



# European Journal of Educational Research

Volume 9, Issue 3, 1223 - 1234.

ISSN: 2165-8714

<http://www.eu-jer.com/>

## Analysis of Training Offers on Active Methodologies for University Teachers in Spain

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*Received: April 12, 2020 • Revised: June 28, 2020 • Accepted: July 10, 2020*

**Abstract:** The current offer of training courses for university teachers is due, among other needs, to the implementation of an educational model based on student learning, promoting the use of active methodologies for their motivation and academic performance. An exploratory-descriptive and ideographic study is presented where the main technique is the analysis of content. To this end, 15 Spanish universities with the greatest prestige were analyzed according to the parameters of the Academic Ranking of World Universities (ARWU) in relation to the topics related to active methodologies and the profile of university teachers. The results show the different teacher training courses that have been carried out during the 2019/2020 academic year. We find that there are more universities that present more training of this type than others, and who this type of training is aimed at: new teachers and teachers with professional experience. The conclusions are related to the importance of the courses for the professional development of university teachers, since they should not be anchored in the same methodology, but should be open to new challenges and always taking into account the students, enhancing their motivation and academic performance.

**Keywords:** *University teacher training, training needs, training offers.*

**To cite this article:** Higuera-Rodríguez, L., Garcia-Vita, M. M., & Medina-García, M. (2020). Analysis of training offers on active methodologies for university teachers in Spain. *European Journal of Educational Research*, 9(2), 1223-1234. <https://doi.org/10.12973/eu-jer.9.3.1223>

### Introduction

Currently, interest in the training of university teachers goes beyond their own professional development, and there is a great deal of research that focuses on its analysis from pedagogical and educational perspectives (e.g. Aramburuzabala et al., 2013; Gibbs & Coffey, 2004; Montes & Suarez, 2016; Odalen et al., 2019). In this line, we frame this work that analyzes the training offer for teachers of higher education in institutions of the Spanish territory, both initial and permanent training. To determine the presence of active methodologies among the objectives of such training, as a key to student motivation and educational practice. To this end, we carry out a review of teacher training, teacher training needs and the impact of active methodologies on the training offered.

#### *University teacher training*

The professional development of university teachers has focused on teacher training in recent years, with the aim of ensuring that university education is adapted to the needs of students, responding to the training and skills demands of today's society (Montes & Suarez, 2016) as well as the complexity generated by the new approaches of the process of convergence to the European Higher Education Area (EHEA) (Zabalza, 2009). The majority of Spanish universities are currently committed to developing teacher training activities as part of their Training Plans, making a great effort to train teachers for this new reality and the renewal of methodology, which implies the allocation of resources for its development (Aramburuzabala et al., 2013; Hernandez-Castilla, 2009; Karadeniz, 2017).

Thus, a model of university teaching centred on the student and his or her learning emerges, being conceived in an active way and not as a simple receiver and no longer centered on the teacher himself (Aramburuzabala et al., 2013; Gonzalez & Gonzalez, 2007; Sanchez, 2005; Zabalza, 2009). A new teaching role is established, which is not really so new, but it is generalized from the establishment of the EHEA whose function is to "facilitate learning" which implies not only mastering knowledge and didactic skills but also requires the training of the teacher as someone who teaches

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(Gonzalez & Gonzalez, 2007) with special interest in how to motivate, how to organize learning processes adapted to students, how to supervise and tutor their activities, how to evaluate them and help them solve difficulties, among others (Kert, 2019; Zabalza, 2009). On many occasions, knowing the elements that motivate students is an important element in deciding on which aspects to focus their teacher training and education (Gorham & Millette, 1997). A key aspect for student motivation is the continuous training of teachers, as they are role models for their students (Williams & Williams, 2011) and need to see their teachers as current and well-trained references. Research such as that of Keller et al. (2017) concludes that improving students' cognitive and motivational outcomes requires teacher knowledge and training, as well as their own motivation. This aspect is reaffirmed by Mahler et al. (2018) when they state that among other issues, teacher knowledge and training are indisputable essential characteristics for a successful education of their students. These authors conclude from the results of their study that teacher training should focus not only on the acquisition of knowledge, but also on improving motivational guidance.

