Perception of the students of the University of Extremadura about the changes in the evaluation systems during the confinement due to Covid-19

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Abstract
The evaluation systems applied at the university are one of the topics that caused the most discussions, alterations and controversies during confinement. The pandemic caused by Covid-19 posed a challenge for university teaching, with teachers having to adapt the way they assess with the technological tools available to carry out the assessment and monitoring tests. Through a mixed methodology analysis of the answers given by 456 students from different degrees at the University of Extremadura to a questionnaire validated by this research team, the aim is to study the students' perception of the changes in the assessment systems during the confinement due to Covid-19. The results do not allow us to affirm that there have been changes in the assessment systems and that these have led to an improvement in the students' academic performance.

Keywords
university; students; assessment systems; Covid-19.

Percepções dos Estudantes da Universidade da Extremadura sobre as mudanças nos sistemas de avaliação durante o confinamento da Covid-19

Resumo
Os sistemas de avaliação aplicados na universidade são um dos temas que mais discussões, alterações e polêmicas causaram durante o confinamento. A pandemia provocada pela Covid-19 constituiu um desafio para o ensino universitário, tendo os docentes de adaptar a forma de avaliar com as ferramentas tecnológicas disponíveis para a realização dos testes de avaliação e monitorização. Através de uma análise de metodologia mista das respostas dadas por 456 estudantes de diferentes graus da Universidade da Extremadura a um questionário validado por esta equipe de investigação, o objetivo é estudar a percepção dos estudantes sobre as mudanças nos sistemas de avaliação durante o confinamento devido à Covid-19. Os resultados não permitem afirmar que tenha havido mudanças nos sistemas de avaliação e que estas tenham conduzido a uma melhoria do desempenho acadêmico dos estudantes.

Palavras-chave
universidade; estudantes; sistemas de avaliação; Covid-19.
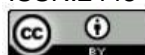
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Percepción del alumnado de la Universidad de Extremadura sobre los cambios en los sistemas de evaluación durante el confinamiento por Covid-19

Resumen

Los sistemas de evaluación aplicados en la universidad son algunos de los temas que más discusiones, alteraciones y controversias supusieron en el confinamiento. La pandemia provocada por la Covid-19 supuso un reto para la docencia universitaria, teniendo que adaptar los docentes la forma de evaluar con las herramientas tecnológicas disponibles para realizar las pruebas de evaluación y vigilancia de estas. A través de un análisis de metodología mixta de las respuestas dadas por 456 alumnos de diversos grados de la Universidad de Extremadura a un cuestionario validado por este equipo de investigación, se pretende estudiar la percepción que los alumnos tienen sobre los cambios en los sistemas de evaluación durante el confinamiento debido a la Covid-19. Los resultados no permiten afirmar que haya habido cambios en los sistemas de evaluación y que estos hayan provocado una mejora en el rendimiento académico de los alumnos.

Palabras clave

universidad; alumnos; sistemas de evaluación; Covid-19.

1 Introduction

At the end of 2019, a new infectious disease emerged in Wuhan, China (Prevention, 2020). This disease, caused by a novel virus, the SARS-CoV-2, highly contagious and characterized by affecting the respiratory system, was declared a global pandemic of Covid-19 by the World Health Organization on March 11, 2020 (Levani; Prastya; Mawaddatunnadila, 2021).

The Covid-19 pandemic changed the usual way of life worldwide, having a significant impact on higher education students (Aristovnik et al., 2020; Narayan; Naidu, 2024). In this sense, university campuses were closed due to global restriction measures to minimize the spread of Covid-19, transferring teachers and students from classroom teaching and learning to online (remote) services (Alqahtani; Rajkhan, 2020).

Students had difficulty following education in a non-face-to-face manner, negatively affecting their academic performance (Crawford; Cifuentes-Faura, 2022). Although some universities have experience with distance and flexible education, this immediate shift to online teaching as a result of a pandemic is referred to in many studies as emergency remote teaching (ERT) (Hodges; Fowler, 2020).

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In this regard, the emergency remote teaching (ERT) caused by the Covid-19 pandemic posed a significant challenge due to the large scale of students it targeted compared to the usual distance education. Additionally, the majority of teachers and students lacked previous experience with this new method of teaching (Zacharis; Nikolopoulou, 2022), as well as with the use of information and communication technologies (ICT) (Bortolin; Nauroski, 2022).

