

# Continuing training of non-university teachers: An analysis of impressions, preferences, and needs

## *La formación permanente en el profesorado de enseñanza no universitaria: análisis de impresiones, preferencias y necesidades*

María-José MAYORGA-FERNÁNDEZ, PhD. Associate Professor. Universidad de Málaga (mjmayorga@uma.es).

Inmaculada MARTÍNEZ-GARCÍA, PhD. Associate Professor. Universidad de Málaga (inmamartinez@uma.es).

Fabián NÚÑEZ-AVILÉS, PhD. Director of the Vélez-Málaga Teachers' Centre (fabian.nunez.edu@juntadeandalucia.es).

### Abstract:

Continuing training is a key component in teachers' professional development as it enables them to meet the educational needs of the knowledge society and contribute to a quality educational system. This research aims to identify the training needs and preferences of in-service teachers and their impressions of the continuing training they receive. To do so, a quantitative study with a descriptive and correlative ex-post facto design was used. A total of 801 non-university teachers from schools in the autonomous community of Andalusia participated in the research. The data were collected using a questionnaire with an ad hoc design, taking as reference the instrument developed by Sangrà et al. (2019). For the data analysis, an exploratory factor analysis

was performed giving 9 dimensions. The correlations between them were calculated and the non-parametric Mann-Whitney test was used to compare differences in means by gender. The results show that teachers are motivated for teacher training as they see that it is linked to improvements in their professional practice and in student results, and that they prefer formal training activities. The content they prefer relates to school development, entrepreneurial skills and their transfer, innovative teaching methodologies, didactic updating, and ICT. Some gender differences in training preferences were found, although the total score is similar for men and women, with women wanting more training in four of the dimensions and being more motivated to participate in such training.

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In conclusion, there is a need to consider new training strategies such as lesson study, where teachers are the protagonists of their ongoing training.

**Keywords:** continuous training, training needs, modalities of training, non-university teaching.

## Resumen:

La formación permanente del profesorado es un elemento clave en su desarrollo profesional, puesto que les permite hacer frente a las demandas educativas de la sociedad del conocimiento y contribuir a un sistema educativo de calidad. La presente investigación tiene como objetivo conocer las necesidades formativas, así como las preferencias e impresiones de la formación permanente recibida por los/las docentes en ejercicio. Para ello, se ha realizado un estudio cuantitativo con un diseño *ex post facto* descriptivo y correlacional. Han participado un total de 801 profesores/as de centros de enseñanza no universitaria pertenecientes a la comunidad autónoma andaluza. Los datos se han recogido a través de un cuestionario diseñado *ad hoc*, para el que se ha tomado como referencia el instrumento elaborado por Sangrà et al. (2019). Para el análisis de datos, se ha realizado un análisis

factorial exploratorio del que se han obtenido 9 dimensiones, se han calculado las correlaciones entre ellas y se ha utilizado la prueba no paramétrica Mann-Whitney con el fin de comparar la diferencia de medias en cuanto al género. Los resultados muestran que los/las docentes se encuentran motivados por la formación del profesorado, ya que la vinculan con la mejora de su práctica profesional y de los resultados del alumnado, y que prefieren las actividades formativas regladas. En cuanto al contenido que demandan, está relacionado con el desarrollo del centro educativo, las competencias emprendedoras y la transferencia, las metodologías docentes innovadoras, la actualización didáctica y las TIC/TAC. Se han encontrado diferencias de género en las preferencias formativas, aunque la puntuación total es similar en ambos. Las mujeres demandan mayor formación en cuatro de las dimensiones y sienten mayor motivación por participar en dicha formación. Se concluye que es necesario plantear nuevas estrategias formativas como las *lesson study*, donde los/las docentes sean los protagonistas de su formación permanente.

**Palabras clave:** formación permanente, necesidades formativas, modalidades de formación, enseñanza no universitaria.

## 1. Introduction

Over the last decade, we have moved from the information society to the knowledge society (Tobón, 2017; García & Martínez, 2017). In this context, the verdict of the Grupo de Trabajo sobre la Convergencia Educativa en Andalucía (Work-

ing Group on Educational Convergence in Andalusia), approved in a plenary session of the Andalusian parliament on 18 February 2010, stated that the role of the school in the knowledge society cannot be the same as its traditional one (Acevedo & Romero, 2019). This is

because, in a society that is changing at a dizzying rate, teaching centres must provide an appropriate response to this social evolution, helping the population to understand it and accept it with a critical spirit (Imbernón, 2017). Above all, schools must teach to learn, provide knowledge that boosts learners' ability to analyse and reflect on the world, contribute to students' personal realisation, and prepare them for training that will extend throughout all of the professional activity (Romero, 2018). Because of all of this, teachers must have professional competences that enable them to adapt to new socioeducational needs, which are marked by uncertainty (Souto-Seijo et al., 2019; Fong et al., 2020). In this context, continuing training is the best way to acquire competences and develop them and keep them up to date (TALIS, 2018) as this is a fundamental pillar of teachers' professional development (Körkkö et al., 2016), which is constructed all through their careers (Imbernón, 2017; Orellana-Fernández et al., 2020).