As a conceptual clarification we would like to emphasize what we understand by University Teacher Training and for this we take the definition of Aramburuzabala et al. (2013):

*Who conceive it as a continuous, systematic and organized process of acquisition, structuring and restructuring of knowledge, skills and values for the performance of the teaching function, which covers both initial and continuing training and which affects the quality of student training and therefore the quality of Higher Education (p. 347)*

How to approach such training in order to carry out the teaching function with high standards of quality and inclusion (De Miguel, 2003) is a question of approximate differences. A key criterion is the subject matter to be developed, a large part of which is formulated for the development of teaching skills that improve their practice in the classroom (Gibbs & Coffey, 2004). To this, Trowler and Bamber (2005) question the effectiveness of this generalized and compulsory model of university teacher training if it is not accompanied by an institutional policy, a reflexive process between knowledge and practice that leads to an institutional culture, a revaluation of teachers and their practice, a commitment to evaluations and research on the results of such teacher training processes (changes in teacher practice, student conceptions, classroom climate, etc.).

Along these lines, the authors Gibbs and Coffey (2000) propose some categories of analysis for the different teacher training programs, evaluating three categories: the improvement of teaching skills, the development of teachers' conceptions about teaching and learning, and the consequent impact on student learning. This proposal manages to keep alive the interest towards learning of the university student himself and not only focuses on what the teacher has obtained (Trowler & Bamber, 2005), also analyzing the interactions and relations between teachers and students (Aramburuzabala et al., 2013).

#### *Professional development of university teachers. Training needs*

As we have already said, the obligatory nature of this training must be complemented with other strategies that encourage and motivate teachers to improve (Trowler & Bamber, 2005), the key being their willingness and, above all, the existence of a training offer that covers teaching needs and demands and helps them to profile their pedagogical competence (Aramburuzabala et al., 2013; De Ketele, 2003; Montes & Suarez, 2016; Vykrushch et al., 2020). Within these criteria, the diagnosis of teacher training needs becomes essential and a priority since it allows for the detection of deficiencies and the proposal of corrective improvements (Gonzalez & Gonzalez, 2007).

There are several studies that focus on identifying such teacher training needs at the university level. Montes and Suarez (2016) and Echeita and Dominguez (2011) consider that these currently focus on the dimension of the role of differences in learning, the organizational dimension (planning, methodology, evaluation, etc.) and the ethical dimension (relating to principles, educational values and willingness to change). This is a good typification of the different needs that allows to clarify categories of analysis.

Alvarez-Rojo et al. (2011) carried out a work on their perceptions of training needs, finding that they are mostly focused on those competences that have to do with the newest elements incorporated in the EHEA approaches, such as those competences that facilitate the teaching-learning process and its student-centred assessment with methodologies that favors autonomous learning. In more detail, Gonzalez and Gonzalez (2007), find that the greatest weakness of the teaching staff is preparation for teaching (subject design, teaching methods, learning assessment, tutoring, use of ICT, among others) and, in terms of the use of teaching methodologies, the teachers participating in their research show a lack of preparation for energizing classroom sessions, increasing knowledge about teamwork and directed study.

#### *Active methodologies in teacher training*

Today, the role of teachers is not only to teach a range of knowledge that may have a fixed duration, but to help the student "learn to learn" autonomously (Monereo et al., 2013).

The new teaching and learning models not only respond to structural change, but also promote a renewal of teaching methodologies. Such change requires a transformation in the teaching-learning process that is developed through

strategies that are truly meaningful to students and that foster more reflexive, active, and autonomous attitudes. Therefore, the basic intention is to promote and develop an approach based on the student's competences, where learning is the priority, in detriment of the teacher's teaching (Brockbank & McGill, 2002; Ministerial Conference Bologna, 1999). Teaching becomes an interactive process that seeks to facilitate students' learning by encouraging them to build their own knowledge and understanding, and to be independent. Striving to become an independent learner, the teacher recognizes the different needs of the students and takes them as a starting point when planning the course (Postareff et al., 2007).

