

Review

# Inclusive Active Methodologies in Spanish Higher Education during the Pandemic

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**Abstract:** The period of pandemic caused by the arrival of COVID-19 had a series of repercussions at the personal, social, cultural and educational levels. The confinement declared by government agencies caused a shift from face-to-face to virtual learning, which led to certain adaptations and the use of digital tools in order to carry out the teaching-learning process. This technological proliferation became a challenge for the educational community and for the development of pedagogical and inclusive models that could ensure pedagogical continuity. Therefore, the aim of this paper was to analyse the scientific production on active and innovative methodologies that were used during the COVID-19 pandemic period and their effect on the personal, academic and social performance of Higher Education students in the Spanish context. A systematic review of the scientific literature was carried out in accordance with the criteria established in the PRISMA declaration. Among the results obtained, flipped learning stands out as the most used methodology, which increases motivation among other aspects. In terms of knowledge areas, Social Sciences prevails. Finally, it should be noted that the use of active and innovative methodologies improves performance at academic, personal and social levels.

**Keywords:** active methodologies; inclusive methodologies; ICT in education; flipped learning; higher education



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## 1. Introduction

The educational reality in universities has undergone various transformations since the declaration of the COVID-19 pandemic in March 2020 by the World Health Organization [1,2]. During the 2019–2020 and 2020–2021 academic years, health measures were imposed that limited face-to-face attendance, affecting many countries in the world. According to UNESCO [3], more than 85% of the student population was affected by the measures that were imposed, around 63 million teachers stopped working in the classroom and 59% of university institutions suffered some impact on their activities [2].

In Europe, Spain and Italy stand out as the countries most affected in education at all educational levels due to the arrival of COVID-19 [4]. With the lockdown, a traditionally face-to-face teaching model was adapted to one that allowed online teaching. This situation was a convulsion in the educational ecosystem, both of the university educational administration, as well as of teachers and students. Among the concerns discussed are pedagogical training, teaching methodologies, technological infrastructure, consequences for mental health, quality of teaching, academic performance, teacher and student satisfaction among others [1]. However, it was an opportunity to apply new active teaching methodologies such as the flipped classroom, which allowed promoting teaching innovation and advancing the digital skills of teachers and students [5,6].

Higher Education in Spain is committed to achieving global and European educational policies. The Sustainable Development Goals are presented as a challenge for the Spanish University, which becomes an essential actor for its achievement and understanding from the transformative educational experiences they lead [4]. Similarly, the Digital Education

Action Plan 2021–2027 initiative is interesting, which focuses on digital training as a way to promote social justice and inclusive education for all citizens [7].

Given the challenge of the pandemic to implement e-Learning and b-Learning in universities, the need for teacher training in ICT and accessibility to technological resources for teachers and students was verified [5,8,9] in order to mitigate the effects of the change from face-to-face to virtual teaching.

In this context, it is essential that teachers have training that allows them to acquire digital skills to favor teaching-learning processes and educational quality. The European Framework for the Digital Competence of Educators (DigCompEdu) distinguishes several levels of digital competence [10].

- (a) Newcomers (A1): teachers with little proximity to digital resources.
- (b) Explorers (A2): Teachers who use digital resources but lack a holistic approach.
- (c) Integrators (B1): teachers who know and use digital resources in their various activities and try to understand which ones are best suited to a given context.
- (d) Experts (B2): are teachers who use different digital resources creatively and critically and show encouragement to expand their practices.
- (e) Leaders (C1): these teachers master a wide range of digital resources in a flexible, effective and complete way.
- (f) Pioneers (C2): These professors question as experts the contemporary pedagogical uses of digital resources and are pioneers in digital innovation.

The effort of the teaching staff to transform face-to-face teaching to the online approach meant a structural change in the design of the subjects, especially in the teaching methodology and evaluation. However, the key to this adaptation process was the use of active methodologies and the use of summative evaluation together with formative evaluation according to learning outcomes and feedback received from students [11]. On the other hand, this process of adaptation from what has been called Advance Learning Technologies (ALT), joins the need to accompany it with the development of self-regulation of learning (SRL), or learning guided by metacognition. For example, Sáiz-Manzanas et al. [12] identified that teachers with an Experts or Leaders level in digital competences used only 66.6% of the possible tools of the learning management system (LMS). According to an OECD report [13] only 40% of teachers consider themselves sufficiently trained to apply digital technologies in the classroom.