In this regard, a number of studies have found a clear correlation between teachers' training and a quality education system (Callealta et al., 2020), establishing meaningful links between teacher training programmes, improvements in education, and students' learning outcomes (Azpillaga et al., 2021; Hijano, 2021). Furthermore, according to the Programme for International Student Assessment report (Pisa, 2015), the quality of teaching practice is crucial for the good health of education systems. One example of this is the case of Singa-

pore, the country that led all of the most recent PISA rankings, where one of the key factors for its academic success is the initial training, selection, and continuing training of teachers (Gopinathan & Lee, 2018).

At this point, continuing training can be defined as training that is provided for in-service teachers and contributes to updating and/or developing their capacities with the aim of strengthening the development of their professional competences (Amortegui et al., 2018). Specifically, continuing training can be said to prepare them for teaching (Fischer, et al., 2018; Crespi et al., 2020) taking into account the socio-cultural and technological changes that occur in educational contexts (Gómez, 2018). Accordingly, Spain's Ministry for Education and Professional Training has recently created a discussion paper with 24 proposals for reform to improve the teaching profession, which defines continuing training of teachers as:

The set of training activities aimed at improving scientific, technical, didactic and professional training. It must be consistent with the evolution of the sciences and specific didactics, provide knowledge of methodology, and include a number of aspects relating to the teaching activity in specific contexts. (Ministerio de Educación y Formación Profesional, 2022, p. 11)

In a review of the types of training available to teachers, authors such as Tébar (2017) and Gálvez et al. (2020) consider that the most successful is that

which is done in collaboration with a higher education institution. Torres (2020), in turn, carried out research with 221 primary-school teachers, concluding that the main trend in continuing training was to do postgraduate courses centred on specialisations, principally in university education centres; results that agreed with those obtained by Barría (2019). On the same lines, Karlberg and Bezzina (2022), after a study in Sweden with 1884 teachers from compulsory education levels, concluded that the preference continued to be formal continuing training organised in university courses. In contrast, Derakhshan et al. (2020), in a research with 177 Iranian teachers, concluded that the most appropriate training was the type delivered in the specific work settings, given that, as claimed by Cárdenas-Forero et al. (2019) and Shachter et al. (2019), this type of training developed from the needs of the people involved. In this sense, training in centres enables capacity development that considers the educational institution's context, idiosyncrasies, needs, and interests to be crucial elements (Imbernón, 2019), with this forming an essential component in improving the centres as a whole (Alfageme-González & Nieto-Cano, 2017). This type of training has a technical-reflexive orientation and is the type that teachers currently prefer for their continuous updating (De la Herrán, 2019; Guarro et al., 2017).

With regards to the type of training, in Andalusia, the Agencia Andaluza de Evaluación Educativa (Andalusian Educational Assessment Agency) (Consejería

de Educación, 2018) carried out a study of 1650 public centres, concluding that early childhood and primary teachers in Andalusia preferred specific, obligatory training (27.88%), with a smaller percentage (26.41%) favouring global, voluntary training. The study participants regarded teacher training as very important, identifying it as a motor for change towards a competence-based curriculum model.

By comparison, Souto-Seijo et al. (2019), in a study centred on 73 primary teachers from the autonomous community of Galicia concluded, that these teachers preferred formal activities outside class time and during the school year, with the modality chosen being in-person. The principal reason for doing it was intrinsic. These results are on the same lines as those of Sangrà et al. (2019), who observed that teachers placed a higher value on formal training adjusted to social needs, although they also positively valued non-regulated training activities.

Various studies of in-service teachers' preferences for the content of training have been done in recent years. According to Castro (2019), the continuing training demanded by this group is fundamentally based on the acquisition of socioemotional competences and skills. There is also great demand for training in collaborative working strategies (Bowe & Gore, 2017). This interest could be motivated by the fact that, as González-Calvo and Fernández-Balboa (2018) state, the pedagogical identity of teaching lies in

the interpersonal essence of the profession. Educational innovation, use of ICT in the classroom, and digital competences are other areas on which the training needs of teachers' centre (Iglesias et al., 2018; Marciá & Garreta, 2018; López-Mayor & Cascales-Martínez, 2019; Gallardo et al., 2019; Sangrà et al., 2019). As are the need to acquire strategies to improve teaching-learning processes such as evaluation (Pascual-Arias & López-Pastor, 2019) and tutorial action (López-Mayor & Cascales-Martínez, 2019). Furthermore, in recent times there has been proliferation in training provision and demands centred on developing mechanisms to provide educational attention to students with special educational needs to implement inclusive education (Amortegui et al., 2018; González & Macías, 2018; Barría, 2019; Valdés-Pino et al., 2021).