Among the different characteristics of the emergency remote teaching (ERT) experienced during the Covid-19 pandemic, the need for technological resources oriented towards synchronous communication stands out, such as Zoom[1], Teams[2], Google Meet[3], adaptation of course designs and methodologies, connectivity issues, lack of planning, lack of student preparation regarding self-discipline, and negative attitude of teachers towards dealing with online learning, among others (Aretio, 2021; Estrada Araoz; Gallegos Ramos, 2022).

Studies such as those by Almomani et al. 2021), Freitas *et al.* (2022) o Yekefallah *et al.* (2021), reveal that the majority of the students in their research considered academic performance during the pandemic insufficient and are dissatisfied with online learning, the quality and quantity of the material provided, as well as with the exams and evaluation systems carried out during Covid-19. In contrast, studies like those of Amir et al. (2020) highlight that students have a positive perception of the use of online learning and accept this new system in universities. On the other hand, Béjar and Vera (2022) reveal in their work that students indicate that the assessment did not adapt to the emergency remote teaching situation they were in. Thus, the evaluation systems applied in the university is one of the topics that has been extensively discussed by several academics (Guerra, 2003) and that was also the one that led to the most discussions, alterations and controversies, according to J. Castillo Olivares and A. Castillo Olivares (2021) in confinement.

In line with the above, it has become essential to evaluate the quality of e-learning and compare it with current content, in addition to knowing student satisfaction (Mohammed *et al.*, 2022). However, among the different dimensions covered by e-learning, there is little existing literature that analyzes the changes perceived by students on the

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[1] More information at https://zoom.us/es.
[2] More information at https://www.microsoft.com/es-es/microsoft-teams/log-in.
[3] More information at https://meet.google.com/.

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variations in evaluation systems during Covid-19 confinement. In this sense, if academic dishonesty is a phenomenon that has been in our lives for many years, online evaluations had a much greater risk of unethical behavior on the part of students. Studies such as Amzalag, Shapira and Dolev (2021) and Murdock and Anderman (2006) reveal three reasons why students cheated; (1) learning difficulties; (2) dissatisfaction with teachers and external factors; and (3) benefits obtained. Thus, the methods of evaluation by teachers changed, with the intention of being as fair as possible when evaluating practices or exams in the online modality.

Consequently, the following research question arises: Has the pandemic led to changes in assessment methods? To this end, the opinion of students in various grades of the University of Extremadura has been collected, with respect to the dimension of evaluation systems. The rest of the work is structured as follows: after this introduction, a description of the methodology used, objective and research design will be carried out. Next, the results will be presented, once the statistical analysis of the data has been carried out and, finally, the conclusions, limitations of the study and future lines of research are presented.

2 Methodology

This work aims to analyze whether higher education students at the University of Extremadura (Spain) have perceived a change in the evaluation systems in the teaching-learning process in the wake of the Covid-19 pandemic. To do this, starting from more complete research that this team is developing, whose general objective is: "To analyze and determine the changes produced by the Covid-19 pandemic in the teaching/learning process in the face-to-face grades of the University of Extremadura with respect to the dimensions of Teaching Methodologies, Technological Tools and Evaluation Systems, used in higher education", in this study only the Evaluation Systems dimension is presented.

This research is based on the application of the questionnaire validated in Hidalgo *et al.* (2023) and designed to know the opinion of students about the changes produced in the teaching/learning process in higher education as a result of the Covid-19 pandemic. The application of the questionnaire began in April 2022 and was available until December

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of the same year. In total, 456 anonymous responses were obtained from students in university degrees on the campuses of the four campuses of the University of Extremadura, covering the following branches of knowledge: Health Sciences, Engineering and Architecture, Education and Social Sciences. As can be found in Hidalgo *et al.* (2023), this questionnaire allows anonymity; provides the respondent with time to think about the answers before answering; can be administered simultaneously to many people; provides uniformity (all people answer exactly the same question); the data obtained are easier to process, analyze and interpret than if the data were obtained based on oral answers; and, in addition, can be administered by third parties without loss of reliability of the results.

The analysis of student responses was carried out using a mixed methodology (Martínez Miguélez, 2006). Some of the students' opinions are analyzed from the point of view of their hermeneutic and phenomenological character (Hernández, 2018; Hernández-Sampieri, 2014). Other responses are analyzed using hypothesis testing quantitative analysis software.

Table 1contains the list of questions asked to the students, which are analyzed in this article, although the questionnaire had more items.

