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RESEARCH PAPER

Higher education and COVID-19: methodological adaptation and online evaluation at two universities in Barcelona

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Abstract

Introduction: The temporary suspension of face-to-face teaching activity, as a result of the global pandemic caused by COVID-19, has implied the urgent transformation of the teaching-learning processes in the university context, and an adaptation of programming. **Goal:** To highlight the consequences generated by COVID-19 and the confinement of university students, and to describe the teaching experiences in two subjects and their respective evaluation strategies in two Catalan universities. **Method:** Description of the experience in adapting the teaching and assessment of two subjects as a result of the pandemic, which have contributed to the transformation of teaching in the field of higher education, making it more flexible and adapting it to the needs of students in the last semester. **Conclusion:** The modifications and adaptations in the teaching methodologies and assessment procedures have contributed to the coping with the adverse situation, and the assessment of the teaching-learning processes in a highly complex scenario.

Key words: student adjustment; teachers qualifications; higher education; COVID-19.

Educación superior y la COVID-19: adaptación metodológica y evaluación online en dos universidades de Barcelona

Resumen

Introducción: La suspensión temporal de la docencia presencial, a raíz de la COVID-19 ha impulsado la transformación urgente de los procesos de enseñanza-aprendizaje en el contexto universitario, y la adaptación de la programación. **Objetivo:** Destacar las consecuencias generadas por la COVID-19 y el confinamiento en el alumnado universitario, y describir las experiencias docentes en dos asignaturas y sus respectivas estrategias evaluativas en dos universidades catalanas.

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Método: Descripción de la experiencia en las adaptaciones de la docencia y la evaluación de dos asignaturas, a consecuencia de la pandemia, que han contribuido a la transformación de la docencia en el ámbito de la educación superior, flexibilizando y adaptándose a las necesidades del alumnado en el último semestre. **Conclusión:** Las modificaciones y adaptaciones en las metodologías docentes y los procedimientos de evaluación han contribuido al afrontamiento de la situación adversa, y la evaluación de los procesos de enseñanza-aprendizaje en un escenario de alta complejidad.
Palabras clave: adaptación del estudiante; competencias del docente; enseñanza superior; COVID-19.

Educação superior e COVID-19: adaptação metodológica e avaliação on-line em duas universidades de Barcelona

Resumo

Introdução: A suspensão temporária do ensino presencial como resultado da COVID-19 provocou a transformação urgente dos processos de ensino-aprendizagem no contexto universitário, e a adaptação da programação. Objetivo: Destacar as consequências geradas pela COVID-19 e o confinamento dos estudantes universitários, e descrever as experiências de ensino em duas disciplinas e as suas respetivas estratégias de avaliação em duas universidades catalãs. **Método:** Descrição da experiência nas adaptações do ensino e avaliação de duas disciplinas, como resultado da pandemia, que contribuíram para a transformação do ensino no domínio do ensino superior, tornando-o mais flexível e adaptando-se às necessidades dos estudantes no último semestre. ***Conclusão:*** As modificações e adaptações nas metodologias de ensino e procedimentos de avaliação contribuíram para o confronto da situação adversa, e a avaliação dos processos de ensino-aprendizagem num cenário altamente complexo.
Palavras-chave: adaptação do aluno; competências do professor; educação superior; COVID-19.

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Introduction

The emergence of COVID-19 around the world has generated a multitude of consequences that go beyond the work, health, economic, social, and academic fields (Nicola et al., 2020). Furthermore, individual consequences can be added, with millions of people forced to confine themselves to their homes, living in an unprecedented situation and at the mercy of the directives of the various governments, which have been totally heterogeneous in all continents, depending on the severity with which the virus has impacted and the response that the public and community health system itself can provide.

In the case of Spain, the state of alarm was decreed on March 14, 2020, with confinement measures that were increased 15 days later, paralyzing all non-essential activities. Among the broad set of measures, the closure of all educational centers (Zubillaga & Gortazar, 2020).