The literature on this subject shows that for continuing training to meet educational demands, its planning and design must consider the following aspects: the interest it inspires in its recipients; the content to be covered; whether it fosters active, collaborative learning; to ensure that models of effective practices are used with opportunities for guidance; as well as support from experts, feedback, and reflection; and to ensure that its duration is appropriate (Darling-Hammond et al., 2017). When comparing Spain with other European countries, according to the Teaching and Learning International Survey (TALIS, 2014), teachers in Spain tend to display lower rates of participation than the European average in

training activities such as courses and workshops, education conferences, visits to other centres as observers, and participation in teaching networks. In contrast, their participation rate is higher than the mean for individual or collaborative research activities.

It should also be noted that there are studies that analyse gender and aspects relating to continuing teacher training, such as preferences for subject areas and the type of training. The relevance of studying *gender* as a variable in this context is justified on various grounds. One of these is the unequal presence of men and women in the teaching profession, with more women (Álvarez-Rementarí et al., 2021). There are also work-life balance grounds, which influence the type of training requested (classroom-based or distance), and also women's perception when assessing their capacities compared with those of their male colleagues, with women being more modest about some competences, as reported by authors such as Grimart-Álvaro et al. (2020).

Examples of research on these lines, include that of Álvarez-Rementarí et al. (2021), who, in a research carried out in the Basque Country with a total of 26 251 participants, of whom 77.7% were women, found differences between men and women with regards to training interests. Women preferred training in attention to diversity and managing emotions, while men favoured centre management and ICT. On the same lines, González and Cutanda (2017)



studied a sample of 1413 teachers to establish the training preferences of men and women. They observed significant differences in all of the items analysed: class planning, use of new methodologies, managing the atmosphere in class, and attention to students with the most needs, with higher scores for women, results that match those obtained by Escudero et al. (2017). Previously, Barquín and Fernández (2002) did research with 1873 teachers from Andalusia, finding that women were more in favour of continuing training being voluntary (63%) rather than compulsory. The results showed that female teachers attended the activities provided by CEP (teacher training centres) more than their male counterparts.

With that in mind and starting from this situation, the general objective of the present study is to analyse the continuing training impressions, preferences, and needs of teachers in public teaching in the non-university context in Andalusia. It focuses on the following specific objectives:

- To establish the principal training needs of non-university teachers in the autonomous community of Andalusia.
- To identify their level of satisfaction with the continuing training provided by regulated and non-regulated educational institutions.
- To identify the principal motivations that lead teachers to continue to train throughout their professional careers.

- To analyse whether there are significant differences between training preferences by gender.

## 2. Method

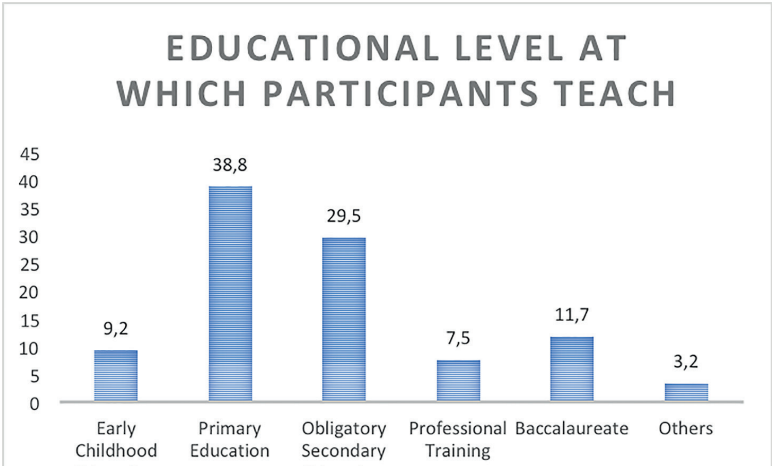
This study used a quantitative methodology employing surveys as a data collection technique. The research design is ex post facto non-experimental and is descriptive and correlational. The variables used were not modified and no treatment was applied to them, as the aim is to describe and explain a situation (Hernández & Maquilón, 2010), in this case, teachers' training preferences and needs.

