



To what extent do preservice teachers feel ready to teach? A case study in the Master's Degree in Teaching in Secondary Education

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ABSTRACT

Teacher-training programs around the world, and especially in Europe do not specify in detail the capacities that future professionals should acquire, so it brings about a great discussion among educators, researchers and teachers. The main objective of this study is to know and evaluate the level of competence development acquired by future Secondary Education teachers during their initial training. The self-evaluation of 353 students was carried out using a Likert-scale questionnaire made up by 13 variables gathered into three dimensions namely social competence, academic competence and personal competence. R Software, InfoStats and SPSS v.25 software were used in order to analyze the data collected. Confirmatory factorial analyses and linear mixed modelling were applied to identify factors affecting the acquisition of competences. The students' area of knowledge and their employment situation were key factors in the development of academic and social competences, while the personal dimension was affected only by the area of knowledge. These results obviously show that there are some competences whose level of development could be improved, and we have also identified some weaknesses in the development of certain competences. In addition, these data have allowed us to assess the strengths and weaknesses of the initial teacher-training curriculum.

Key words: Basic skills, initial teacher training, secondary education, students' perceptions, curriculum.

¿Hasta qué punto los futuros docentes se sienten preparados para enseñar? Un estudio de caso en el Máster Universitario en formación del profesorado de educación secundaria

RESUMEN

Los programas de formación del profesorado en todo el mundo, y especialmente en Europa, no especifican en detalle las capacidades que deberían adquirir los futuros profesionales, por lo que provoca un gran debate entre educadores, investigadores y docentes. El objetivo principal de este estudio es conocer y evaluar el nivel de desarrollo de las competencias adquiridas por futuros docentes de Educación Secundaria durante su formación inicial. La autoevaluación de 353 estudiantes se realizó mediante un cuestionario en escala Likert con 13 variables agrupadas en tres dimensiones: competencia social, académica y personal. Se utilizó R, InfoStats y el software SPSS v.25 para analizar los datos recogidos. Se aplicaron análisis factoriales confirmatorios y modelos lineales mixtos para identificar los factores que afectan a la adquisición de competencias. El área de conocimiento de los estudiantes y su situación laboral fueron factores clave en el desarrollo de las competencias académicas y sociales, mientras que la dimensión personal solo se vio afectada por el área de conocimiento. Estos resultados muestran que existen algunas competencias cuyo nivel de desarrollo se podría mejorar. Asimismo, estos datos nos han permitido evaluar las fortalezas y debilidades del plan de estudios de la formación inicial docente.

Palabras clave: Competencias básicas, formación inicial, educación secundaria, percepciones del alumnado, currículum.

1. Introducción

The European Higher Education Area (EHEA) suggested the need to critically think and analyze the teaching models at the universities in order to enhance competence-based teaching and learning approaches (Qazi, Ali & Tehseen, 2014; Rivilla, Ruiz-Cabezas, Navío & Domínguez, 2019). However, this guidance has not been similarly implemented in all European countries. In the field of teacher education, differences are also identified in this regard. Initial teacher education differs depending on the education level at which prospective teachers are intending to work. In some countries, there is a tendency to employ initial simultaneous training models for Secondary School teachers (Eurydice, 2013; 2018). This model is characterized by the fact that science and pedagogy are trained at the same level, time and given the same treatment. It means that disciplinary content knowledge and pedagogical studies are taught alongside throughout a long preservice education stage following an integrated approach (Dinçer & Bikmaz, 2020). However, Spain opted for a consecutive training model (Table 1) (Gómez, Aranda & Santos, 2017). This variant focuses mostly on pedagogy training that follows previously disciplinary content degree studies. Therefore, future teachers have already achieved “an academic degree in a specific discipline related to subjects taught in schools” (Zuzovsky & Donitsa-Schmidt, 2017, p. 3).

Table 1.
Training models for Compulsory Secondary Education teachers

Simultaneous models	Consecutive or successive models	Both
Germany, Belgium, Czech Republic, Denmark, Slovakia, Estonia, Finland, Holland, Hungary, Latvia, Poland, Rumania, Sweden	Bulgaria, Cyprus, Spain, France, Greece, Italy, Liechtenstein	Austria, Slovenia, Ireland, Island, Lithuania, Norway, United Kingdom

Source: Eurydice (2013, 2017).

