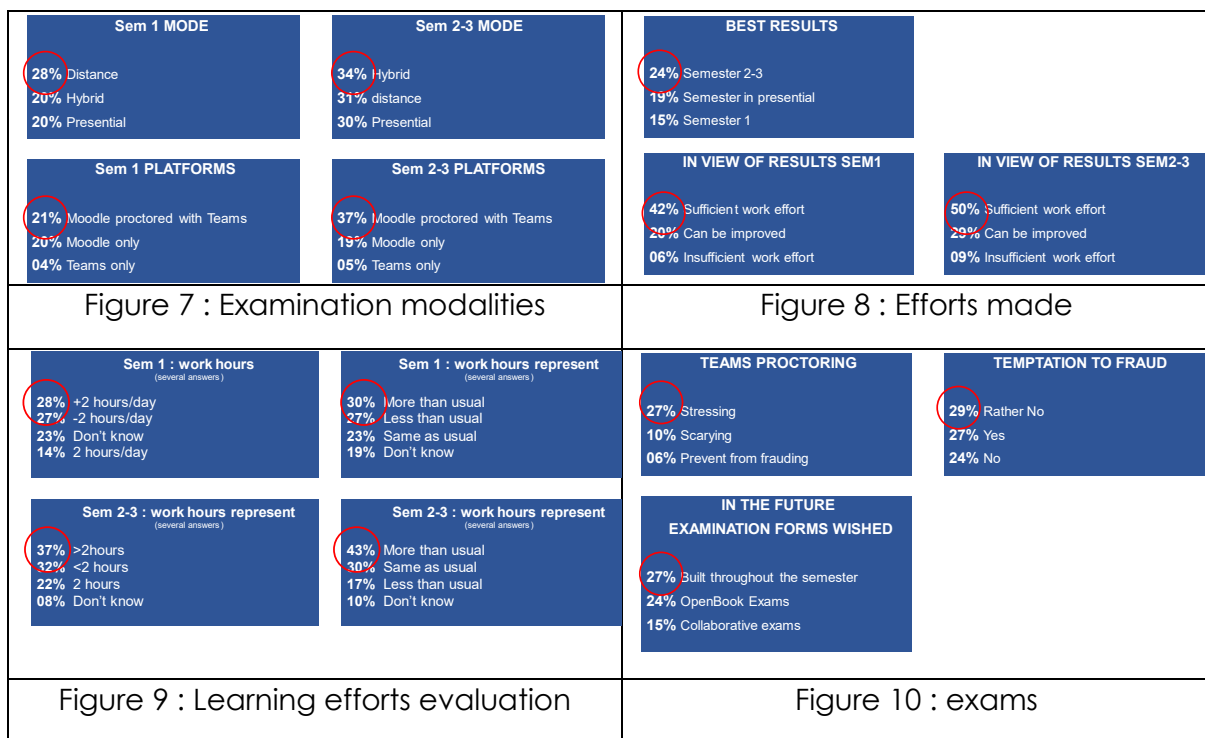
Concerning the second metrics, examinations, during the first semester students attended their courses mostly at a distance (28%), while in the following semesters they attended their courses in hybrid format (34%). At the end of the three semesters, the exams were held online, via Moodle, supervised by Teams (56%). Students reported that they had achieved the best results in the exams during the two semesters in hybrid format (24%) and felt that they had worked hard enough to achieve this. 59% worked 2 hours or more per day, which is equal to or more than the

usual time, according to 73% of them. Interestingly, this result is consistent with Figure 5: 41% of students were more motivated in semesters 2 and 3, either because the end of the crisis was in sight or because they had become used to the new learning environment. It should be noted that several Swiss universities, including the HES-SO, decided that the third semester would be spent in "distance learning" conditions so as not to change the students' habits once again, as internal studies have shown that students' stress is also caused by the constant change in teaching methods.

During the three semesters, most students took their exams at home, from a description in Moodle, supervised by webcam via Teams. Some streams used specific programs to proctor the sessions, others replicated the system used in the classroom: randomly switching from one student to another to ensure that they remained visible and worked alone on the exam topic. Several teachers switched to Openbooks exams, which effectively reduce the risk of cheating. About one out of three students found it stressful to be monitored by a computer system, probably because of the location of the exam, i.e., in students' homes: having a camera monitor pop up in a private environment may have seemed intrusive.