### 2.1. Participants

The participants were selected through purposive non-probability sampling, using the snowball technique.

The total population of non-university teachers in the autonomous community of Andalusia is 107 309 (Junta de Andalucía, 2023). This work used a sample of 801 teachers. So, the sampling error was  $E(P) = 0.182$ , with a confidence interval of 95%, indicating a very acceptable margin of error. Of the sample studied, 40.1% were between 46 and 55 years of age and 68.2% were women. The 55.4% who completed the survey had more than 15 years' professional experience as in-service teachers, with 78.5% of them being career public servants. Figure 1 shows the percentage of teachers who teach at each of the educational levels investigated.

FIGURE 1. Educational levels at which the study participants teach.



## 2.2. Instrument

To collect the information a questionnaire with an ad hoc design was used, based on the research objectives and taking as a reference the instrument developed by Sangrà et al. (2019). The questionnaire was called “Preferences and identification of needs of continuing training” and included a total of 82 items organised in 5 blocks of content:

1. Block 1. Demographic data and general questions. This comprises 12 items regarding the geographic location of the centre where the respondents taught, the ownership of the centre, their gender and their age, years of experience, employment situation, prior training, educational level they teach at, their preferred form of continuing training, and its duration.
2. Block 2. Motives for training. This comprises 8 items that consider the reasons that account for training inter-

ests: obtaining accreditation or merits, improving professional practice, updating competences, contributing to improve the centre or the results of the students.

3. Block 3. Impressions of training actions. This comprises 9 items that ask participants to evaluate the type of training according to their preferences: continuing training offered by regulated and non-regulated institutions, training organised by teachers’ centres, and the need to update the training offer.
4. Block 4. How training should be. This comprises 11 items that evaluate the type of training teachers prefer, including self-study, training with colleagues or through observing other teachers, courses with active participation, working groups, virtual teaching processes, and the creation of interdisciplinary teams, among others.

5. Block 5. Content of training. This comprises 42 items that cover content relating to the following areas: improving educational practices, methodologies, educational innovation and research, open and participatory schools, continuous improvement, and professional capacity building.

Apart from in block 1, an answer format based on a Likert-type scale is used for the items with participants' levels of satisfaction being evaluated on the basis of the following measure: 1 "disagree completely" and 5 "agree completely".

The reliability of the instrument was analysed using Cronbach's  $\alpha$ , with a total reliability of  $\alpha = .94$ , which is a very acceptable value. To establish the validity of the instrument, an exploratory factor analysis was performed by extracting principal components using the varimax rotation method. In this case, both the Kaiser-Meyer-Olkin measure ( $KMO = .923$ ) and Bartlett's test of sphericity, with a chi-squared of 17935.493 ( $p = .001$ ), indicate that the factor analysis is appropriate. The varimax rotation indicated the existence of 9 factors that explained 59.98% of the variance of the instrument. The 69 original items (the items relating to demographic data from block 1 were not included) were reduced to 45 items after this analysis.

### 2.3. Data collection procedure

We contacted the members of the management teams (head teachers, heads of studies, and/or secretaries) of all of the centres in Andalusia by email

to explain the characteristics and aim of the research. In the message, we asked them to forward the email to the teaching staff at their centres with the link to the questionnaire so that the management teams and all of the teachers could complete it. Participation was voluntary and this tool ensured that each person could only participate in the survey once, guaranteeing anonymity and preserving the confidentiality of the data. Three weeks after the initial message, a reminder was sent to those who had not already completed it.

### 2.4. Data analysis

The data analysis was done with the SPSS V27 statistics program. First, an exploratory factor analysis was performed to identify the factors into which the training needs of the teachers were grouped, which gave rise to training subject areas and the characteristics of the training. Secondly, this analysis was complemented by a descriptive and correlational analysis of the dimensions of the instrument. And thirdly, a contrast hypothesis was performed to test whether there were differences in means between the different dimensions on the basis of gender using the non-parametric Mann-Whitney test.

## 3. Results

### 3.1. Teachers' training motivations, impressions, and preferences

The results in Table 1 show that the 45 items to which the instrument is reduced after the factor analysis give nine factors or



dimensions, which describe the training motivations of the teachers, their impressions on the training activities that they know, and the most necessary or relevant content. The following factors were obtained:

F1. Training for development of the centre: this comprises 7 items on aspects relating to the organisation and functioning of educational centres.

F2. Innovative methodologies: this comprises 8 items centred on teaching methodologies.

F3. Competence development and transfer: this has 6 items that revolve around internationalisation and entrepreneurial competences.

F4. Didactic updating: this comprises 7 items on good teaching practices, emotional education, and didactic updating, among others.