Independently of the model followed, all countries accept the need for specific training of a professional and practical nature, and no longer support the idea that having an in-depth knowledge of the scientific content is enough to teach in Secondary Schools (Coronado, López, Oliva & Montilla, 2018; Klaus, Matanovic, Werner & Wernke, 2018). However, consecutive models bring about some drawbacks related to the construction of teachers’ professional identity for the reason that they usually come from a professional background (e.g., music, nursing, chemistry, economic) so they feel “strongly identified with their (former) professions” (Van Lankveld, Schoonenboom, Volman, Croiset & Beishuizen, 2017, p. 328). Thus, preservice teachers in consecutive training models may see themselves as professionals rather than teachers (expert becomes novice) and they undervalue the need to learn teaching strategies, resources and issues regarding coexistence, values, etc.

In this context, one of the challenges confronted by this prior initial training is to ensure that the curriculum of teacher education programs provides their students and graduates with appropriate training that is adapted to the continuously evolving reality of schools (OCDE, 2016). However, current education debates as well as research literature on this topic (e.g. Ramos, Tosina, Elorrieta & Iglesias, 2020) indicate that consecutive initial

teacher-training programs do not always fulfil these expectations because this model provides a less integrated learning experience and it brings about a briefer period of being in contact with the real context, so its socialization experience with future colleagues is poorer although it is considered as one of the most influencing factors in their professional development (Barbre, 2018; Wilks, Snow, Lasczik & Bowling, 2019).

In order to strengthen initial teacher education, it is necessary to develop a diagnosis. The setting up and development of the Master’s Degree in Secondary School Teacher Training in Spain makes it possible to explore the current situation and attempt to evaluate the fulfilment of its objectives, in addition to identify those challenges that still need to be resolved in this consecutive training model. As pointed out by Bahia, Freire, Estrela, Amaral and Espírito (2017), this training model may make it difficult to achieve quality teachers and, as a consequence, ensure that pupils learn. It may also lead to a situation in which those who have been trained using this model are less competitive in other systems for the reason that in the simultaneous training ones their vocation and commitment with the teaching profession could be stronger (Bennett, 2019).

As stated by Bolívar and Domingo (2016), and Darling-Hammond (2017) in Spain, there is a lack of systematic research regarding the professional development of teachers and competences. This research is also lacking as regards the importance of verifying whether there are personal or contextual variables that have a direct influence on their development of those competences. These aspects are dealt with in the present study.

1.1. Initial teacher training and the development of competences

Muñoz, Rodríguez and Luque (2019) state that the initial training will determine their professional identity, the development of their professional competences and their commitment to the profession. In Spain, this training corresponds with the Secondary Education Master’s Degree (SEMD) and the curriculum follows a competence-based learning.

In literature, González and Wagenaar (2006) defined a competence-based model on the interpersonal competences related to social skills, such as the capacity for communication, interaction and cooperation. The systematic competences require the prior acquisition of instrumental and personal competences, since they demand the abilities and skills associated with self-learning, creativity and the capacity to adapt to new contexts. This classification of competences is, to a great extent, in line with the results obtained in the research carried out by Authors (Amor Almedina & Serrano Rodríguez, 2018), which concludes that the set of generic competences can be gathered into four dimensions: academic, social, interpersonal and instrumental competences. In this respect, the Eurydice Report (2014) highlighted the need to improve teacher training in the field of social and interpersonal skills. The study carried out by Muntaner, Vidal, Sésé and Palau (2017), meanwhile, dealt with the need to improve the development of the social, emotional and personal competences.

As a set, teachers’ competences have a crucial impact on students’ learning processes (De Jager, Coetzee, Maulana, Helms-Lorenz & van de Grift, 2017; Diacopoulos & Butler, 2020). However, most of the studies has placed the focus on their definition and classification (Tynjälä, Virtanen, Klemola, Kostianen & Rasaku-Puttonen, 2016), but up to the moment, few publications have shown concern on evaluation of the acquisition of these abilities (Martínez & Sánchez, 2018; Özcan & Gerçek, 2019), so this study is one of the first to evaluate the level of competence-development among preservice Secondary Education teachers.