The question of cheating was put to the students. The results must be considered with caution: 53% of them indicate that they have not been tempted to cheat or have rather not been tempted to cheat, a third of them indicate that they have been tempted. If some students were found out, the percentage was not much higher than in the face-to-face semesters. It is likely that undetected cheating was limited to some use of comfort aids (sheets with aids, use of calculators etc.), rather than widespread and extensive cheating which would have been detected.

Figure 7 : Examination modalities

Figure 8 : Efforts made

Figure 9 : Learning efforts evaluation
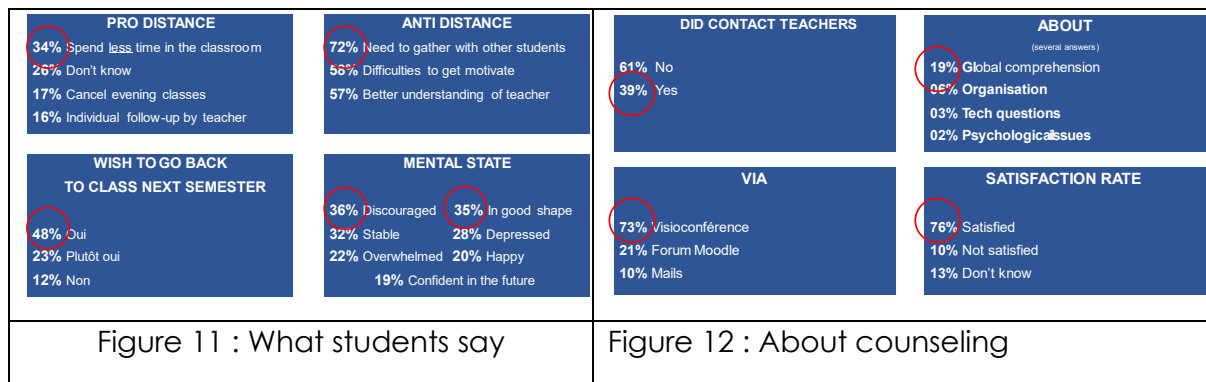
Figure 10 : exams

What next?

It was important to ask students what they wished to maintain from the three semesters modified by COVID. 34% of them would like to spend less time in class in the future, no longer take evening classes for part-time students, and to maintain individualized supervision by the teachers. This was possible for those students who wanted or

expressed the need to do so, as most teachers were permanently connected and could be reached directly, via instant message in Teams. 39% of students contacted a teacher, 19% for subject-related questions and a smaller percentage for organizational, technical, or psychological questions. The contacts took place by video conference for 73% of them, and 76% of them were satisfied.

Whether they appreciated the distance or not, 71% of them wanted to return to class. 72% of students who did not appreciate the distance and wished primarily to be reunited with their classmates, 58% found self-motivating difficult, and 57% felt that they understood their teacher better in face-to-face mode.

Contrary to widespread belief, the mental state of the students during this period was quite good: while 36% were discouraged, 35% considered themselves to be in decent shape, 32% in a stable mental state and 20% were happy. On the other hand, 28% felt depressed, although it was not clear whether this was due to the situation and/or the form of teaching. In all, 64% said they were experiencing mental difficulties, while 87% described their mental health positively and 19% were confident about the future.

PRO DISTANCE	ANTI DISTANCE	DID CONTACT TEACHERS	ABOUT (several answers)
34% Spend less time in the classroom	72% Need to gather with other students	61% No	19% Global comprehension
26% Don't know	58% Difficulties to get motivate	39% Yes	06% Organisation
17% Cancel evening classes	57% Better understanding of teacher		03% Tech questions
16% Individual follow-up by teacher			02% Psychological issues

WISH TO GO BACK TO CLASS NEXT SEMESTER	MENTAL STATE	VIA	SATISFACTION RATE
48% Oui	36% Discouraged 35% In good shape	73% Visioconférence	76% Satisfied
23% Plutôt oui	32% Stable 28% Depressed	21% Forum Moodle	10% Not satisfied
12% Non	22% Overwhelmed 20% Happy	10% Mails	13% Don't know
	19% Confident in the future		

Figure 11 : What students say	Figure 12 : About counseling

The following emblematic comments were extracted from the remarks added at the end of the survey by the students. Many thanks were given, showing understanding for a demanding situation for the teachers themselves. There were three trends: return to the classroom, retain the benefits of distance learning, and reduce the amount of time in the classroom when not optimized. The remarks of those who wish to return to the classroom are by far the majority. However, they would like some of the achievements of this period to continue. The freedom to access knowledge as they wish, the avoidance of painful commuting, were highlighted, and the use of hybrid formulas was favored. Some would prefer to give students an individual and free choice of the teaching mode, thus promoting flexible hybrid teaching. (Gobeil-Proulx, 2019)

According to them, the distance teaching elements must be rethought to become more attractive, more interactive and above all shorter.