Table 1 – Relationship between the research questions and the questions of the validated questionnaire together with the analysis method

Research question and Hypothesis	Questions in the questionnaire to students	Analysis method
Dimension of evaluation systems		
Has the pandemic led to changes in assessment methods? Hypothesis: The evaluation systems adapted during the confinement of the Covid-19 pandemic allowed students to improve academic performance compared to previous years	Question 4.4- How do you think your academic performance (grades) has been during the lockdown (second semester of the 2019/20 academic year) with respect to the pre-pandemic period? (*Select an option*)	Quantitative (Possible answers with 5 items, Likert scale, from Much Improved to Much Worse)
	Question 4.5- What positive aspects do you think have emerged with respect to the evaluation used during the confinement (second semester of the 2019/20 academic year) and that remain after it?	Qualitative
	Question 4.6.- What negative aspects do you think have emerged and are maintained with respect to the evaluation during confinement (second semester of the 2019/20 academic year) and consequently should be improved?	Qualitative

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Suggestions		
Space for the student to contribute ideas and opinions that were not included in the questionnaire.	Question 5.2: - In this space we ask you to indicate any suggestions you consider appropriate in relation to the issues that have been raised in this questionnaire.	Qualitative

Source: Own elaboration (2024).

For each of the research questions presented in Table 1, a working hypothesis has been formulated that will be confirmed or not subsequently, using the answers given by the students to the questions of the questionnaire used. In addition, there are some responses that are analyzed quantitatively using hypothesis testing software such as SPSS (George; Mallery, 2019). The rest of the answers are examined qualitatively and will serve to strengthen and clarify the contrast of the working hypotheses analyzed quantitatively. In addition, with the suggestions, those issues that were not contemplated by the research team and that some students wanted to record were collected.

3. Results and Discussion

3.1 Demographic results

With the intention of being able to carry out an analysis from a gender perspective in future research, all variables have been measured and contrasted both as a whole and ungrouped by gender. Thus, the Student's T test (parametric test) or the Mann-Whitney U test (non-parametric test) will be applied to compare the two independent samples. In all cases, a statistical analysis is carried out to determine whether parametric or non-parametric tests should be applied. To do this, we determined the values of normality, randomness and homoscedasticity. The normality test has been performed with the Kolmogorov-Smirnov test, since the sample is greater than 50. Randomness will be measured with the Rachas test and homoscedasticity with the Levenne test.

The work sample is based on the response of 456 individuals, of which 56.1% are women and 43.95% are men. As for the age of these, a large majority are those born in 1999 (18.4%), in 2000 (20.2%) and in 2001 (32.5%). In 1998 and 1997, 7.9% in each of them and, in 1996, 5.3%. The rest of the individuals – 7.8% – have a distribution in different years, the oldest being a student born in 1963. In addition, the vast majority of the students

surveyed, 61.4%, began their studies in the 2019-2020 academic year, 27.2% in the 2017-2019 academic year and 11.4% before the 2018-2019 academic year.

Table 2 – Distribution of students by course during and after confinement

	Confinement	After confinement
Year four	1,80%	7,90%
First year	57,90%	3,50%
Second year	25 - 40 %	54,40%
Year three	14,90%	34,20%

Source: Own elaboration (2024).

Also, a large majority of the sample are third grade students, 71,9%; fourth grade are 27,2% and only 0,9% are second grade students. Regarding the distribution by courses in which they were in the 2019-2020 academic year (during confinement), the majority, 57,9%, were in the first year, 25,4% in the second, 14,9% in the third and 1,8% in the fourth. These data are consistent with the data on which course they were enrolled in the course following confinement (2020-2021 academic year). In you Table 2 can see the comparison of the confinement data and the post-confinement data.

In Table 3 can be seen that the number of credits enrolled and approved in the confinement semester (second semester of the 2019-2020 academic year), compared to the same semester of the following academic year (second semester of the 2020-2021 academic year), has very similar values, thus a large majority approved the 30 ECTS credits, which correspond to the five subjects that are taken in each semester, specifically 60,5% during confinement and 61,4% in the post-confinement.

Table 3 - Comparative of Enrolled Credits (Enr. Cred.) and approved credits (Appro. Cred.) during confinement (Conf.) and after confinement (Post-Conf.)

	Enr. Cred. Conf.	Enr. Cred. Post-Conf.	Appro.Cred. Conf.	Appro.Cred. Post-Conf.
30 ECTS CREDITS	70,20%	70,20%	60,50%	61,40%
More than 30 ECTS credits	24,60%	24,60%	22,80%	18,40%
Under 30 ECTS	5,30%	5,30%	16,70%	20/20

Source: Own elaboration (2024).