F5. ICT/LKT: this comprises 3 items on the use of mobile devices, social networks, ICT and LKT.

F6. Motivation towards training: this includes 3 items on what motivates training in teachers.

F7. Characteristics of the training: this comprises 4 items relating to the type of training teachers prefer.

F8. Regulated continuing training: this comprises 3 items that evaluate the training offered by regulated institutions.

F9. Non-regulated continuing training: this comprises 2 items that evaluate the training offered by non-regulated institutions.

The final instrument treats these factors as dimensions for performing the corresponding analyses.

TABLE 1. Factor analysis and dimensions.

| Dimensions  | Rotated component matrix* |    |    |    |    |    |    |    |    |
|---|---------------------------|----|----|----|----|----|----|----|----|
|   | Component                 |    |    |    |    |    |    |    |    |
|   | F1                        | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 |
| Processes that favour participation in the educational centre | .780                      |    |    |    |    |    |    |    |    |
| Participation, intervention, and community development models | .762                      |    |    |    |    |    |    |    |    |
| The formal and informal curriculum                            | .753                      |    |    |    |    |    |    |    |    |
| Work strategies for specific learning environments            | .707                      |    |    |    |    |    |    |    |    |

|   |      |
|---|------|
| Interculturality as a factor in community development                                   | .689 |
| Creating learning communities   | .553 |
| Evaluation and quality management systems   | .522 |
| Visual thinking   | .728 |
| Project-based learning  | .673 |
| Problem-based learning  | .670 |
| Flipped classroom   | .650 |
| Thinking-based learning   | .647 |
| Cooperative learning  | .608 |
| The research process in education   | .577 |
| Educational innovation: factors for success   | .534 |
| Improving and updating competence in foreign languages                                  | .783 |
| Didactic updating and methodology in foreign languages                                  | .740 |
| European programmes and internationalisation of the centre                              | .684 |
| Scientific-technological updating   | .562 |
| Programmes and projects for the development of enterprise culture and social enterprise | .531 |
| Development of the enterprise culture   | .523 |
| Emotional education and its integration into the curriculum                             | .724 |

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|   |      |
|---|------|
| Developing multiple capacities and intelligences  | .716 |
| Positive education  | .690 |
| Good practices  | .488 |
| Didactic and curricular updating  | .434 |
| Training in educational regulations   | .430 |
| Key competences as the basis of the curriculum  | .430 |
| Use of mobile devices in education  | .816 |
| Social networks as drivers of knowledge and communication   | .786 |
| Use of ICT and LKT: methodological integration  | .706 |
| I train to improve my professional practice   | .833 |
| With training, I aim to update my professional competences  | .809 |
| With my training, I aim to contribute to improving my students' results                           | .746 |
| In training in centres, it is fundamental to have good guidance and support from subject experts  | .697 |
| Creating interdisciplinary teams of experts that take care of training would be very beneficial   | .616 |
| I learn much more on courses where I participate actively and in collaboration with my colleagues | .491 |
| I usually do training based on what my educational centre requests/requires                       | .403 |

|  |      |
|--|------|
| The training offer of the regulated institutions is sufficient   | .778 |
| The courses organised by the teachers' centres enable me to stay up to date with my training needs                               | .755 |
| The best continuing training is delivered by regulated training institutions (teachers' centres, universities, etc.)             | .661 |
| I generally prioritise training that allows me to obtain accreditation   | .265 |
| The best continuing training is offered by non-regulated training institutions (associations, academies, other training centres) | .786 |
| The training offer of non-regulated institutions is sufficient   | .744 |
| I know the different training activities that non-regulated institutions offer   | .645 |

Extraction method: principal component analysis  
Rotation method: varimax with Kaiser normalisation

\*The rotation converged in 7 iterations.

Table 2 shows the descriptive data for each of the 9 factors or dimensions (the score for each dimension comprises the sum of the scores of the items in it), showing the mean (*M*), standard deviation (*SD*), skew (*CS*), and kurtosis (*CK*). Analysis of the data shows that teachers have medium-high training needs in increasing development of the educational centre (D1, *M* = 25.16), acquiring innovative methodologies (D2, *M* = 29.67), and increasing competence development and transfer

(D3, *M* = 20.69). Their level of satisfaction with the training provided by regulated training institutions is medium-high (D8, *M* = 12.70), and it is medium-low (D9, *M* = 7.54) for non-regulated teaching. They are aware that they need greater didactic updating, with a high mean in this dimension (D4, *M* = 27.66), as well as greater skills training in ICT/LKT, again with a high mean (D5, *M* = 11.17). They believe that training should be done in interdisciplinary teams, collaboratively, and

encouraging participation, given that they display a high level of satisfaction (D7,  $M = 15.95$ ). Finally, it is notable that, of all of the dimensions, the items with the highest valuations and very high means (D6,  $M = 14.31$ ) are the ones relating to motivations towards training. In this sense,

the teachers believe that the purpose of their training is to improve their professional practice, update their professional competences, and contribute to improving their students' results. The overall mean of the instrument is medium-high ( $M = 164.87$ ).