"Please! We need to go back to face to face, we can't stand these video conferences anymore! We need to see people, we need real interaction! "

"To be a student is not to stay behind your computer 24 hours a day, it's to go out and see people, professionals, do experiments, tp, observations, network etc..."

"The asynchronous courses by video or PPT with sound give us a lot of freedom to learn which is very pleasant"

"I can imagine that you do your best and thank you for that. But that doesn't stop me from <u>feeling very lonely and unmotivated</u>, without seeing the point of all this work I put myself through all day long. Distance learning courses are generally no worse than face-to-face, it's the motivation to follow them and <u>the ease of falling asleep in front of your PC without the teacher seeing it, that's the problem</u>. "

" I probably would never have embarked on this course if I had known what I was going to experience during my training. I really enjoy studying the subject matter, but <u>the pressure of the disproportionate work and the lack of human contact makes it really daunting.</u> "

" Please <u>coach teachers</u> to improve their online courses to make them more educational and interesting to follow, being interactive could be a good start. "

"<u>Being able to choose the distance learning option</u> is important to avoid a long journey for a single course"

" <u>If we could be in hybrid for all courses it would be great</u>. "

" I would like you <u>to leave the choice to the students to take responsibility</u>. Some of them want to go back to face-to-face classes, of course, but a large number of them want to keep distance learning, either because of the health risks or because of the time savings, etc... In order to do the best and let those who want to go to face-to-face classes without crowding the classrooms, why not let the students choose?"

"The <u>asynchronous courses</u> by video or PPT with sound give us a <u>lot of freedom</u> to learn which is very pleasant."
"<u>Distance learning courses must be made more attractive</u>, it is impossible to listen to theory non-stop for more than 30 minutes."

" <u>Thank you</u> for having managed to keep teaching going under these difficult conditions. "

Figure 13 : typical comments

5. CONSEQUENCES

The tendency to use live videoconferencing during the out-University semesters had the effect of reinforcing the vision of ex-cathedra teaching, a way of teaching that the institution would like to change to create more interaction, to make students actors in their training and prepare them for the working world, which is evolving and demanding more flexibility and adaptability.

Curiously, while distance learning may have had its strong points during this period of crisis, the impression left in the institution, but also in several foreign universities, is that the use of distance during this period was a failure and that it is necessary to return to the usual face-to-face teaching as soon as possible.

Yet objectively, the opposite is true. The courses were given with a minimum of difficulty, the exams went well, the diplomas did not lose their value. If the situation is very different at other levels of the education system, particularly at the primary level,

where the independence of pupils' learning is lower, where teachers were unable or at a loss for implementing a sufficiently solid system to guarantee learning, and ensure the transferability of the knowledge acquired, the same cannot be said regarding at university level.

In tertiary studies, the resilience in student learning is good. Some have been able to draw on their peers to form virtual working groups, teachers have been able to individually support those in need. Studying at a distance, totally or partially, is formative for students. This endows them in particular with organizational skills, tenacity, regularity in learning, recoil from knowledge. These skills will be very useful for them in their future professional commitments.

So why is there a negative impression in the minds of university managers? The answer may lye in the fact that the education system, more than any other, is slow to change. The new training habits are struggling to replace an oral transmission practiced since the year 1000, when the first higher education institutions emerged. The suddenly empty buildings, whose costs still had to be paid, also contributed to this negative impression. Finally, the widespread habit in society of focusing attention on what is wrong, rather than on what works, may also explain this reputation of failure for distance learning: students and teachers who hated the distance may have expressed it more loudly than those who enjoyed some aspects of the period. Psychological factors also come into play: the three semesters at a distance were obviously heavy on the shoulders of those in charge of running the university.