The process of improving the quality of teaching becomes a complex process in which different factors come into play, such as educational policies, teacher training, resources available, centres cultures, educational contexts, etc. All these factors are especially important, but more significant are the type of teachers and the pedagogical practices they carry out in the classroom (Higuera-Rodríguez, 2019). Today, many teachers still have the idea that teaching practices must remain the same as they were years ago. Their way of conceiving the teaching-learning process is totally traditional and they do not conceive the idea of revising current and innovative methodologies for their implementation in their teaching (Beraza, 2012). However, there are other types of teachers who believe that educational improvement is related to quality and equity (Marcelo & Vaillant, 2009). This type of teaching staff has the uncertainty of whether their teaching performance is correct. That is why more experienced practical references are needed to help teachers who decide to guide their learning to a more innovative process as examples. As Zabalza (2009) points out, teaching requires solid training not only in content but also in didactic aspects. The results obtained by Troiano et al. (2006) indicate that methodologies that are mostly centered on content are used at university more often than active.

To produce a complete, correct, and effective teacher training, certain didactic tools must be used. Currently, didactic tools are changing teaching practice, requiring a more complete vision on the part of the teacher since he or she must make use of them taking into account different factors that can be developed within the classroom (Cardenas et al., 2013).

In this context, the need to implement other types of methodologies is evident. Active methodologies guarantee that students actively participate in the learning process, cooperating practicing cooperative work with other students, in a reflective way, making decisions and creating knowledge to which we must add feedback as indicated by Fidalgo-Blanco et al. (2019).

For the universities, the improvement of pedagogical practice has a major impact on teacher training, evaluation, and incentives. However, as mentioned by Parejo (2010), if only training is addressed and motivation and incentives are not encouraged, the attitude of teachers will not be changed and, consequently, neither will their pedagogical practice.

The quality of educational processes is influenced by the level of motivation of both teachers and students. A fundamental intrapersonal factor that influences student motivation is the teaching staff (Cermeno, 2016). The effectiveness of the teacher depends on different factors, among which the dedication and the orientation to the effective development of the tasks that are developed in the classroom stand out. As mentioned by Woodcock et al. (2019), there is a relationship between teacher self-efficacy and student academic performance, since, in their results, higher levels of teacher self-efficacy meant less frustration, more sympathy and less expectation of future failure for students. All this with the application of active learning methodologies. Therefore, the motivation of both the teacher and the student is essential for the educational process (Tan et al., 2019).

There is related research that speaks of the use of active methodologies for teacher training. The already mentioned study by Gibbs and Coffey (2000) reports on the effectiveness of university teacher training whose results conclude that good teacher training helps students to learn more effectively. Other research focuses on different types of active methodologies for the improvement process. The research by Higuera-Rodríguez et al. (2020) mentions the importance of teacher training in active-play methodologies as the main tool for the teaching process. In the same line, Buckley, and Doyle (2016) conclude that active methodologies such as gamification impact positively on the different types of student motivation. On the other hand, Trigueros et al. (2020) deal with the influence of the teacher's prosocial skills and how this impact on creative intelligence, emotions, and student academic performance. Ishii (2017), on the other hand, focuses on learning communities as active learning in teaching and learning innovation and is related to teacher training and believes that if we conceive teacher development as a continuous process, teacher training should also be active and permanent. In another work on teacher perception of teaching styles and the degree of use, knowledge and importance they give to the use of active methodologies, it is stated that they give importance to participatory master classes, problem-based learning, cooperative learning, and that the portfolio is not sufficiently disseminated in the university community (Gonzalez, 2013).

In summary, the works and research reviewed indicate that student learning becomes a central issue in the objectives and development of university teacher training, seeking to promote active teaching methodologies through various strategies that encourage student motivation and therefore directly affect their academic performance.

## Methodology

### *Research Goal*

Considering the different researches carried out on the use of active methodologies in the university field and its impact on the students, our work proposes to contribute a new way of study focusing on the analysis in the training offer of the university teachers. To this end, the established objectives of this research are: 1. To analyze the keys to the training offer in terms of learning active methodologies; 2. To know some of the active methodologies proposed in the university environment; 3. To know the teaching profiles to which this training offer is addressed.