TABLE 2. Descriptive statistics by dimensions.

| Dimensions   | <i>M</i> | <i>SD</i> | <i>CS</i> | <i>CK</i> |
|--|----------|-----------|-----------|-----------|
| D1. Training for development of the educational centre | 25.1625  | 6.27557   | -.574     | .216      |
| D2. Innovative methodologies                           | 29.6742  | 6.68431   | -.463     | .126      |
| D3. Competence development and transfer                | 20.6937  | 5.56652   | -.406     | -.330     |
| D4. Didactic updating                                  | 27.6654  | 5.40143   | -.659     | .183      |
| D5. ICT/LKT  | 11.1723  | 2.76003   | -.542     | .031      |
| D6. Motivation towards training                        | 14.3159  | 1.25553   | -2.117    | 4.616     |
| D7. Characteristics of the training                    | 15.9588  | 2.49841   | -.624     | .713      |
| D8. Regulated continuing training                      | 12.7091  | 3.06089   | -.130     | -.190     |
| D9. Non-regulated continuing training                  | 7.5468   | 2.24402   | .392      | .349      |
| Instrument total                                       | 164.87   | 24.89     | -.357     | .087      |

Focussing on regulated continuing training, Table 3 shows that the item that evaluates satisfaction with the training provided by regulated educational institutions has the same score as the item about whether working groups are the most appropriate training options for acquiring

continuing training. Despite this, the variance is smaller for the item referring to working groups, indicating that the data are less disperse, and so as the scores are closer the study participants can be said to place more value on working groups as a training strategy.



TABLE 3. Descriptive statistics for training preference items.

|               |  |  |
|---------------|--|--|
|               | The best continuing training is delivered by regulated training institutions (teachers' centres, universities, etc.) | I think that working groups are the most appropriate training options for my continuing training |
| Valid         | 801  | 801  |
| Missing       | 9  | 9  |
| Mean          | 3.36   | 3.36   |
| Standard dev. | 1.124  | .999   |
| Variance      | 1.263  | .999   |

After this, we calculated the correlations between the different dimensions, finding that in all of them. Dimension 1 «training for development of the educational centre» has a high correlation with dimension 2 «innovative methodologies» (sig. 0.000;  $r = .705$ ), dimension 3 «competence development and transfer» (sig. 0.000;  $r = .629$ ), and dimension 4 «didactic updating» (sig. 0.000;  $r = .670$ ). In turn, it should be noted that the correlation between dimensions 2 and 4 is also high (sig. 0.000;  $r = .635$ ).

3.2. Teachers' training preferences by gender

Table 4 shows the descriptive data for the 9 dimensions of the instrument

by gender. In this case, the Kolmogorov-Smirnov (KS) statistics were calculated to establish the normality of the data, finding that they do not follow a normal distribution ( $p < 0.05$ ). In addition, the non-parametric Mann-Whitney test was used to compare the difference in means of two different samples. The total score is similar in both genders. Furthermore, it can be seen that, in all of the dimensions analysed, there are only significant differences in dimension 2 «innovative methodologies» ( $p = .004$ ), dimension 4 «didactic updating» ( $p = .045$ ), dimension 5 «ICT/LKT» ( $p = 0.03$ ), and dimension 6 «motivation towards training» ( $p = .000$ ).

TABLE 4. Significance of training preferences by gender.

|    | Gender | Kolmogorov-Smirnov |     |      | Mann-Whitney | Z      | Sig  |
|----|--------|--------------------|-----|------|--------------|--------|------|
|    |        | KS                 | df  | Sig. |              |        |      |
| D1 | 1.00   | .057               | 254 | .043 | 63 877.500   | -1.760 | .078 |
|    | 2.00   | .087               | 545 | .000 |              |        |      |
| D2 | 1.00   | .054               | 254 | .075 | 60 540.500   | -2.898 | .004 |
|    | 2.00   | .074               | 545 | .000 |              |        |      |
| D3 | 1.00   | .107               | 254 | .000 | 68 229.000   | -.325  | .745 |
|    | 2.00   | .074               | 545 | .000 |              |        |      |
| D4 | 1.00   | .083               | 254 | .000 | 63 261.000   | -2.003 | .045 |
|    | 2.00   | .088               | 545 | .000 |              |        |      |
| D5 | 1.00   | .110               | 254 | .000 | 60 519.000   | -2.926 | .003 |
|    | 2.00   | .118               | 545 | .000 |              |        |      |
| D6 | 1.00   | .350               | 254 | .000 | 60 258.000   | -3.651 | .000 |
|    | 2.00   | .418               | 545 | .000 |              |        |      |
| D7 | 1.00   | .123               | 254 | .000 | 63 602.000   | -1.902 | .057 |
|    | 2.00   | .108               | 545 | .000 |              |        |      |
| D8 | 1.00   | .119               | 254 | .000 | 66 823.500   | -.832  | .405 |
|    | 2.00   | .080               | 545 | .000 |              |        |      |
| D9 | 1.00   | .140               | 254 | .000 | 64 158.500   | -1.721 | .085 |
|    | 2.00   | .102               | 545 | .000 |              |        |      |