However, at the HES-SO, some courses have been able to integrate new modes: the hybrid flex remains, even if it is not open to all, but reserved for people who are ill, or on travel status accepted by the hierarchy (military service, etc.). Some master programs integrate more distance in their teaching. Some bachelor programs have removed Saturday classes from part-time courses. Others accept that teachers can organize distance learning sessions when they are away from home. Finally, an interesting initiative has emerged in a Computing Bachelor program: two days a week, face-to-face classes have been replaced by unsupervised practical exercise sessions, with recourse to teaching staff, if necessary, via Visio conference, while the other days of the week concentrate on theoretical aspects in a face-to-face format. This form of hybridity needs to be evaluated in the future.

The university must train new professional profiles, more agile, more flexible, capable of making autonomous decisions and of showing a critical and innovative spirit (Miraoui, 2021). They will be practicing professions yet inexistant in a society whose working environment will be dominated by technologies such as artificial intelligence, deep learning, and robotics (Collective, 2019). Professions for which people are trained at university will, in the near future, be totally or partially replaced by computer applications (notaries, journalists, predictive medicine, etc.).

The university should take advantage of this health crisis, which, like others, has carried the seeds of opportunity. It could thus integrate the positive structural, pedagogical and logistical aspects of this period to initiate its own transformation, by integrating the positive aspects of distance: organizational flexibility, fluidity in the dissemination of knowledge, in order to gradually sketch out a more flexible vision of the students' capacity to adapt.

REFERENCES

- BEATTY, B. (2006, OCTOBER). DESIGNING THE HYFLEX WORLD- HYBRID, FLEXIBLE CLASSES FOR ALL STUDENTS. PAPER PRESENTED AT THE ASSOCIATION FOR

EDUCATIONAL COMMUNICATION AND TECHNOLOGY INTERNATIONAL CONFERENCE, DALLAS, TX.

- BEATTY, B. (2019). HYBRID-FLEXIBLE COURSE DESIGN: IMPLEMENTING STUDENT-DIRECTED HYBRID CLASSES, EDTECHBOOKS.ORG.
- CHANDRA SEKHAR RAO, V. (2019). BLENDED LEARNING: A NEW HYBRID TEACHING METHODOLOGY. JOURNAL FOR RESEARCH SCHOLARS AND PROFESSIONALS OF ENGLISH LANGUAGE TEACHING. JRSP-ELT, ISSUE 13, VOL. 3.
- GOBEIL-PROULX, J. (2019). WHAT DO UNIVERSITY STUDENTS THINK ABOUT HYBRID-FLEXIBLE, OR HYFLEX COURSES ? INTERNATIONAL JOURNAL OF TECHNOLOGIES IN HIGHER EDUCATION, VOL. 16, N° 1, P. 56-67.
- LEIKOMAA, M. (2021) ZOOM FATIGUE - IT'S REAL! TAMPEREEN AMMATTIKORKEAKOULUN JULKAISUJA, SARJAB, RAPORTTEJA 136, S. 49-56.
- MIRAOUI, A. (2021). UNIVERSITE 4.0. INSA RENNES.
- NURUZZAMAN, A. (2016). THE PEDAGOGY OF BLENDED LEARNING: A BRIEF REVIEW. IRA-INTERNATIONAL JOURNAL OF EDUCATION & MULTIDISCIPLINARY STUDIESISSN 2455–2526; VOL.04, ISSUE 01.
- PERAYA, DANIEL, CHARLIER, BERNADETTE, DESCHRYVER, NATHALIE. (2014) UNE PREMIÈRE APPROCHE DE L'HYBRIDATION. EDUCATION ET FORMATION, NO. E-301, P. 15-34.
- HTTPS://EN.UNESCO.ORG/COVID19/EDUCATIONRESPONSE/SUPPORT
- HTTPS://COVID19.UIS.UNESCO.ORG/GLOBAL-MONITORING-SCHOOL-CLOSURES-COVID19/COUNTRY-DASHBOARD/
- HTTPS://EUR-LEX.EUROPA.EU/LEXURISERV/LEXURISERV.DO?URI=COM:2001:0172:FIN:FR:PDF
- COLLECTIVE. (2019) INDUSTRY 4.0 IMPLICATIONS FOR HIGHER EDUCATION INSTITUTIONS. UNIVERSITIES OF THE FUTURE

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