In Catalonia[1], the universities temporarily suspended their face-to-face teaching activities

1 It is one of the 17 autonomous communities of the Spanish State that recognizes the Spanish Constitution of 1978. It has a population of 7.5 million people, in an area of 12,397 square miles (32,108 km2). The capital is the city of Barcelona and the autonomous government is the Generalitat. In the university field, it has a total of 12 universities (public and private), where official undergraduate, postgraduate, and doctoral studies can be pursued.

since March 13, at the request of the Generalitat's government in response to the demands from the Advisory Council of the Civil Protection of Catalonia (PROCICAT) Action Plan, a governmental crisis cabinet. This decision had a minimum 14-day duration and similar proposals were made in the Community of Madrid, the Basque Country, and La Rioja, among others [2].

In this context, higher education teaching teams decided to change in extremis the methodology used to date. All this, on the one hand, has brought to light the shortcomings in the digital competencies of students and professors (Castellanos et al., 2017; Fernández et al., 2017) and, on the other hand, it has posed a challenge for the teaching flexibility in accordance with the needs of students as the pandemic evolved. This was compounded by two additional reasons. Thus, various personal situations of the students have interfered with the academic activity: sick leaves due to physical health, caring for family members, and increased hours of work activities considered essential. The digital gap must also be added, since part of the student body has had a need to benefit from the technological aids that many universities have implemented, given that not everyone had the digital resources and skills necessary for virtual classes.

In this sense, it should be noted that a pandemic with these characteristics has had many consequences in the student body. Therefore, dealing with them has posed a challenge for the university context itself and a range of new opportunities for the creation or adjustment of teaching methodologies for the future, as will be seen below.

This article aims to describe the teaching experience in two subjects of the Social Education and Pedagogy undergraduate programs of two Catalonian universities, within the framework of the adjustment of curricular contents and evaluation strategies in a context of health pandemic and confinement.

Consequences of COVID-19 in the University Context

The emergence and development of the pandemic has brought about a series of consequences in the general population (Ministry of Health, Consumer Affairs, and Social Welfare, 2020), and specifically in the university context: the temporary suspension of classroom teaching activities and those activities not considered essential (Giannini, 2020).

However, the cancellation of classroom attendance has required a transformation and subsequent transfer of the educational programs to an online modality in extremis, a challenge for both university faculty and students, toward a comprehensive redesign of the subjects initially designed and established to be taught in the classroom without the necessary planning required by a new format of these characteristics.

Nevertheless, as previously mentioned, the range of consequences that this multifaceted epidemic phenomenon has had on the whole population (including students and faculty) cannot be overlooked, and the following should be highlighted:

- Initially, one of the greatest consequences appears on the physical health of individuals. At the time of writing this article, confirmed cases in Spain amounted to 2,467,520 people, and the total number of deaths stood at 28,325 (Ministry of Health, Consumer Affairs, and Social Welfare, 2020). Catalonia, with 60,754 people affected and 5,666 deaths, has been one of the hardest-hit areas, especially its central zone. Faced with this serious situation, the authorities decided on a preventive isolatation[3] of villages and small towns even before the confinement of the general population. The number of deaths and infected people has, thus, generated a serious social health and economic problem. In addition, tests and surgical interventions

2 These are some of the other 17 autonomous communities in Spain. The closure of the universities has affected more than 200,000 students: https://www.lavanguardia.com/politica/20200312/474097284624/educacio-ulti-ma-orden-cierre-escuelas-catalunya.html

3 The Government of Catalonia decrees the confinement of the municipalities of Igualada, Vilanova del Camí, Santa Margarida de Montbui, and Òdena: https://govern.cat/sala-premsa/notes-premsa/383374/el-govern-decreta-el-con-finament-dels-municipis-digualada-vilanova-del-ca-mi-santa-margarida-de-montbui-odena

have been suspended as the country has been paralyzed during the state of alarm, which has lasted 98 days.