The concern for the quality of teaching has been present during this process. Several studies have shown that students are unfavorable to their teachers because of the lack of innovation demonstrated in ICT management. According to García-Valcárcel [14] the methods preferred by students are the realization of Kahoot, the use of the computer, the realization of practices or group work among others. In another study carried out at the University of Granada, students stated that teachers had training deficiencies in image and video editing, computer graphic editing, use of anti-plagiarism tools or synchronous response systems, among others [15]. The attitude of students towards learning and the opinion towards their teachers has been shown to improve with the correct use of ICT in class [16], together with the use of active methodologies [1].

Active methodologies and the use of ICT have become essential tools in the process of adaptation of Higher Education in Spain during the pandemic period [4,6,15,17,18]. These resources have facilitated the promotion of collaborative relationships between students and teachers, between teachers beyond formal tutoring hours, and greater extrinsic and intrinsic motivation in students [2].

Several studies have proven the importance of the inclusion of digital resources for active learning during the pandemic [19]. There are interesting experiences in which the wiki has been used to improve academic writing and collaboration skills [18], digital games have been incorporated for the resolution of practical cases [17], BIM models have been used in careers such as architecture, construction and engineering [4], resources such as Kahoot and Mentimeter have been used [16] or digital Scape Room activities have been

created [20] through applications such as genially or google form, among other experiences with ICT.

Gokbulut [21] conducted experimental research with 56 elementary school students on e-learning at a public university. Applications such as Kahoot and Mentimeter, digital games and other Web 2.0 tools that promoted interaction were used. The results obtained demonstrated greater student participation and satisfaction, and an improvement in teachers' digital skills.

In another work carried out by Woodworth [22] with nursing students, the Escape Room was used along with case studies and group work. The students positively valued the active teaching methodology and it was found that in addition to the possibilities of training in the care of patients with myocardial infarction, communication and collaboration skills could be fostered.

Another classroom experience invested with ICT was carried out at the Technological University of Peru with 154 students of the subject of Learning Technology of the Psychology career. According to the results obtained, it was possible to verify a greater motivation of the students by linking the cognitive and emotional aspect. Likewise, the dimension of social or communicative interaction was the one that had the best score. It was followed by practical, information and evaluation dimensions [23]. Along the same lines, the Visual Design faculty of the University of Caldas in Colombia held an integrative workshop on teaching design to seventh semester students. In this experience, various digital resources were used for the application of the Design Thinking method. The results obtained showed that the reflective inquiry of the problems on design, debate and communicative experimentation between teachers and students was promoted through the didactic laboratory [24].

The use of these resources for active learning has been present in different university degrees belonging to various areas of knowledge. Among the active teaching methodologies, the flipped classroom stands out. This methodology allows a reflection in class of what the student has previously learned, a greater dedication to the realization of practices, favors inclusive education, leadership is distributed, and competencies such as critical thinking, communication and collaboration, creativity and citizenship are fostered, among other benefits [9,25–28].

Based on the above considerations, the objective of this research was to identify, describe and synthesize existing studies on the use of active and innovative methodologies and their effects on the academic, personal and social performance of Higher Education students during the COVID-19 pandemic period. In addition, the research questions that were raised were as follows:

1. To which areas of knowledge do the selected articles from the scientific literature belong?
2. What research methodologies do studies on active methodologies in Higher Education use?
3. What was the purpose of the selected studies in relation to the applications and technological tools used with Higher Education students?
4. What were the most used active and innovative methodologies in the midst of the COVID-19 pandemic?
5. How did active and innovative methodologies influence academic, personal and social performance according to the perceptions of Higher Education students?

## 2. Materials and Methods

As a result of the relevance acquired by the subject matter treated in this research and to respond to both the objective and the questions posed, it was considered appropriate to carry out a systematic review based on the protocol established in the PRISMA declaration [29]. To strengthen rigor and meet quality criteria, standardized phases were developed in the preparation of the systematic review: establishment of the need for review, definition of concepts, posing research questions, determination of the search equation, se-

lection of databases, delimitation of inclusion and exclusion criteria, design of the flowchart and organization of the results [30].