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Finally, question 1.8[4] of the questionnaire evaluates whether or not the student had individual space for study during confinement. A large majority, 95,61%, did have that space compared to 4,39% who did not have it.

When analyzing these values from the point of view of gender and since non-parametric[5] tests must be applied, specifically the Mann-Whitney U test must be done, the significance value is 0,028. Consequently, the null hypothesis is rejected. In this case, the null hypothesis is that there is no statistically significant difference in whether or not men or women have had an individual space for work. Therefore, there is a difference between men and women, with 6,3% of women not having individual work space during confinement, compared to only 2,0% of men.

The responses regarding the socio-demographic data of the students on the enrolled credits reflect that 1,8% of women enrolled during the pandemic in less than 30 ECTS credits, that is, less than five subjects, increasing to 0,9% after the pandemic. Men who enrolled in fewer than five subjects during the pandemic were 3,5%, rising to 2.6% after the pandemic. 42,1% of women enrolled in five subjects during the pandemic and 43% after it; men enrolled in 30 ECTS represent 28,10% during and after the pandemic. On the other hand, the percentage of enrollees of more than 30 ECTS credits (more than five subjects) was similar between sexes, with 12,30% of women enrolled, during and after the pandemic, the same percentage of men during the pandemic, rising to 13,20% of men after the pandemic.

3.2 Statistical results

The analysis of the students' opinion was carried out with the qualitative analysis software webQDA (Costa; Amado, 2018). In the same way as Arias *et al.* (2017) and Contreras *et al.* (2019), the data were encoded in the group category structure shown in Table 4, in order to obtain the conclusions about each of the dimensions of the study: Teaching Methodologies, Technological Tools and Evaluation Systems. This table shows

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4   Question 1.8.-Have you been able to have an individual work space during the confinement (study room, single bedroom, office)?
5   For this variable, the Kolmogorov-Smirnov test has a significance value of 0,00, which is less than 0,05 and, consequently, the null hypothesis that the sample follows a normal distribution is rejected.

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the data of the complete study of the three dimensions that are evaluated in the questionnaire of Hidalgo *et al.* (2023), although in this work only the results of the Evaluation Systems dimension are shown.

Table 4 – Result of dimension coding

Dimension	Frequency
Dimension 1. Teaching Methodologies	220
Dimension 2. Technological tools	173
Dimension 3. Evaluating Systems	64
Other tips	22

Source: Own elaboration (2024).

After coding the students' responses, each of them was assigned certain subcategories within each dimension, obtaining a tree structure with the frequencies obtained. Next, we analyze the data obtained by the dimension of evaluation systems.

To respond to the hypothesis related to the Evaluation Systems shown in Table 5, we will perform a hypothesis test using the SPSS software.

Table 5 – Research Hypotheses on Evaluation Systems

Dimension of evaluation systems		
Research question and Hypothesis	**Questions in the questionnaire to students**	**Analysis method**
Has the pandemic led to changes in assessment methods? *Hypothesis: The evaluation systems adapted during the confinement of the Covid-19 pandemic allowed students to improve academic performance compared to previous years*	Question 4.4 - How do you think your academic performance (grades) has been during the lockdown (second semester of the 2019/20 academic year) with respect to the pre-pandemic period? (Select one)	Quantitative (Possible answers with 5 items, Likert scale, from Much Improved to Much Worse)

Source: Own elaboration (2024).

As the answers given by the students were on the Likert scale, they were transformed following the following criterion observed in Table 6:

Table 6 – Transformation of student responses to questions 4.4

Student response (Likert scale)	Transformation to contrast hypotheses
It got a lot better.	Yes. There was improvement.
It got a lot better.	Yes. There was improvement.
No change.	There was no improvement.
It got little worse.	There was no improvement.
It got a lot worse.	There was no improvement.

Source: Own elaboration (2024).

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The result of this transformation is to obtain two possible values in the students' responses: perception of improvement (value 0) of the Evaluation Systems or perception that there was no improvement (value 1) in the Evaluation Systems.

The normality test is performed in SPSS to know whether to perform parametric or non-parametric tests, the result being the one shown in the following Table 7.