- In the psychosocial and emotional area, several authorities have assessed the consequences that COVID-19 has had in the whole population (Arias et al., 2020; Ubillos & González, 2020). Considering that it is an unprecedented, unpredictable, and uncontrollable situation, the context favors the development of anxiety and subsequent mental health problems (Chamarro, 2020; Mineka & Kihlstrom, 1978). A recent study concludes that the feeling of uncertainty and psychological distress among the Spanish population increased by 78% and 46%, respectively (Balluerka et al., 2020). This study shows indicators of fear or anxiety, and whose ontology of the phenomenon is presumed to be varied, such as people who have lost their jobs, the fear of catching the virus itself, or people who have lost a loved one, among other cases. Fear, anxiety, and stress are elements that have appeared in numerous studies conducted in the general population (Arias et al., 2020; Balluerka et al., 2020; Fernandes & Ribeiro, 2020; Sandín et al., 2020; Vera-Villarroel, 2020) but also in the university population (Islam et al., 2020; Rodriguez et al., 2020; Son et al., 2020; Unesco, 2020b; Wang & Zhao, 2020).
- Special mention should be made of the conditions related to confinement measures. In regards to the conditions in which an individual/family nucleus has complied with confinement measures, housing inequalities have increased within the residential context. It should be noted that there are many factors that have contributed to the quality of the confinement (Parrado-González & León-Jariego, 2020), including the following: the surface area of the home, outdoor light, having outdoor spaces, or even the company of the people in the home, among others.
- Finally, the ravages caused by this global pandemic have had serious consequences in all areas, such as the labor market and in economic inequalities. González (2020) points out that the labor market may be an underlying cause of the rise in inequality, affecting the general distribution of income. The trend of job destruction generates inequalities in the labor market and, by extension, inequalities in families if we consider that wage income represents the largest part of household income. As Llorente (2020) suggests, the loss of income among disadvantaged groups can lead to an increase in the risk of poverty and social exclusion, increasing inequality if the scenario is not accompanied by an adequate employment sustainability policy.

Moreover, in addition to the aforementioned consequences suffered by the whole population, there are some specific consequences related to the temporary suspension of classroom teaching and the subsequent and necessary methodological adaptation to a new modality.

In the first place, the unprecedented drama that the confinement has meant for thousands of students who have seen their lifestyles and daily routines radically changed (Extremera, 2020), as well as the loss in some cases of family members as a result of infection; assuming the care of family members or balancing work life in those students who have had to work from home or perform essential on-site work.

And, in second place, it is necessary to highlight the deficits in regards to computer and/or technological knowledge of both professors and students. The pandemic has revealed the lack of resources and technological means to mitigate or reduce such consequences of the COVID-19 and its methodological adaptation in higher education. It is here that the consequences of COVID-19 in the university context and, by extension, in the (re)adaptation to a digital evaluation model and the need to increase the competencies and digital tools of the university community have become more evident (Paredes-Chacín et al., 2020; Pozos & Tejada, 2018). In this sense, according to several authors, it is necessary to overcome the economic and digital gap (Matamala & Hinostroza, 2020; UNESCO, 2020a).

Duart (2008) already warned about the importance of Information and Communication

Technologies (ICT) in university teaching, highlighting the value of prior planning for their subsequent integration so that they can contribute to the overall value of the institution. And in similar parameters, Sevillano-García & Vázquez-Cano (2015) consider that "those academic organizations that adopt innovations with ICT will have a much higher probability of success if they provide and require specific training on the proper use of DMD [Digital Mobile Devices]" (p. 115). In this sense, it is worth asking whether these changes are here to stay and if they will also entail a change in the teaching methodology applied to higher education.

Similarly, Galindo et al. (2017) warned that, in the coming years, the higher education system urgently needed to develop digital competencies to face the inevitable extinction of jobs and professions that are not positioned within this new picture. They considered that the university system itself required effective digital literacy mechanisms through a permanent updating scheme. Similarly, Ocaña-Fernández et al. (2018) stated that digital competencies are required in ICT applications and real-time interactivity platforms.

However, a methodological adaptation based on connectivity and the ability to learn digital tools requires a level playing field in terms of existing resources to achieve academic objectives with this new modality. Thus, various authors warn of the inequalities that COVID-19 has revealed that affect the ability to continue the academic pace required by the new virtual conditions, since there are families without devices in their homes, others that have to share them among all their members, or families that do not have the necessary internet resources (Asuar, 2020; Echeita, 2020; Nogueira, 2020). Other difficulties are those derived from balancing the personal and professional lives of faculty.

Similar assumptions are made by Gortázar, Moreno, & Zubillaga, (2020), who consider that the new situation has magnified four clearly identifiable gaps:

The *access gap* due to the lack of universal access to electronic devices and/or internet connection.