Web of Science (WOS) and SCOPUS databases were consulted. The selection of these databases is associated with the impact indices they present (JCR and JRS) and because the indexing of scientific articles is accepted after a rigorous process and peer review. The key concepts used to develop the search equation that guides this study were: Active Methodologies OR Active Learning Method OR Active Learning AND Higher Education OR University AND COVID-19 OR Pandemic (Table 1). Searches were conducted during the period from 12 to 22 November 2022.

**Table 1.** Search descriptors.

WOS	SCOPUS
<b>Topic</b> = (“Active Methodologies” OR “Active Learning Method” OR “Active Learning”) AND (“Higher Education” OR “University”) AND (“COVID-19” OR “Pandemic”)	<b>Title, abstract, keywords</b> = (“Active Methodologies” OR “Active Learning Method” OR “Active Learning”) AND (“Higher Education” OR “University”) AND (“COVID-19” OR “Pandemic”)

Source: Authors.

Eligibility criteria were defined in relation to the objectives of the systematic review. Based on these criteria, the inclusion criteria respond to four criteria: (1) empirical research (articles); (2) that they were open access; (3) published in the period between 2020–2022 corresponding to the time of the COVID-19 pandemic; (4) and that were developed in the Spanish context. In relation to the exclusion criteria, the following parameters were established: (1) that the investigations were not empirical, (2) that the articles were paid; (3) publications prior to 2020; (4) duplicate items; (5) and studies whose theme differs from the central axis of this research (Table 2).

**Table 2.** Inclusion and exclusion criteria.

INCLUSION CRITERIA	EXCLUSION CRITERIA
1- Empirical research (articles)	1- Non-empirical research
2- Open access	2- Paid items
3- 2020–2022	3- Publications prior to 2020
4- Spain	4- Duplicate articles
	5- Studies whose contents differ from the subject of study

Source: Authors.

In a first phase, the search equation was established in both databases; The second consisted of applying the inclusion and exclusion criteria (1, 2, 3, 4). In order to apply the exclusion criterion (5) and once the sample was established, a detailed reading of the content of the 21 documents obtained was made, finally selecting a total of 15 articles (Table 3). The flowchart brings together the process carried out and the refinement of the scientific articles until the selection of the final sample (n = 15) (Figure 1).

**Table 3.** Main characteristics of the selected articles.

Study Authors	Sample	Research Methodology	Purpose	Active Methodology	Areas of Knowledge	Results
Del Arco et al. [1]	893 Students	Quantitative method	Analyze students' perception of the most influential factors and methodologies during the pandemic	Virtual or online teaching with face-to-face teaching parameters	Social sciences	Passivity, lack of autonomy and self-regulation of student learning. Little interaction with teachers.
Leon et al. [4]	28 students	Design Science Research (DSR)	Develop teaching through active technologies based on BIM virtual models	BIM virtual models Active teaching methodologies, with project-based learning, supported by advanced ICT	Not applicable	Collaborative learning and acquisition of skills for solving real problems
Pozo-Sánchez et al. [6]	52 students	Quantitative method	Analyze student motivation through a traditionalist methodological approach and an innovative approach	Flipped Learning (Twitch)	Not applicable	Increased intrinsic and intrinsic motivation of students due to the implementation of the Twitch application
Sosa et al. [9]	266 Students	Qualitative and longitudinal method	Study the impact of Flipped Learning on academic performance, student interaction and	Flipped Learning	Social sciences	In general, students value positively the use of this methodology because it favors the acquisition of academic, personal and social skills. However, a minority percentage of students have a preference for the use of traditional methodologies due to the lack of habit in the use of active methodologies.
García-Peñalvo et al. [11]	70 students	Quantitative method	Demonstrate that the use of active methodologies favors the transition from face-to-face to hybrid teaching	Project-Based Learning (PBL) Learning management platform based on Moodle and Google Drive	Computer Engineering (Technological Sciences)	Overall increase in grades obtained by students
Sáiz-Manzanares et al. [12]	225 students	Mixed method	Analyze the differences in student satisfaction with teaching practices between the first year of the pandemic (e-learning teaching) and the second year (b-learning)	Metodología e-learning y b-learning	Health Sciences	Greater satisfaction with b-learning teaching and the use of active methodologies and technological resources, although their use required more working time.