The methodology carried out in this research is of an exploratory-descriptive, where the main technique used is content analysis (Krippendorff, 2002; Willis, 2007), through the review of the training offered by Spanish universities in relation to the training of university teachers. On the one hand, descriptive analysis provides an overview of the data (Lune & Berg, 2016; May, 2002). On the other hand, ideographic analysis provides a better understanding and interpretation, using the definition, organization, or characterization of the subject (Diaz-Bazo & Gonzales, 2016; Buendia et al., 2010).

From the total of Spanish universities that make up the population on which this study is based, a non-probabilistic sample of 15 universities was initially selected, intentionally, as they are the most prestigious universities in Spain, according to the parameters of the Academic Ranking of World Universities (ARWU). The sampling procedure used serves the purposes of this research by allowing the selection of units with certain characteristics, already posed, in correspondence with the study objectives.

### *Sample and Data Collection*

The selected universities, in order of appearance in the ranking on the date of consultation (April-May 2020), were:

1. Autonomous University of Barcelona
2. Complutense University of Madrid
3. University of Granada
4. University of Valencia
5. Autonomous University of Madrid
6. Pompeu Fabra University
7. Polytechnic University of Valencia
8. University of Oviedo
9. University of Seville
10. University of the Balearic Islands
11. University of Leon
12. University of Zaragoza
13. Polytechnic University of Madrid
14. Jaume I University
15. University of Santiago Compostela

These fifteen universities were chosen because they met the requirements for access to information on the training offer in the 2019/2020 academic year for university teacher training courses and programs.

### *Analyzing of Data*

The data collection process was carried out by means of a documentary review of the training offer, with respect to active methodologies, provided by the universities for the university teaching staff during the 2019/2020 academic year, available on the official websites of the universities studied. Only the training programs of the university institutions have been considered because we consider that the university is a valid training space for the professionals that compose it.

After choosing the sample and collecting the data, the exploratory-descriptive analysis of the information obtained from the fifteen selected universities was carried out. The different courses and activities found in relation to active methodologies have been classified according to their subject matter and main targets. From this data, and depending on the number of hours of the courses, the percentage of time dedicated to each of the areas or themes defined and which are the main beneficiaries of the activities proposed by the universities has been calculated initially.

For the classification of the courses and training activities according to the recipient, the training levels defined by Valcarcel (2003) and Tejada (2013) were used according to the time of professional development of the university teacher. In this way, two categories of analysis were defined, which have made it possible to classify training courses according to the teaching staff they are aimed at, as can be seen in Figure 1.

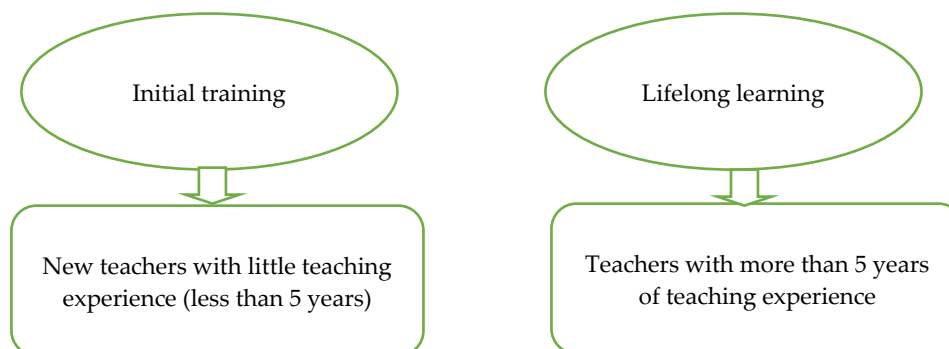


Figure 1. Type of training according to the recipients. Source: Elaborated from Valcarcel (2003) and Tejada (2013).