The *use gap* related to the quality and time of use of devices and the internet, since there are households, as the author warns, that despite having the devices, these are shared by the members of the family unit.

The *competencies gap*, related to the digital skills of faculty and students to know how to optimally use digital platforms for educational purposes, as well as the ability to create content and educational activities through them.

The authors of this article add a fourth: *the gender gap*, which has to do with the inequalities historically suffered by women when it comes to accessing different professional activities and positions of responsibility. This has been evident in many female college professors who have had to take over the care of their children, and the tasks traditionally assigned to them in relation to caregiving. All this without neglecting their work responsibilities, which has made it extremely difficult to balance family and work. The gender perspective is essential in the response to COVID 19 in different areas, as pointed out by Castellanos-Torres et al. (2020), the Women's Institute (2020), and the United Nations (UN, 2020). In the socio-educational framework in particular, this gap persists, as pointed out by UNESCO (2020a) and Juliá (2017).

Accordingly, the COVID-19 pandemic has generated uncertainty and a major challenge in the university community. In addition to the decision to continue teaching, despite the strict measures of confinement and the lack of presence in the classrooms, there was also the need for an adjustment *in extremis* of the previously established curricular requirements. In this sense, COVID-19 has entailed a methodological challenge for teaching and assessment in Spanish universities (Torrecillas, 2020), due to the adaptive effort involved.

The following are the methodological adaptations developed by the authors of this article that have been carried out both in the single and continuous assessment, as well as in the adaptation of teaching processes, online learning, and tutorial support in the subjects *The teaching-learning process* of the Social Education study program, and the subject

Educational Intervention for Social Inclusion in the Pedagogy study program. The main impact of these adaptations was to allow the teaching staff to achieve the objectives set out in the teaching guides of the subjects, despite the restrictions generated because of the pandemic.

Impact of COVID-19 on the University Teaching and Methodological Adaptations Implemented

To address the consequences described above, the Rectorates of Spanish universities developed a series of initiatives to alleviate existing technological inequalities, such as the provision of computer equipment and Internet connectivity for students who need it. Some of these initiatives are included in the websites of these universities[4] and are still in force in the current academic year.

Similarly, the need for (re)adaptation arose in terms of teaching methodology, tutorial support, teaching and learning processes, as well as evaluative evidence. The (re)adaptation referred to was also marked by the guidelines gradually stipulated by government authorities. An example of this can be found in one of the instructions issued by the Rectorate of one of the universities, which urges institutions to set up a specific procedure for students with objective difficulties in following the virtual teaching (work situations arising from health emergencies, care of significant others, illness, etc.).

On the other hand, another university also made a statement in this regard through different documents, such as: the general guidelines for teaching and evaluation for the 2019-2020 academic year, approved by the Academic Committee on April 17, 2020; the Rector's guidelines of April 28, 2020, in which contributions are made to modify the criteria for the single and continuous evaluation; and finally, the necessary modification and updating of the processes and methodologies for student learning and tutoring, which are transferred and adapted to each of the different subjects of the study program's teaching plan.

In the first weeks of the suspension of classroom teaching, the uncertainty about the temporary nature of the stoppage of face-to-face activity became evident. Thus, the first instructions sought by the faculty were to avoid academic as well as social disconnection by planning activities, mainly through the existing virtual campus, to keep students connected to the usual academic routine.

In this sense, it is necessary to point out the limited capabilities available for teaching (re) planning once the total suspension of face-to-face teaching in the classroom had been decreed. Likewise, there are some elements that have facilitated or hindered the adaptation of university teaching to a virtual context during the pandemic, since teaching has been the area most affected by the pandemic and confinement, as pointed out by García-Peñalvo (2020).

In the first place, the digital competencies required for the transformation of face-to-face teaching into a virtual modality. People with digital skills adjusted more easily to the methodological adaptation, while those without such skills significantly overloaded the students with activities, topics, and complementary readings, as Moreno-Rodriguez (2020) points out. The author suggests that "online teaching was falsely interpreted a 24/7 system that assumed that, by staying at home all day, students had more free time" (p. 2), and, in turn, students interpreted that teachers could (or should) be available and accessible 24 hours a day.