1.2. Associated factors

As stated at the beginning of this paper, there is an increasing trend as regards the appearance of studies concerning the quality of teacher training (Chuo-Chun & Huisman, 2017). In the majority of these studies, there is a significant correlation between the skills acquired by teaching professionals during their early training and the quality of their teaching features (Blömeke, Busse, Kaiser, König & Suhl, 2016; Buff, 2014). In this respect, Green (2015) indicated that the achievements attained during training processes have an effective relationship with their prior experiences as students. However, more recent research (Viciano & Mayorga, 2017) warned that previous work experience in educational contexts has a greater positive effect on the development of professional competences.

With regard to the individual factors that may be influencing secondary school teachers' initial training, Chang and Lo (2016) stated that the principal conditioners were gender and age. In the same line, the recent study carried out by Authors (Pérez Gracia, Serrano Rodríguez & Pontes Pedrajas, 2019) showed that gender was responsible for the greatest number of differences in the group. However, Kapitanoff and Pandey (2017) stated that the differences between genders are not clear and that it is necessary to explore this subject in greater depth.

Furthermore, the majority of teachers complete their initial training with similar levels of achievement, although the principal differences are the consequence of their age or their work-related state (Ibarra & Barbulescu, 2010). Bearing in mind the knowledge area, the results obtained in the research carried out by Martín and Molina (2017) revealed that this prior disciplinary training was a conditioner in the development of pedagogic competences.

In the study carried out to compare novice secondary school teachers in Australia and Spain who had been subjected to different initial training models (simultaneous and consecutive, respectively) (Salazar & McCluskey, 2017), the Spanish teachers recognized the importance of training as regards the content of the material (disciplinary training), unlike the Australian participants who valued their pedagogic training. This study demonstrated that the training model followed is a conditioning factor as regards professional learning and the development of teachers' identities.

Bearing the aforementioned factors in mind, the general objective of this research was to know and evaluate the level of competence development acquired by future Secondary Education teachers during their initial training. Three specific objectives stem from the previous general objective:

- To analyze the factorial structure of the scale and its appropriateness as regards evaluating the general competences in secondary school teachers' initial training.
- To discover future secondary school teachers' scope as regards their level of development of the set of competences defined on the scale.
- To identify the factors that affect the results and to discover whether there are any differences among the groups of variables defined on the scale (academic, social and personal).

2. Methodology

2.1. Participants

The participants in this study were 353 students enrolled on the Master's Degree in Secondary School Teacher Training in two academic years (2015-2017). The majority of the participants were studying at the University of Cordoba (78%). Only 13% were from other universities in Andalusia, followed by 7% from other Spanish universities and 2% from universities in other countries. The

average age of the participants was 25.9, 53.8% of whom were women and 46.2% of whom were men.

Table 2.

Distribution of the sample according to the field of knowledge and the academic year

Field of knowledge	2015-2016 Freq.	2016-2017 Freq.	Total
Experimental and Health Sciences	46	89	135
Technology	19	24	43
Social Science	17	13	30
Humanities	46	57	103
Art	14	28	42
Total	142	211	353

2.2. Instrument

In order to attain the objectives of this research, a questionnaire, namely the *Degree of development of general competences on a Secondary Education Master's Degree Training* was designed. Defining the competences that should form part of an initial teacher-training program is a point of disagreement and criticism among various authors (Tang, Wong & Cheng, 2016; Tynjälä et al., 2016). The questionnaire was, therefore, developed by considering the competences defined in the aforementioned Master's Degree for the entirety of Spain, assuming that the interest in this research lies in discovering the current development of this training plan.

The instrument includes two different blocks with their corresponding variables (table 3): i) Block A gathers information regarding sociodemographic and personal data; and ii) Block B covers all the items regarding the competences. It contains 13 Likert-scale variables with five possible responses (1 to 5) that reflect the degree of competence development. Considering literature (Muntaner et al., 2017), they have been organised according to three dimensions namely academic, social and personal.

Table 3.

Structure of the instrument

BLOCK A	
Variable	Description
Age	Age of the participant. It is not organised by range, but it is a numeric variable.
Sex	Sex of the participant. They choose between man, woman and other.
Year when they finished their degree studies	Date when they graduated in their degree studies at university. They write down the year.
Field of knowledge	Open question where they indicate their field of expertise.
Employment status	They choose from the following options: (a) currently working in a position linked to my studies; (b) currently working in a position not linked to my studies; (c) Unemployed; (d) studying for a competitive public examination.
Previous experience	They indicate whether they have previous experience in education.