Table 7 – Normality Tests for Evaluation Systems

	Normalcy tests					
	Kolmogorov-Smirnova[a]			**Shapiro-Wilk**		
	Statistical	gl	Sig.	Statistical	gl	Sig.
Value improvement (0-Si,1-No)	453	456	,000	,562	456	,000
a. Lilliefors Significance Correction						

Source: Own elaboration(2024).

As the Sig. value is 0,000, both in the Kolmogorov-Smirnov test and in the Shapiro-Wilk test, this indicates that there is no normality, so non-parametric tests will have to be performed.

The binomial non-parametric test is performed to test our hypothesis, taking into account that, if the significance result of the binomial test is less than or equal to 0,05, our hypothesis will be accepted and, otherwise, the null hypothesis (H_0) will be accepted, that is, the opposite of what we proposed.

The binomial test result is shown in Table 8 and 9:

Table 8 – Binomial Test Descriptive Statistics for Assessment Systems

	Descriptive statistics				
	N	Median	Stand. Deviation	Minimum	Maximum
Value improvement (0-Yes,1-No)	456	,72	,450	0	1

Source: Own elaboration(2024).

Table 9 – Binomial Test Result for Assessment Systems

	Binomial test				
	Category	N	Observed Prop.	Test Prop.	Exact Meaning (Bilateral)
Value improvement (0-Yes,1-No)	Group 1	1	328	,72	,50	**,000**
	Group 2	0	128	,28		
	Total		456	1,00		

Source: Own elaboration (2024).

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As can be seen, the exact significance (bilateral) has a value of 0,000, indicating that the means are not equal. As the N value of the category of Group 1 (category with value 1) is higher than that of Group 2 (category with value 0), that is, the value of the perception of no improvement, our hypothesis is not accepted, that is: "The evaluation systems adapted during the confinement of the Covid-19 pandemic did not allow students to improve academic performance with respect to previous years".

Shows Table 10 the distribution of references by subcategories resulting from the qualitative analysis of question 4.5[6.]

Table 10 – Frequencies by category of student responses to question 4.5 in the Assessment Systems dimension

Quiz question	Group Category	Category	Frequency
4.5 - What positive aspects do you think have emerged with respect to the evaluation used during the confinement (second semester of the 2019/20 academic year) and that remain after it?	Positive aspects	Return to physical examinations	1
		Not commuting to college	2
		Less weight to exams and more to continuous evaluation	8
		Improvement of the final grade or academic achievement	8
		None	9
		Unable to copy.	2
		Online exams (Safe Exam Browser)	6

Source: Own elaboration (2024).

Regarding the data collected and analyzed in question 4.5, positive aspects, we observed that a large number of students do not value positively the aspects that have emerged about the evaluation during the pandemic ("None", with nine references). However, in contrast to these previous ones, there is also a large group of students who do consider that they have improved their grade or academic performance ("Improvement of the final grade or academic performance", with eight references), so there is no unanimity among the students and, therefore, our initial hypothesis cannot be verified.

They also acknowledge that less weight has been given to the value of the exams and more value has been given to the activities carried out in the continuous evaluation

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[6] What positive aspects do you think have emerged with respect to the evaluation used during the confinement (second semester of the 19/20 academic year) and that remain after it?"

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("Less weight to exams and more to continuous evaluation", with eight references), which could have led to an improvement in final performance with these changes produced.

Another aspect that they value positively is the passage of the exams to an online model ("Online Exams (Safe Exam Browser)", with six references). This aspect was forced by the change to the teaching modality. However, they have considered that this aspect was positive for them.

Everything suggested that the changes produced in the methods and modalities of evaluation would improve the academic performance of the students, they have even commented that one of the positive aspects was that there was more possibility of copying in the exams ("It can be copied", with two references). Although all positive feedback indicated that there was improvement, the initial hypothesis ultimately could not be verified.

Table 11 displays the distribution of references by subcategories resulting from the qualitative analysis of question 4.6.[7].

Table 11 – Frequencies by category of student responses to question 4.6 in the Assessment Systems dimension

Quiz question	Group Category	Category	Frequency
4.6 - What negative aspects do you think have emerged and are maintained with respect to the evaluation during confinement (second semester of the 2019/20 academic year) and consequently should be improved?	Negative aspects	None	10
		Relaxation of students	1
		Connection issues	2
		Decrease in academic performance	1
		Decrease in training	5
		Increase in the development of test-type exams	1
		There was no ongoing evaluation	1
		Betting it all on an exam	1
		Little Time to execute the exam	2
		Uncertainty in assessment	2
		Non-Conforming Evaluation Criteria	2

Source: Own elaboration (2024).