With respect to the typology of courses related to active methodologies, two large blocks have been differentiated: the first related to teaching in general, whose theme is didactics in general and the improvement of the teaching-learning process; and the second, to teaching innovation, with the systematic and planned incorporation of transformative practices, aimed at improving the teaching-learning processes. This second block is broken down into different types as we consider educational innovation to be very general and to be more specific in training aspects. These types are classified into: a) Methodology (courses related to improvement and innovation in teaching-learning methods); b) Evaluation (courses of active methodologies aimed at strategies to be evaluated, in a procedural and continuous way); c) Inclusion (courses related to teaching and disadvantaged groups); d) Equality (initiatives related to gender equality).

## Results

The results are presented with the support of Tables 1, 2, 3 and 4 because we consider them to be of great help in giving a more general overview of the results. Following the established in the goals of this work, the results have been structured in three blocks: first, the offer of training in universities studied in relation to active methodologies is shown, then the objectives and approaches of these formations on active methodologies are analyzed and, lastly, they show which teacher profiles this training is aimed at.

### *The offer of training in universities*

Tables 1, 2 and 3 show the data from the fifteen universities studied in terms of the total number of courses in each university and the number of hours dedicated to training in each subject.

To give a better view of the results presented in the tables, the highest percentages and for the total, are highlighted to show the most significant values.

Table 1. Themes on active methodologies by University

	GENERAL EDUCATION	TEACHING INNOVATION
Aut. Barcelona	4	16
Complutense Madrid	0	5
Granada	0	16
Valencia	0	1
Aut. Madrid	2	5
Pompeu Fabra	3	19
Pol. Valencia	0	6
Oviedo	0	1
Sevilla	0	0
Baleares	0	9
Leon	0	16
Zaragoza	0	5
Pol. Madrid	0	5
Jaume I	0	6
Sant. Compostela	0	10
<b>TOTAL</b>	<b>9</b>	<b>120</b>

Source: own elaboration

Table 2. Themes around teaching innovation by University

	Methodology	Evaluation	Inclusion	Equality
Aut. Barcelona	10	2	1	3
Complutense Madrid	1	1	1	2
Granada	15	0	0	1
Valencia	1	0	0	0
Aut. Madrid	4	1	0	0
Pompeu Fabra	18	1	0	0
Pol. Valencia	5	1	0	0
Oviedo	1	0	0	0
Sevilla	0	0	0	0
Baleares	9	0	0	0
Leon	10	2	2	2
Zaragoza	5	0	0	0
Pol. Madrid	2	0	2	1
Jaume I	6	0	0	0
Sant. Compostela	7	1	2	0
<b>TOTAL</b>	<b>94</b>	<b>9</b>	<b>8</b>	<b>9</b>

Source: own elaboration

Table 3. Hours of training dedicated to each thematic line

	General teaching		Teaching innovation	
	Hours	%	Hours	%
Aut. Barcelona	120	44,4	480	13,43
Complutense Madrid	0	0	150	4,2
Granada	0	0	550	15,38
Valencia	0	0	30	0,84
Aut. Madrid	60	22,22	150	4,2
Pompeu Fabra	90	33,33	475	13,29
Pol. Valencia	0	0	180	5,03
Oviedo	0	0	30	0,84
Seville	0	0	0	0
Balearic Islands	0	0	270	7,55
Leon	0	0	480	13,43
Zaragoza	0	0	150	4,2
Pol. Madrid	0	0	150	4,2
Jaume I	0	0	180	5,03
Sant. Compostela	0	0	300	8,39
<b>TOTAL</b>	<b>270</b>	<b>100%</b>	<b>3575</b>	<b>100%</b>

Source: own elaboration

As can be seen, a total of 3845 hours of training have been analyzed, corresponding to 141 university teacher training courses related to active methodologies.

The results show that there are two general categories of topics related to active methodologies such as teaching in general (with 270 hours of training and 9 courses) and teaching innovation (with 3575 hours and 120 courses). Teaching courses related to active methodologies are less of a priority within the university environment. The universities that present this type of subject matter are the Autonomous University of Barcelona (44.4%), the Autonomous University of Madrid (22.2%) and the Pompeu Fabra University (33.3%).