BLOCK B	
Dimensions	Description
Academic competences	Items included in this dimension refer to knowledge of the curriculum and current education policies, and teaching-learning process. Variables 1, 2, 3, 4, 9 and 10.
Social competences	These items have to do with mentoring, communication, conflict resolution and equality. Variables 5, 7, 8 and 13.
Personal competences	This dimension gathers items connected to the ability to engage families and students and promote critical thinking. Variables 6, 11 and 12.

In order to test the reliability of the questionnaire, a Cronbach's alpha coefficient was applied to the whole questionnaire and to each of the dimensions (Table 4).

Table 4. Cronbach's alpha coefficient

Dimension	Cronbach's alpha values
Academic Competence	.841
Social Competence	.813
Personal Competence	.805
Whole questionnaire (I, II y III)	.923

2.3. Procedure and analysis

The data were collected through the use of the online teaching and learning platform, namely Moodle, at the end of each academic year.

A Factorial Confirmatory Analysis (FCA) was then carried out to discover whether the items in the questionnaire were grouped according to the theoretical structure previously defined (social, academic and personal dimensions). This was done by employing Structural Equation Modelling "SEM" (Fox, Nie & Byrnes, 2016) in order to reduce the number of observed variables to a smaller number of latent variables using R 3.0.1 statistical software.

A Confirmatory Factorial Analysis (CFA) was then applied to discover whether the variables in the questionnaire could be naturally split into the three groups: Academic, Social and Personal. A Confirmatory Factorial Analysis (CFA) is a kind of Structural Equation Modelling (SEM) methodology (Fox et al., 2016). SEM can be used to reduce the number of observed variables to a lower number. The CFA was calculated by applying the R package denominated as "sem", for SEM analysis and R Software version R 3.0.1.

With regard to the second objective, a descriptive analysis was carried out using SPSS software.

Finally, it was necessary to determine the relationships among the different dimensions with their corresponding explanatory factors. We developed three Linear Mixed Models (LMM), namely an academic model (Model 1), a social model (Model 2) and a personal model (Model 3). The fixed factors in all of them were gender (2 levels), age range (3 levels), knowledge area (5 levels) and employment situation (7 levels), whereas the academic level

was considered as a random factor. Normal distribution and an identity binding function were used in all the models.

The most appropriate models were chosen by comparing the Akaike Information Criteria (AIC) (Burnham & Anderson, 2002) and using a retroactive procedure (Zuur, Leno, Walker, Saveliev & Smith, 2009). In particular, we compared the AIC for small sample sizes (AICc value) in each candidate model versus the best model (with the lowest AICc). As a general rule, $\Delta i < 2$ suggests that the candidate model has an explanatory power similar to the best a priori model (Burnham & Anderson, 2002). The Fisher's Least Significant Difference test (LSD test) for the comparisons of the means estimated within a mixed analysis was then developed to test and illustrate the differences among the levels of categorical variables. Statistical analyses were performed using InfoStats software.

3. Results

3.1. Factorial structure of the scale

As can be observed in Figure 1, all the variables included in the predefined categories are significant ($\chi^2 = 321.18$; $DF = 62$; $p < .001$). The $AIC = 379.18$ and $BIC = 42.55$ are used to select the best fitting. The distribution of normalized residuals is ranked from 1st Q: -.65 (Min: -1.55) and 3rd Q: .46 (Max: 3.62). All the standardized factor loadings were above .5, with the exception of the errors. The summary parameters for goodness of fit show that the data fit very well (RMSEA index = .108; Bentler-Bonett NFI = .88; Tucker-Lewis NNFI = .87; Bentler CFI = .90). In conclusion, the information regarding the variables can be summarized in the three latent factors.