Another of the difficulties found in the faculty has been the students' own attitude towards adjusting both to the pandemic itself, considering their personal situation, and to that of the methodological adaptations to the university context (Godoy et. al., 2018). In this sense, and in line with a greater digital competence, the proactive and change-prone attitude has meant a greater integration to the methodological modifications adopted by the teaching teams. On the contrary, there has been a wide perception of students who have not been able to integrate into the methodological (re)adaptation, both because of the lack of resources and competencies, and because of the direct and indirect consequences of the confinement (the acceptance of new responsibilities for having to take care of siblings,

4 Some of these examples can be found at: : https://www.ub.edu/web/ub/es/universitat/coronavirus/index.html; https://www.uab.cat/web/estudiar/grau/oferta-de-graus/beques-d-estudi/detall-beca-1345798606891.html?param1=1345825245167&param2=UAB-FATWIRE

or to take care of relatives with health problems, etc.). In any case, the perception of the non-acknowledgment of content can generate certain consequences, such as failure to pass subjects, among others.

Another of the issues that aroused controversy refers to the flexibility in the evaluation standards, as well as the establishment of minimum criteria that would allow the evaluating teams to overcome the improbable solution of overall passing grades. Thus, interesting guidelines for online evaluation have been published, such as the one proposed by García-Peñalvo et al. (2020). However, the impact that modifications to the assessment process may have on the experience of students in relation to learning assessment mechanisms remains to be analyzed at a later stage.

Finally, and in parallel with the aforementioned difficulties, the uncertainty about the durability of the confinement measures decreed by the authorities was a handicap when planning teaching activities. As noted, COVID-19 has not meant a temporary halt, but rather a total (re)adaptation of subjects, contents, and teaching methodology focused *almost exclusively* on the face-to-face nature of the teaching-learning processes.

However, once the classroom academic activity was definitively suspended, and knowing that there were almost four months of class left, the methodological adaptations for the continuity of the teaching and evaluation of the second semester in its online format implemented in the Social Education and Pedagogy programs in the subjects taught by the authors ("*The Teaching-Learning Process" and "Educational Intervention for Social Inclusion*"). These adaptations include both the first period of confinement (from mid-April until the Easter holidays) and the second one (from Easter until the end of the school term).

Synchronous Virtual Classes

The virtual adaptation in the second semester could not omit the master classes. To this end, methodologies have been used to carry out the master classes, adapting them to the virtual context and respecting as far as possible the timetable established in the teaching guides, following the guidelines set by the University itself according to the technological resources provided, and taking into account what has been commented regarding the impact of COVID-19 on faculty.

In the case of one of the universities, the use of Microsoft Teams has been considered for the virtual master classes, a Microsoft platform that unifies and combines chats, video meetings, file storage, file collaboration, and integration of the company's applications. This application has been used by the faculty both for their corporate meetings and to continue teaching based on the possibilities it offered.

The other university has used the BBCollaborate platform, a real-time videoconferencing tool available to the entire educational community from the virtual campus, which facilitates synchronous sessions with students. In addition, it allows screen sharing while the teacher is explaining. It also facilitates the exchange of text, sound, and photo files. The faculty can organize the virtual classroom and classes by creating groups of students to solve one task while the other group can perform a different task.

This procedure of online master class was an attempt to compensate for the lack of face-to-face classes, although not all students had the necessary technical means to follow the classes normally. On the other hand, the difficulties of communicative interaction were revealed given the low connectivity of a large part of the student body and the deficient active participation (Leontyeva, 2018).

E-Learning Tools

ICTs have opened a wide repertoire of didactic possibilities to complement the existing load of curricular content in any higher education subject. The teaching model mostly used by the authors of this article to teach is face-to-face, although it is considered that there are other models that prior to the pandemic had a potential development in this area, such as the blended learning model: e Learning (Roig et al., 2013). However, these considerations are relevant in the new post-pandemic scenario (Pardo & Cobo, 2020). In this sense, and as a complement to the synchronous virtual classes, other tools have been used, such as training videos designed to explain specific content of the subject and which can be viewed asynchronously and without the need for interaction with the other party

(faculty). Thus, different formative audiovisual spots, 5-12 minutes long were developed using the *Screencast-O-Matic* program. This program, in its free version, allows the making of videos of up to 15 minutes where the screen is shared with the video audience so small explanatory videos can be created in mp4 format.