#### Objectives and approaches of formations on active methodologies

In further analysis, these courses talk about how to innovate in educational methodology, since teaching is the new context of education and learning. Therefore, one of the main objectives they pursue is to reflect on the implications of the methodological change of the new teaching-learning context. In addition to fostering interpersonal competence, promoting critical thinking, motivation and confidence, cultural diversity, and the needs of individuals, creating a climate of empathy and ethical commitment. Also, the competence to plan and manage teaching through the design, guidance and development of contents, training and assessment activities, and other resources related to teaching-learning, assessing the results, and developing proposals for improvement. Other contents to be dealt with in these

courses are related to the portfolio as a strategy for the improvement and evaluation of teaching. They try to conceptualize the teaching portfolio as a tool to document teaching for reflection and improvement.

The courses related to teaching innovation offer different topics to work through which it is very easy and favorable to use active methodological strategies. The use of these methodologies contributes to the improvement in the acquisition of knowledge and skills and ultimately to the teaching-learning processes. These topics are methodology, evaluation, inclusion, and equality.

The teaching innovation courses related to methodology cover a total of 94 courses distributed in the different universities except for the University of Seville which does not have this type of course within its training offer. The Pompeu Fabra and Granada Universities have the largest number of methodology courses. These courses try to offer training workshops about different active tools and methodologies that can be used in the university environment. Among these, the courses of gamification and game-based learning, flipped classroom, visual thinking and all related to the promotion of motivation and creativity stand out. The main objective of these workshops is to introduce the concept of active methodology and to give some practical indications on how it can be used in university teaching, to be followed in a particular subject or in different studies in general. Other methodologies that are worked on in these courses are PechaKucha, a methodology to communicate in the classroom; happiness in the classroom, from effective teaching to affective teaching; and mindfulness to work on attention without judging, grieving or rejecting.

Teaching innovation courses related to evaluation are a minority in the different universities. There are only 9 courses distributed in Autonomous University of Barcelona, Complutense University of Madrid, Autonomous University of Madrid, Pompeu Fabra University, Polytechnic University of Valencia, University of Leon, and University of Santiago de Compostela. These courses deal with the different resources for classroom and online teaching, their advantages and disadvantages, and the development and management of useful tools for evaluation. In addition, formative and competency-based assessment through rating scales; design of quality assessment tasks; assessment of transversal skills as a starting point for teaching coherence, among other aspects aimed at using active methodologies to achieve quality assessment.

The teaching innovation courses related to inclusion cover a total of 8 distributed in the Autonomous University of Barcelona, Complutense University of Madrid, University of Leon, and University of Santiago de Compostela. They deal with the recognition of diversity in society and the commitment to sustainable Development Goals (SDG 4), guaranteeing quality inclusive education and responding to the new demands arising from the diversity of university students, paying special attention to the elimination of barriers generated by non-accessible curricular designs and resources. That is why the use of active methodologies is essential today. The objectives of these courses are linked to reflection on the keys to designing the curriculum from a diversity and inclusive perspective; to learn about the learning model, structure and didactic proposals; and to connect these proposals with activities for practice in the university classroom.

The teaching innovation courses related to equality cover a total of 9 distributed in the Autonomous University of Barcelona, the Complutense University of Madrid, the University of Granada, the University of Leon, and the Polytechnic University of Madrid. They deal with the implementation of gender in the different university knowledge areas. The objectives pursued by these courses are related to the clarification of the most relevant concepts and dimensions of the gender perspective in university teaching. In addition, it serves as a guide for the diagnosis and evaluation indicators referring to the study plans and teaching itself.

#### *Teaching profiles to which this training offer is addressed*

In response to the question of who the courses on active methodologies are aimed at, it is presented in Table 3. It shows the two teaching groups for whom these courses are intended: teachers in their initial training and teachers in their continuing education. As mentioned in Figure 1, the new teachers are classified as those with little teaching experience (less than 5 years), and the more expert teachers as those with more than 5 years of teaching experience.