Table 3. Cont.

Study Authors	Sample	Research Methodology	Purpose	Active Methodology	Areas of Knowledge	Results
Torres-Martín et al. [15]	398 students	Quantitative method	Know the perception of students regarding the pedagogical model used during the COVID-19 situation	Flipped Learning Moodle-based learning management platform (PRADO)	Faculty of Education (Social Sciences)	Dissatisfaction on the part of the student body regarding the methodological development and the involvement of the teaching staff
Pichardo et al. [16]	400 students	Mixed method	Study the educational use of Mentimeter to promote student participation and active learning	Hybrid methodology (face-to-face and online) Mentimeter Software	Social sciences	The results show student participation, increased attention, engagement and collaborative learning ensuring inclusive education.
Sáiz-Manzanares et al. [17]	225 students	Mixed method	Find out possible differences in methodology (BPA/traditional) depending on the degree (nursing/occupational therapy)	Game-Based Digital Learning (BPA)	Nursing and Occupational Therapy (Health Sciences)	Interaction and group work were favored
Montaner-Villalba [18]	28 students	Mixed method	Examine university students' perceptions of the use of ICT to promote active learning and written academic competence	Flipped Learning	Business Administration and Management (Social Sciences)	Extrinsic and intrinsic motivation regarding the use of active methodologies in learning business English
Rosillo and Montes [20]	106 students	Mixed method	Use the digital Scape Room to reduce the impact of COVID-19 on academic performance.	Gamificación	Health Sciences (Pharmacy and Nursing)	The results show that COVID-19 has not affected the academic performance of students thanks to the implementation of the Scape Room as a tool to promote the development of the subject.
Izagirre-Olaizola and Morandeira-Arca [26]	281 Students	Qualitative method	Assess the effectiveness of the Flipped Learning methodology in the pandemic period	Flipped Learning (App Socrative)	Economics and Business Administration	The results reveal positive evaluations of the students with respect to this methodology in terms of participation and feedback received.

Table 3. Cont.

Study Authors	Sample	Research Methodology	Purpose	Active Methodology	Areas of Knowledge	Results
Campos-Mesa et al. [27]	129 Students	Quantitative method	Analyze the degree of motivation of students during the hybrid period due to COVID-19 according to the type of educational material used: augmented reality video and traditional videos linked to Flipped Learning	Flipped Learning (traditional videos and augmented reality videos)	Social sciences	The results reveal that students were more motivated with augmented reality videos compared to traditional videos associated with Flipped Learning.
Latorre-Coscolluela et al. [28]	376 Students	Quantitative method	Study students' perceived self-efficacy after completing several Flipped Classroom sessions	Flipped Learning	Social sciences	Flipped learning improves students' sense of self-efficacy, expectations and academic performance
Latorre-Coscolluela et al. [31]	376 Students	Quantitative method	Analyze the impact of using a Flipped Learning methodology during the pandemic.	Flipped Learning	Social sciences	The results show that the use of Flipped Learning methodologies favors communication, critical thinking and creativity. At the same time, it enhances the acquisition of skills for the personal and professional development of students.