This tool makes it possible to view previously prepared teaching spots based on the availability of the student body, allowing also asynchronous interaction to be maintained.

Online Tutoring

Undoubtedly, group and individual tutoring have been an essential part of the main methodological adaptations during the second semester. Tutoring continues to be "a constant function of all teaching activity" (Lázaro, 1997, p. 233), an unavoidable task in the training of any university student (Rodríguez et al., 2001). It should be noted that the frequency of this methodological strategy has increased exponentially, since in general, doubts related to the subject itself, to the resources presented, or to evaluation tests such as group evidence or exams have always been resolved in the classroom.

In contrast, most of the students have had a notable need for teacher follow-up through tutoring, both for the resolution of doubts and to feel accompanied and helped in emotional containment because of the changes caused by the pandemic and the confinement in their lives. And in this sense, as Rachtam & Firpo (2011) point out, virtual tutoring has been some sort of closeness to students with difficulties to get involved in the teaching-learning process, either due to personal reasons or for not being able to attend face-to-face or synchronously to classes, as a by-product of the pandemic. It should not be forgotten that the affective-emotional dimension is one of the dimensions of tutoring intervention also at the college level (Rodriguez et al., 2001), contributing to the holistic development of students (Martínez et al., 2016).

Complementary Readings

Another tool used, especially at the beginning of the suspension of classroom teaching, has been the complementary readings, which allowed for an in-depth study of the contents given in the virtual classes or the previously described video spots, aimed at increasing learning in an integrated, comprehensive, and autonomous way.

This was enhanced with PowerPoint presentations with audio narration or with extra contents to complement the teaching material.

Despite the easy access to these complementary materials, there was a perception among some of the students that there was a considerable increase in the number of complementary readings in comparison to the rest of the curricular material.

Evaluative Evidence

Finally, one of the aims of higher education teaching cannot be overlooked: the achievement of academic results that entail attaining the objectives established in the teaching plans. The European Higher Education Area (EHEA) itself contemplates a wide variety of evaluative evidence in the form of continuous assessment and in accordance with the regulations governing each professional school.

In this sense, the aforementioned flexibility, in order to guarantee the quality of the teaching-learning process, also refers to the evaluative evidence for the completion of the subjects and the academic success that students desire. Thus, in the teaching that has been carried out in the subject *Teaching and Learning Processes*, one of the measures has been the suppression of multiple-choice exams and the weighting of exams of a more reflective nature, with the possibility of generating open-ended answers to demonstrate the acknowledgment of contents stipulated during the syllabus throughout the pandemic in the methodological readaptation carried out in this subject.

For its part, in the teaching of the subject *Educational Intervention for Social Inclusion*, and following the guidelines of the Rectorate regarding evaluation, specifically: the criteria of the requirements for single evaluation and continuous assessment have been made more flexible in an alternative and realistic way, as well as the removal of multiple-choice exams in favor of a case-based exam in which the students had to reflect on the contents of the subject and, finally, the modification of the percentage

of the evaluative evidences (resolution of two practical cases, preparation of a bibliographical review article in the field of socio-educational intervention, and the final exam), to guarantee the adjustment to minimum criteria.

These modifications in assessment strategies have improved student perception of evaluation, in light of remote attendance. It is considered that these modifications have not diminished the quality of the attention paid and the evaluation of learning by the students, despite their lack of experience with this type of evaluations.

Conclusions

Las adaptaciones metodológicas y las modificaciones de las estrategias evaluativas descritas han permitido a la autora y autores de este documento realizar un acompañamiento y seguimiento del alumnado durante el segundo semestre del curso 2019-2020. Del mismo modo, se ha podido alcanzar los objetivos preestablecidos en las guías docentes de las asignaturas donde se implementaron tales cambios. Todo ello en un contexto de alta incertidumbre en el conjunto de la comunidad universitaria, en el contexto de la propia evolución de la pandemia y sus consecuencias derivadas, y que generó un escenario académico de complejidad e impredecibilidad.