As you can see, there are 17 courses for new teachers: Autonomous University of Barcelona, University of Granada, Autonomous University of Madrid, Pompeu Fabra University and University of the Balearic Islands. These courses offer participants the attitudinal bases and tools necessary to improve their teaching skills and competences. In addition, they are given some guidelines so that they know how to prepare a teaching and research project, since this is a requirement to reach the category of permanent teacher or civil servant. The objectives pursued by these courses are related to the improvement of the didactic communication competence, teaching planning, methodology, use of technologies, educational evaluation, and personalized attention to the student. In addition to providing tools and references for effective decision-making and assuming responsibility in the task as a teacher; and generating positive attitudes towards continuing education in all areas of their teaching professional development.

There is a total of 112 courses for permanent teaching staff, distributed among all the universities except for the University of Seville, which does not offer this type of course related to active methodologies. The universities that offer the most courses for this group are Pompeu Fabra University, University of Leon, University of Granada, and

Autonomous University of Barcelona. These courses offer some lines of training related to the improvement of teaching and educational innovation; training and innovation to enable permanent teaching staff to incorporate different aspects related to inclusion, equality, entrepreneurship, healthy living, sustainability, digitalization and virtualization of teaching into teaching practices. In addition, training is provided related to the promotion of creativity and motivation through the design of teaching materials, the use of ICT for online teaching and tools such as Socrative for participation in the classroom; use of educational blogs and methodologies such as Agile, Scrum, Lean and Kanban that are used for the management and administration of projects.

Table 4. Type of training to which the courses on active methodologies are addressed by University.

	Initial training	Lifelong learning
Aut. Barcelona	7	13
Complutense Madrid	0	5
Granada	1	15
Valencia	0	1
Aut. Madrid	1	6
Pompeu Fabra	3	19
Pol. Valencia	0	6
Oviedo	0	1
Seville	0	0
Balearic Islands	5	4
Leon	0	16
Zaragoza	0	5
Pol. Madrid	0	5
Jaume I	0	6
Sant. Compostela	0	10
<b>TOTAL</b>	<b>17</b>	<b>112</b>

Source: own elaboration

### Discussion

The results of our research reveal the benefits of university teacher training programs. The theory in general speaks of university training courses as the key to improving the quality of educational processes. Despite this, research such as that of Houston and Hood (2017) indicates that, although they are recommended for the improvement of teaching, there are still certain limitations when it comes to demonstrating their effectiveness or validity as a quality mechanism. And even studies such as that of Vykhreshch et al. (2020) point to certain problems in empirical research on the effectiveness of teacher education in higher education institutions.

As we have pointed out throughout our work, the training programs for university teachers involve updating their skills and competences to the demands of social development. The well-being and performance of teachers is affected by their ability to cope with the demands of the profession (Rupprecht et al., 2017). Therefore, we highlight results such as the research of Bhutto et al. (2017) that point out the need to offer relevant and innovative teacher training programs to update pedagogical and even research strategies in the university environment and to contribute in the same way to maintain educational standards of quality and novelty. The findings of this research coincide with our proposal, which values the need to include training in active methodologies as a key tool for teacher training. Finally, they state that with the development of training programs there is a significant increase in teachers' confidence in their professional skills and abilities.

This issue is reaffirmed by the findings of research by Odalen et al. (2019) conducted on 183 university teachers who participated in professional training courses and showed improvements in confidence, pedagogical skills and some changes in teaching methodology, with a greater focus on students. This is reaffirmed by the results of our research showing that one of the main objectives of these courses is to reflect on the implications of the methodological change of the new teaching and learning context. In addition to the competence to plan and manage teaching through design, guidance and content development, training and assessment activities, and other resources related to teaching-learning, evaluating results, and developing proposals for improvement. All of this is corroborated by the research of Agarwal to Rao (2017), Parra-Gonzalez et al. (2020), and Perez Poch et al. (2014).

In short, the conclusions of our research and the findings set out in the literature analyzed demonstrate the positive effects of training programs Odalen et al. (2019) training programs. Partially, these results reaffirm the research of Houston and Hood (2017) which points out the benefits of training programs more at the individual level and not so much at the level of transference of learning to practice which depends on many other factors including time of experience.