Table 5 shows the mean ranges in order to determine where the principal differences are. It is apparent that, in all of the dimensions, women want more training than men in dimension 2, regarding innovative methodologies (MR = 416.62); in

dimension 4, regarding didactic updating (MR = 411.64); in dimension 5, regarding ICT/LKT (RP = 416.66). It has also been observed that women have more motivation towards acquiring this training (MR = 417.14).

TABLE 5. Ranges by dimensions.

| Ranges |        |          |           |              |
|--------|--------|----------|-----------|--------------|
|        | Gender | <i>n</i> | Mean rank | Sum of ranks |
| D1     | 1.00   | 254      | 378.99    | 96262.50     |
|        | 2.00   | 545      | 409.79    | 223 337.50   |
|        | Total  | 799      |           |              |
| D2     | 1.00   | 254      | 365.85    | 92 925.50    |
|        | 2.00   | 546      | 416.62    | 227 474.50   |
|        | Total  | 800      |           |              |
| D3     | 1.00   | 254      | 396.12    | 100 614.00   |
|        | 2.00   | 545      | 401.81    | 218 986.00   |
|        | Total  | 799      |           |              |
| D4     | 1.00   | 254      | 376.56    | 95 646.00    |
|        | 2.00   | 546      | 411.64    | 224 754.00   |
|        | Total  | 800      |           |              |
| D5     | 1.00   | 254      | 365.76    | 92 904.00    |
|        | 2.00   | 546      | 416.66    | 227 496.00   |
|        | Total  | 800      |           |              |
| D6     | 1.00   | 254      | 364.74    | 92 643.00    |
|        | 2.00   | 546      | 417.14    | 227 757.00   |
|        | Total  | 800      |           |              |
| D7     | 1.00   | 254      | 377.90    | 95 987.00    |
|        | 2.00   | 546      | 411.01    | 224 413.00   |
|        | Total  | 800      |           |              |
| D8     | 1.00   | 254      | 390.58    | 99 208.50    |
|        | 2.00   | 546      | 405.11    | 221 191.50   |
|        | Total  | 800      |           |              |
| D9     | 1.00   | 254      | 380.09    | 96 543.50    |
|        | 2.00   | 546      | 409.99    | 223 856.50   |
|        | Total  | 800      |           |              |

## 4. Discussion

Analysis of the data shows that the teachers who participated in the study are conscious of their training needs and that their commitment to continuing training is clear, as can be seen in the overall evaluation of the instrument. This results in an improvement in the quality of the educational system, as Callealta et al. (2020) and the Pisa report (2015) already stated.

In reference to the close ties that various studies have found between teachers' engagement in continuing training and improvements in education, these are corroborated in the present study (Azpillaga et al., 2021; Hijano, 2021), with teachers displaying medium-high training needs in development of the educational centre, in innovative methodologies, and in competence development and transfer, with strong correlations between these dimensions. On the same line, Gopinathan and Lee (2018) indicated that continuing training of teachers is one of the key elements for the success of the education system, as it enables the development of professional competences (Amortegui et al., 2018) and prepares people to teach (Fischer et al., 2018; Crespi et al., 2020). These matters are reflected in the present study as high scores are obtained in teachers' motivation towards their participation in training as a form of developing professional competences and improving professional practice.

The forms of continuing training can currently be done in regulated educational institutions and non-regulated ones. This study has found that teachers prefer training activities in regulated educational insti-

tutions, a result that agrees with those obtained by Barriá (2019), Sangrà et al. (2019), Souto-Seijo et al. (2019), Gálvez et al. (2020), Torres (2020), and Karlberg and Bezzina (2022). However, it is also observed that, within regulated training, their priorities are incline slightly towards working groups within educational centres, as is found in the studies by Cárdenas-Forero et al. (2019), Derakhshan et al. (2020), Imbernón (2019), and Shachter et al. (2019). Training in centres is then the favoured mode of training and it is put into practice by teachers to a greater extent, in line with Guarro et al. (2017) and De la Herrán (2019).