The methodological adaptations and modifications of the evaluative strategies described have allowed the authors of this document to monitor and follow up the students during the second semester of the 2019-2020 academic year. In the same way, it has been possible to achieve the objectives that are established in the teaching guides of the subjects where such changes were implemented. All this in a context of high uncertainty in the entire university community, in the context of the evolution of the pandemic and its consequences, which caused an academic scenario of complexity and unpredictability.

The main finding of this article, referring to the teaching experiences described, is the contribution of a wide range of strategies and methodological adaptations, which made it possible to achieve the objectives established in the teaching plans and to complete the subject with a certain degree of normality. Inexorably, all this has meant a challenge to develop the constant readaptation of the subjects taken, the contents taught, the teaching methodology, and the way of teaching. Any challenge in educational innovation is not exempt from the existence of possible limitations. In the study carried out, some limitations were found that open future avenues for further exploration and evaluation of the adaptations made. These have been assessed as positive, insofar as they have made it possible to achieve the curricular objectives and competencies described in the teaching plans of the subjects involved. However, as a line of future research, it would be convenient to have an evaluative study of the adaptations made to systematically assess the suitability of the adaptations made for other higher education scenarios.

This more exhaustive study of the impact and transfer of the adaptations to other contexts could not be carried out, but it is a new challenge given the possibility of continuing in an online training context in a university teaching designed to be carried out face-to-face.

Nevertheless, the methodological adaptations described throughout this article may become especially relevant and useful due to the possibility of a resurgence of COVID-19 (as the number of people infected increases and the strict confinement measures experienced during the months of March and April 2020 may return). These experiences also allow us to try to respond to the needs of students who have seen their academic activity modified because of work or personal changes derived from the pandemic itself.

However, this requires a modification in the teaching planning of the methodology and resources established, but also in terms of legal regulations on data protection. Greater use of technological means in the face of a hypothetical transformation of the teaching-learning processes requires prior work by multidisciplinary teams of specialists in information security, networks, programmers, etc., beyond the teaching exercise. It also requires specific training for teachers to improve their digital skills to diversify the assessment strategies that had been used until the

onset of the pandemic, since there is a demand for technological solutions that allow assessments to be monitored online (Fluck, 2019; Pathak, 2016).

On the other hand, this challenge also represents an opportunity to try to reduce and/or alleviate the inequalities related to the digital gaps and competencies described above. The need for methodological adaptation of teaching and the urgent need to use ICTs have responded to a joint logic of the teaching staff. This represents a certain advance in comparison to the results found in previous research, where their use was subject to the individual motivation and predisposition of teachers (Gómez, 2016; Mercader & Gairín, 2017; Torrecillas, 2020).

Therefore, as pointed out by Muñoz & Lluch (2020) and Pardo & Cobo (2020), the moment of uncertainty and exceptionality experienced should serve to develop the concepts of teaching-learning and expand the boundaries of teaching beyond a traditional model of face-to-face presence in the field of higher education. This will ultimately allow the development of innovative solutions for the inclusive education intended by faculty.

In addition, this papers raises some questions for reflection in the short-term future:

Have these changes brought about by the pandemic situation come to stay, and do they represent a new form of university teaching with face-to-face and virtual teaching?

In the 2020-2021 academic year, and considering the risk of a possible resurgence, how will the teaching period be approached? What does it mean to opt for a scenario of mixed synchronous and asynchronous teaching? How will the evaluative evidence be adapted to this scenario in which autonomous learning takes on greater prominence? How will student support be resolved in this scenario?

Will professors and students, who have also been affected by the pandemic and its consequences, be able to come out stronger from this adversity and face the different gaps in a resilient manner? Will there be changes that allow facing new scenarios and difficulties? What training is necessary to deal with blended learning?

Will the current context make it possible to modify the policies of university administrations to favor the reduction of inequalities related to the social, economic, and digital divide among students?

Will student engagement be encouraged to allow students to be more involved in their learning process? How will students contribute to the continuous evaluation of this learning?

In summary, the teaching experiences described in this article show the desirability that teaching teams still have certain competencies, such as flexibility, motivation to change, and a greater knowledge of ICTs.

This allows for greater diversification of the evaluative strategies contained in the teaching plans themselves, thus increasing the methodologies and instruments used in the learning processes in the context of higher education.

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