As our work shows, the benefits of teacher training programs at the University are evident and transferable to all subjects, competencies, and areas. This is the case of the study by Spivakovskiy et al. (2017) which concludes with the satisfactory results of a group of professors from Kherson University, regarding the acquisition of competence in information and communication technology through the University's training programs. These benefits are transferred to the resolution of educational and research tasks.

In general terms, university teachers are appreciated and valued as an important resource providing quality education (Bhutto et al., 2017). Furthermore, as noted by Bhutto et al. (2017) a large body of research has shown that the training of university teachers has a significant positive impact on students and their learning process. More specifically, authors such as De los Cobos et al. (2011) mention the direct relationship between the application of active teaching methodologies and the significant learning of the university student (Parejo, 2010). In our work, the most used topics in the active methodology's courses, are teaching in general and teaching innovation. Vargas et al. (2018) mention how the use of active teaching methodologies can develop critical thinking and ethical sense. In addition, there is a great deal of research that supports the teaching of innovation courses related to methodology, since they offer different tools and methodologies for working in the classroom. Higuera-Rodriguez (2019) mentions in his research how gambling and game-based learning are useful for university teaching, with emphasis on future primary school teachers. On the other hand, Blair et al. (2016) talk about the importance of the Flipped Classroom methodology but recommend that teachers who are going to use it pay attention to students' academic performance and their perception of their learning. On the other hand, research such as Karadeniz (2017) points out that students, whose teachers have carried out improvement programs on methodology, increase their taste for the subject, improve in mutual help, cooperation, as well as in cognitive, social and emotional levels. The effectiveness of training programs for teachers through updated methodologies and technologies is also derived from the research of Kert (2019).

### Conclusion

The main purpose of this research is to study the educational offer of the teaching staff regarding the use of active methodologies in the learning process of university students. The results show that there are different courses related to this subject and how more emphasis is placed on some universities than on others. University teacher training courses offer teachers an opportunity to change their educational practices and be in continuous training so that educational processes are more effective (Gonzalez & Gonzalez, 2007; Montes & Suarez, 2016), as well as encouraging motivation in teachers by having an impact on students (Keller et al., 2017; Mahler et al., 2018).

In summary, it is concluded by commenting that the use of active methodologies in the university continues to be a path that we must follow in order to benefit from their applicability and how they affect the motivation and academic performance of the students. However, we must consider that teachers must make a correct use of them to benefit the educational processes.

### Suggestions

Our results show a lower offer and therefore efforts in the initial training of new university teachers. These courses offer the participants the attitudinal bases and the necessary tools to improve their teaching skills and competences, among which are the elaboration of a teaching and research project, the improvement of the didactic communication competence, the teaching planning, the methodology, the use of technologies, the educational evaluation and the personalized attention to the student. This offer may be limited in quantity, subject matter and purpose, since there is evidence that new teachers require more in-depth training to provide them with specific resources to have a bank of didactic resources and methodological strategies to meet the different forms of learning or specific educational support needs (Conde-Jimenez & Martin-Gutierrez, 2016; Odalen et al., 2019).

The scope of this research goes beyond the context in which this work is carried out, since it can be used in a more general context; since it shows the advantages of the use of active methodologies in teaching and its universality to be used in all educational contexts. Moreover, the information gathered in the research makes known what is being worked on and how it is being worked on in the Spanish context to improve the training of university teachers. In addition to reflecting on whether it is sufficient for the improvement of educational processes.

### Limitations

This is an exploratory study in the Spanish university context and therefore generalizations cannot be made. However, it shows aspects and research of an international nature on how the use of active methodologies in university teaching is effective. There are certain limitations in the bibliography researching our topic: teacher training plans and student motivation, specifically around active methodologies.

As a result, it is advisable to continue with the research in relation to this topic in order to know the training offerings that the different public and private institutions provide internationally; with the objective of knowing if and how they are carried out. Likewise, it would be advisable to carry out a comparative study at European level that would help us to give visibility to the use of different methodologies and good practices in Europe for their subsequent application in

our country. Finally, we consider interesting to carry out a research that analyses the relationship between the teacher training received in their training plans, specifically in active methodologies and the improvement of the results at the level of motivation in their students.

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