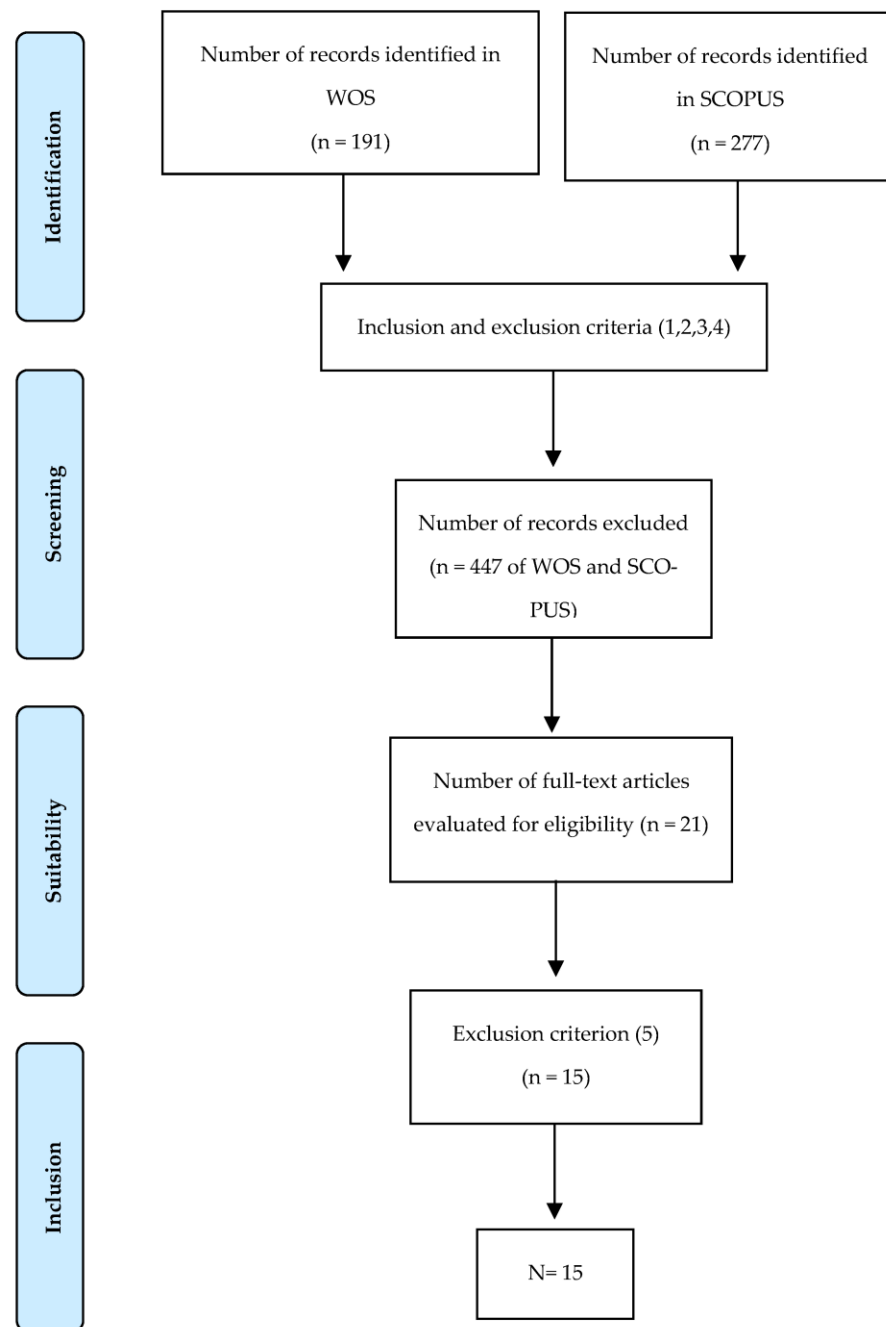


Figure 1. Flowchart.

### 3. Results

This section presents the content analysis of the 15 scientific articles that make up the sample of this study. The presentation of the results will be carried out in response to the research questions presented in the introduction section.

#### 3.1. To Which Areas of Knowledge Do the Selected Articles from the Scientific Literature Belong?

The areas of knowledge in which the various studies analyzed have been carried out correspond mostly to the area of Social Sciences, in the branches of Economics and Pedagogy (9 articles), which correspond to the following studies: Campos-Mesa et al. [27]; Del Arco et al. [1]; Izagirre-Olaizola and Morandeira-Arca [26]; Latorre-Cosculluela et al. [31]; Latorre-Coscuela et al. [28]; Montaner-Villalba [18]; Pichardo et al. [16]; Sosa et al. [8]; Torres-Martin et al. [15]. It is followed by the area of Health Sciences, in the branches of nursing and