With regards to the content of continuing training, it should be highlighted that this focusses on competence development, didactic updating (Pascual-Arias & López-Pastor, 2019; López-Mayor & Cascales-Martínez, 2019), and ICT skills training, with these results matching those obtained by Iglesias et al. (2018), Marciá and Garreta (2018); López-Mayor and Cascales-Martínez (2019); Gallardo et al. (2019), and Sangrà et al. (2019). These results also agree with those obtained in 2014 by the TALIS report, as teachers, to a greater extent, want training activities in which interdisciplinary teams participate and work in a collaborative and participatory way.

With regards to gender, it should be noted that the split between men and women in this study's sample is uneven with more women, as Álvarez-Rementaría et al. (2021). After completing the contrast hypothesis relating to gender, it should be noted that there are significant differences in 4 of the 9 dimensions analysed, namely

D2. Innovative Methodologies, D4. Didactic Updating, D5. ICT/LKT, and D6. Motivation towards training. Female teachers had higher scores than male teachers in all of them. These results partially match those of González and Cutanda (2017) and Escudero et al. (2017), as in their studies women had higher scores in new methodologies and classroom management, while according to the results of Álvarez-Rementería et al. (2021) men had higher scores in ICT. Similarly, the results agree with those obtained by Barquín and Fernández (2002), as female teachers were more motivated towards training than male teachers.

## 5. Conclusions

Continuing training is a fundamental element of the professional development of in-service teachers in today's society. Therefore, to implement quality continuing training that meets educational needs, it is necessary to identify these teachers' training impressions, preferences, and needs, since they must be the true protagonists of the training.

Having completed this study, we conclude that the institutions responsible for training must strive to adapt training content and forms to the demands of teachers to a greater extent, as they prefer regulated training activities. In this sense, it would be necessary to shift the approach of the training, so that its beneficiaries can have times, spaces, and strategies for training during their working day to continue to perfect themselves. This would require a significant financial outlay by the educational institution that would directly affect the quality of education. The teachers who participated in this study showed

their commitment to training, especially the women, and so it would be necessary to provide them with the necessary tools and strategies to enable them to implement what they learn. Therefore, consideration should be given to training strategies based around collaborative research-action in workplaces, where teachers become researchers in their own practice alongside interdisciplinary teams that are concerned with the improvement and quality of the teaching action, such as the lesson study methodology. Proposing methodological strategies with these characteristics strengthens the development and transfer of teachers' competences, the implementation of innovative methodologies, the motivation to participate, and the creation of true learning communities in educational centres. This makes it possible to reduce the institutionalisation of training and increase its contextualisation to meet the real educational demands and needs of education centres.

Despite the findings of this study, it is important to recognise its limitations. These include the difficulty of obtaining data owing to a lack of teachers responding to the questionnaires, as well as the typical limitations of the survey technique and the chosen methodological design.

In future research, it would be of interest to identify possible differences in training preferences by educational stage, province, and type of centre (state assisted, public or private). Designing training proposals based on the strategies proposed above in order then to evaluate and establish the results of their implementation would also be of interest.



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## Authors' biographies

**María-José Mayorga-Fernández.** Doctor in Pedagogy from the Universidad de Málaga and associate professor in the Department of Didactics and School Organisation. She is a member of the "Rethinking education Hum 311" research group. Her main research interests are teacher

evaluation, didactic methodologies, lesson study, digital competence, and continuing training.



<https://orcid.org/0000-0003-3749-1264>

**Inmaculada Martínez-García.** Doctor in Pedagogy from the Universidad de Sevilla. She is an associate professor in the Department of Didactics and School Organisation. She is a member of the "Teaching and learning in the framework of educational innovation and technology (Innoeduca)" research group (SEJ-533). Her main research interests are innovation in teaching and new technologies, teacher training, competence-based training, educational and professional guidance, school management and educational leadership, and the psychological well-being of doctoral students.



<https://orcid.org/0000-0002-4507-7410>

**Fabián Núñez-Avilés.** Doctor in Research Methods and Resources in Educational Research and Innovation from the Universidad de Málaga. He is the director of the Vélez-Málaga Teachers' Centre (Junta de Andalucía). He is a member of the "Education, sport, innovation, and health (EDISA)" research group, which has the objective of fostering health through preventive education and creating technological systems with artificial intelligence to help professionals perform their tasks.



<https://orcid.org/0000-0003-0164-1726>