Regarding the data collected and analyzed in question 4.6, negative aspects that have emerged and remain with respect to the evaluation, we observe that a large number of students do not value negatively any of the aspects that have emerged about the

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[7] What negative aspects do you think have arisen and are maintained with respect to the evaluation during confinement (second semester of the 19/20 academic year) and, consequently, should be improved?

evaluation during the pandemic ("None", with ten references). As a more negative aspect, they consider that their training has decreased in this pandemic period ("Decrease in training", with five references).

Other negative issues worth mentioning are: the communication and connection problems they have had ("Connection problems", with two references), some disagreements introduced by the teachers in the evaluation criteria ("Non-conforming evaluation criteria", with two references) and the uncertainty of how the exams would go in this new evaluation modality ("Uncertainty in assessment ", with two references).

There is another less significant range of negative aspects that they consider existed, which we can observe in Table 11.

3.3 Student suggestions

At the end of the questionnaire, students were given the opportunity to provide any suggestions they deemed necessary. To do this, section 5.2 was created in the questionnaire. Subsequently, the answers were analyzed and a new category was created that could encode the answers, calling this category "suggestions", and, in turn, it was subdivided into several subcategories, as shown in Table 12.

Table 12 – Student Suggestions

Quiz question	Category	Frequency
5.2 - In this space we ask you to indicate any suggestions you consider appropriate in relation to the issues that have been raised in this questionnaire.	Having a single platform to teach online classes	1
	None	3
	Continuous Assessment Improvements	2
	Improvements to evaluation control systems	1
	Improve coordination between teachers and between teacher and student	3
	Improving training in technological tools (teachers and students)	4
	Facilitate the use of non-face-to-face classes	1
	Improving the adaptation of subjects to virtualization	1
	Improving teacher engagement	5
	Improving audiovisual content	1

Source: Own elaboration (2024).

In this table it can be seen that the most referenced subcategory is "Improving teacher engagement ", with five references. Among some of the specific comments in this

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category, we have: "Greater involvement of teachers" or "More support from teachers". Among other interesting aspects that students have suggested, are:

- To introduce improvements so that it is possible to obtain training according to this modality of online teaching, both for teachers and students ("Improve training in technological tools [teachers and students]", with four references).
- Improve the coordination of teaching teams and also between teachers and students ("Improve coordination between teachers and between teacher and student", with three references).
- Improvements in continuous evaluation processes and tools ("Continuous Assessment Improvements", with two references).

4 Conclusions

Regarding the research question: Has the pandemic led to changes in assessment methods? And regarding our initial hypothesis: "The evaluation systems adapted during the confinement of the Covid-19 pandemic allowed students to improve their academic performance with respect to previous years", we must indicate that we cannot verify our initial hypothesis, that is, we cannot guarantee that there have been changes in the evaluation systems and these have caused an improvement in the academic performance of students.

By qualitatively analyzing the information provided by students in some of the questions of the questionnaire, we can highlight the most positive aspects that have emerged in the evaluation during the pandemic: the performance of online exams, the improvement of grades or academic performance, the performance of continuous evaluations and the reduction of the weight of the exams. As more negative aspects, they highlight that they do not observe anything that is negative or the decrease in training received during the pandemic. In summary, the improvement in the academic performance of students during the pandemic cannot be quantitatively verified due to changes in the evaluation systems, despite the fact that they refer to it in some answers to questions that have been analyzed qualitatively.

We would also like to record the final suggestions made by students that can be used when similar situations arise, among which are: greater involvement of teachers so

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that students do not feel alone in their teaching/learning process, improved training in technological tools, more and better coordination between teaching teams and improved interaction between teachers and students.

On the other hand, it should be noted that this work presents several limitations that, in addition, represent future lines of research for its authors. Firstly, the unavoidable judgment of the researchers inherent in obtaining the information, as they have relied on the objectivity of the students when answering the questionnaire. In addition, although the sample under study is sufficiently significant for it to be carried out, it has been limited only to students of the University of Extremadura, leaving out the rest of the Spanish universities, and this sample may not be representative of the entire country. However, despite the limitations mentioned, the results are interesting enough to justify and extend the research to comparative studies with other higher education institutions. In addition, this work informs of the need to self-evaluate the entire university evaluation system and serves as a guide for future academics.

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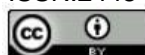
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