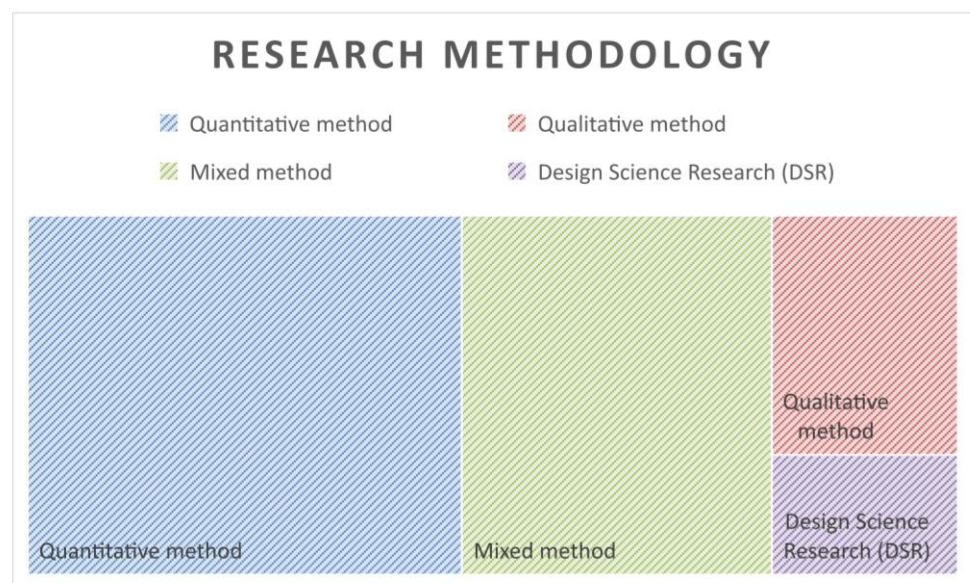
occupational therapy (3 articles) belonging to the research of Sáiz-Manzanares et al. [17], Sáiz-Manzanares et al. [12] and Rosillo and Montes [20]. Only one of the articles is part of the area of Technological Sciences, specifically the branch of Computer Engineering [14]. Two of the articles analyzed did not refer to the area of knowledge or subject in which the research had been carried out (Figure 2).



**Figure 2.** Number of articles by areas of knowledge.

### 3.2. What Research Methodologies Do Studies on Active Methodologies in Higher Education Use?

The studies analyzed present different research methods. It should be noted that the most used are the quantitative and mixed methods (Figure 3). Thus, the most used method in research is quantitative in 7 studies: Pozo-Sánchez et al. [6]; Del Arco et al. [1]; Torres-Martín et al. [15]; García-Peñalvo et al. [11]; Latorre-Coscolluela et al. [31]; Latorre-Coscolluela et al. [28] and Campos-Mesa et al. [27]. The mixed method is also widely used, specifically in 5 articles: Montaner-Villalba [18]; Sáiz-Manzanares et al. [17]; Sáiz-Manzanares et al. [12]; Pichardo et al. [16]; and Rosillo and Montes [20].



**Figure 3.** Research methodologies used in the studies.

On the other hand, the qualitative method is used in 2 articles so it is a minority: Sosa et al. [9] and Izagirre-Olaizola and Morandeira-Arca [26]. In addition, only the Design Science Research (DSR) method is used in one of the studies [4].

### 3.3. What Was the Purpose of the Selected Studies in Relation to the Implementation of Active, Innovative and Inclusive Methodologies in the Pandemic Period?

The studies analyzed can be divided into three large groups. In a first group those whose main purpose is to study the perceptions or assessments of students, as well as their degree of motivation and satisfaction in the use of an active and innovative methodology that favors teaching-learning processes [1,6,9,15,18,27,28].

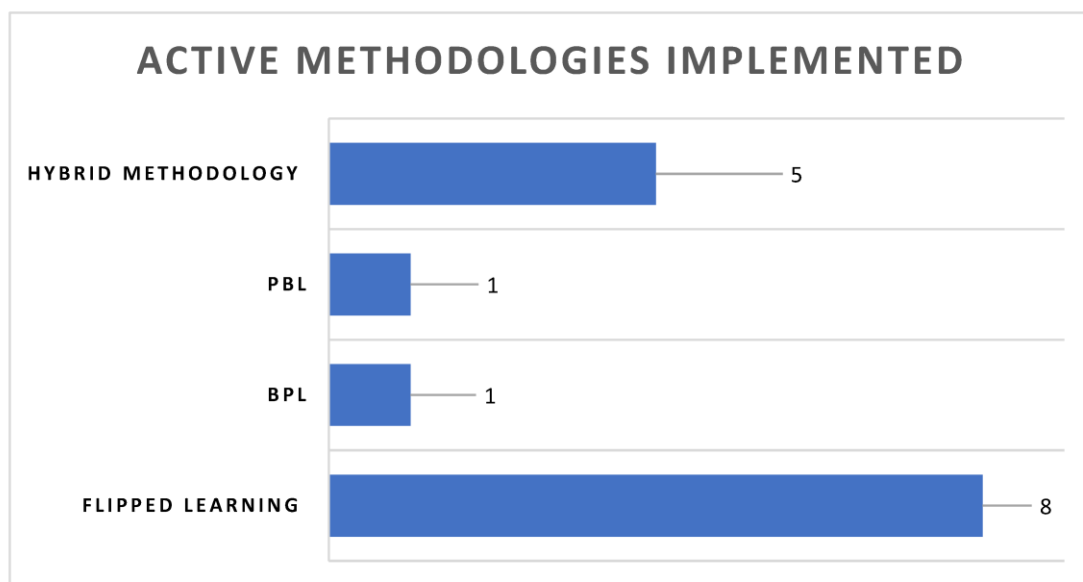
A second group has examined how the use of an active and innovative methodology or digital applications such as the Scape Room influences student learning and academic performance during the pandemic period [4,16,20,26,31].

And a third group has analyzed the possible differences between face-to-face and hybrid teaching through the use of active methodologies, to demonstrate whether these methodological strategies facilitate the transition from face-to-face to mixed teaching [11,12,17].

### 3.4. What Were the Most Used Active and Innovative Methodologies in the Midst of the COVID-19 Pandemic?

Of the 15 articles analyzed, 8 studies [6,9,15,18,26–28,31] present as an active methodology flipped-learning with various applications such as Twitch, Moodle platform, Socrative or through traditional videos and augmented reality.

The study by Sáiz-Manzanares et al. [17] carried out their research using the Game-Based Digital Learning (BPL) methodology; that of García-Peñalvo et al. [11] through Project-Based Learning (PBL); gamification through the Scape Room was used by Rosillo and Montes [20]. And 4 studies [1,4,12,16] presented a hybrid methodology, using advanced digital resources and immediate response applications such as the Mentimeter application (Figure 4).



**Figure 4.** Active methodologies.

### 3.5. How Did Active and Innovative Methodologies Influence Academic, Personal and Social Performance According to the Assessments of Higher Education Students?

Among the most outstanding results:

- There is an increase in student motivation in an extrinsic and intrinsic way and with greater satisfaction with active methodologies: Montaner-Villalba [18]; Pozo-Sánchez et al. [6] and Campos-Mesa et al. [27].

- Sand increased interaction and participation among students favoring inclusion [4,16,17,26].
- The acquisition of real-life problem-solving skills and improvement of academic performance: Leon et al. [4]; García-Peñalvo et al. [11]; Rosillo and Montes [20] and Latorre-Coscolluela et al. [28].
- Promoted the acquisition of academic, personal, professional and social skills: Sosa et al. [9]; Pichardo et al. [16]; Latorre-Coscolluela et al. [31].
- In relation to the studies that show dissatisfaction with the implementation of active methodologies, we find those of Del Arco et al. [1] and Torres-Martín et al. [15] due to the scarce training of teachers in digital skills, scarce interaction with the teacher, passivity, lack of autonomy and self-regulation of learning.

#### 4. Discussion

The systematic review carried out has followed different quality standards, providing rigor to the process of extracting literature review [30]. This paper shows a relevant and interesting overview of the use of active, innovative and inclusive methodologies during the period of confinement due to COVID-19, and how they influence the educational, social and personal processes of Higher Education students within the Spanish context.

After meeting a series of inclusion and exclusion criteria, 15 articles were selected. In this regard, the active methodology most used in university institutions in times of pandemic was flipped learning [6,9,15,18,26–28,31] because as indicated by Plaza et al. [32] it is a methodology that facilitates the acquisition of skills, favoring leadership, creativity, autonomy, teamwork, motivation, etc.

With regard to the most used research methods with respect to the studies carried out on active and inclusive methodologies in higher education, it should be noted that the quantitative method and the mixed method stand out, being the predominant ones, leaving aside the qualitative and DSR.

Attending to the areas of knowledge of the various selected studies, the Social Sciences prevail over the Health and Technological Sciences. In this aspect, the interest in implementing new educational methodologies in the pedagogical context can be seen in the face of the transformations that have occurred due to the COVID-19 pandemic. This aspect coincides with other studies that focus attention on the development of teaching through different methodological strategies that make use of innovative tools and resources, which facilitate teaching-learning processes with students, as indicated by De Giusti [33] and Hernández-Tabares [19].

With regard to the transfer from face-to-face teaching to a virtual or hybrid one, it has been shown that virtual teaching meant a great transformation of the educational system, where both teachers and students had to go through a period of adaptation to new teaching-learning challenges. In this sense, some studies [1] and Torres-Martín et al. [15] show that not all teachers had acquired the digital skills necessary to plan, design and develop virtual approach classes with suitability. Supporting the proposal we find the studies of García [34].

Focusing on the benefits of using teaching strategies with digital resources in the analysis of the different articles, they verify that the use of flipped learning, PBL and BPA together with gamification are active methodologies that facilitate teaching-learning processes. On the one hand, articles focused on the use of flipped learning [6,9,15,18,26–28,31] demonstrate that this methodological approach increases extrinsic and intrinsic motivation, increased self-efficacy in students, academic performance in students and group work. On the other hand, focusing on the teaching role, it interacts more with the students, encouraging teacher-student interaction, although this approach requires more work time following what was proposed by Sáiz-Manzanares et al. [12]. The results of studies such as those proposed by Gómez-Hurtado et al. [2], Ashraf et al. [25]; Ros and Rodríguez [35] and Chambí and Mescco [36], are in line with the above. Thus, there is increasing research focused on active methodologies, some examples of recent studies such as that of Cáceres-Reche et al. [37] identify that the use of innovative and active methodologies can respond to the

social needs of students and encourage meaningful learning. In addition, it is important for teachers to have a good digital competence in order to be able to use active methodologies in the classroom [38].

## 5. Conclusions

In recent times we have undergone abrupt changes in the education system with the appearance of the pandemic. This caused a change in the ways of thinking and proceeding with education mediated by the integration of technological resources that led to rethinking the curricular space of the subjects, designing new pedagogical models and adapting to a new reality so far.

Taking into account the research questions posed, answers have been given to each of them: (a) the different areas of knowledge in which each of the selected studies has been carried out have been presented, highlighting the areas of social sciences; (b) in terms of the purpose of the works it is highlighted that some have analyzed the evaluations or perceptions of students in addition to the degree of motivation and satisfaction with respect to the use of an active methodology, others have found that active and innovative methodologies influence learning and, therefore, academic performance; and the differences between face-to-face and virtual or hybrid teaching in the period of confinement due to the pandemic; (c) Among the most used active methodologies, the Flipped learning; (d) Finally, the different investigations that make up the sample verify that the use of active and innovative methodologies improves performance at academic, personal and social levels.

The process followed and the answer to the research questions posed, confirm the fulfilment of the general objective of this study.

It should be noted that regarding the implications for the training of university teachers in the teaching methods derived from the study, it is important for teachers to have a good digital competence in order to be able to employ active methodologies based on the use of ICT and for these to be effective in improving the teaching-learning process and motivation, among other aspects. At the same time, an important requirement is that there is greater interaction and involvement of teachers with students, having to devote more time to teaching, encouraging teacher-student and student-student interaction.

In relation to the limitations of this work, it should be noted that it may be necessary to include other databases in addition to WOS and Scopus, however, these have been selected for their impact factor in Social Sciences. Other articles in post-lockdown courses should also be considered to analyse possible differences in the use of active and innovative methodologies in the pandemic phase.

On the other hand, this systematic review presents a series of future and prospective lines of work, among which the following stand out:

- Continue investigating the possible advantages of the use of active and innovative methodologies that favour teaching-learning processes with respect to traditional teaching.
- Inquire about the effect of the flipped-learning methodology on the academic performance of students.
- Expand the systematic review, using other scientific databases.

Finally, highlight the importance of continuing to deepen the influence of technological tools to enhance learning and the importance of specific training in the use of active, innovative and inclusive methodological strategies that respond to the needs of diverse students.

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