The factor saturations are between a minimum of .37 (V2. Plan, develop and evaluate the teaching-learning process by enhancing educational processes that facilitate the acquisition of

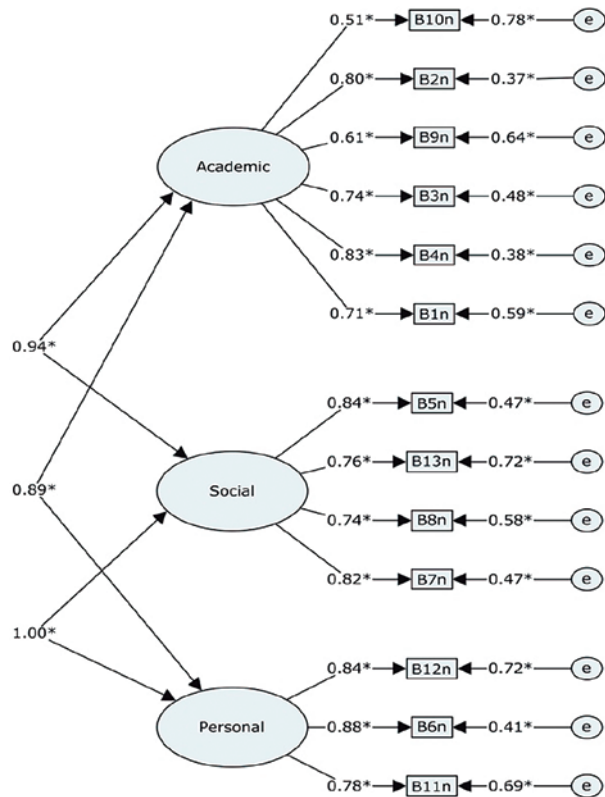


Figure 1. Factorial solution of the scale

skills.) and a maximum of .78 (V10. Know and analyze the historical features of the teaching profession, its current situation, perspectives and interrelation with the social reality.). All loads were higher than the values accepted as indicators of adequate consistency ($> .30$).

The variable that best fits with the personal dimension is V6 (Acquire strategies in order to encourage the student's effort and promote their ability to learn for themselves and with others), with a value of .88, compared to V11 (Inform and advise families regarding the teaching and learning process and the personal, academic and professional orientation of their children), which obtained a value of .78. Within the social dimension, the variable with the highest value (.84) is V5 (Design and promote learning contexts, paying particular attention to equity, emotional and educational values and equal opportunities between men and women), compared to V8 (Design and carry out formal and non-formal activities; develop mentoring functions; take part in the evaluation; research and innovate), which obtained a value of .74.

Finally, the variable with the highest factorial load in the academic dimension is V4 (Settle the curriculum; develop and apply both group and personalized teaching methods adapted to the diversity of the students), with a value of .83, compared to V10 (Know and analyze the historical features of the teaching profession, its current situation, perspectives and interrelation with the social reality), which obtained a value of .51.

The standard residuals are distributed according to Table 5. All the loads of standardized factors were higher than .5, with the exception of the errors. The summary parameters for goodness of fit show that the data fit very well. To conclude, the information regarding the 13 variables can be summarized in the three latent factors.

Table 5.
Distribution of normalized residuals of fitted SEM models

Min	1 st Q	Median	Mean	3 rd Q	Max
-1.55	-.65	.00	.04	.46	3.62

3.2. Level of development of the competences

First of all, it is presented the organization of the different variables into the three dimensions (academic, social and personal) with their corresponding values (table 6).

The first dimension includes six variables related to academic issues. According to the mean values of each item, they are presented organised from the one with the highest degree of development to the least developed during the Master's Degree:

- V9: Know the regulations and the institutional organization of the educational system, along with the quality improvement models that are suitable for educational centers.
- V3: Search for, obtain, process, and communicate information (oral, printed, audiovisual, digital or multimedia), transform it into knowledge and apply it, showing a proper management of ICT and mastery of a second language in communicative processes.
- V1: Know the curricular contents of the subjects related to each teaching specialization.
- V2: Plan, develop and evaluate the teaching-learning process by enhancing educational processes that facilitate the acquisition of skills.
- V10: Know and analyze the historical features of the teaching profession, its current situation, perspectives and interrelation with the social reality.

- V4: Settle the curriculum; develop and apply both group and personalized teaching methods adapted to the diversity of the students.

The second dimension includes four items related to the social aspects of education:

- V13: Promote and guarantee respect for human rights and the principles of universal accessibility, equality, non-discrimination and the promotion of democratic values and a culture of peace.
- V5: Design and promote learning contexts, paying particular attention to equity, emotional and educational values and equal opportunities between men and women.
- V7: Know the interactive and communicative processes in the classroom, master the social skills which are necessary to promote learning and coexistence in the classroom, and address problems of discipline and conflict resolution.
- V8: Design and carry out formal and non-formal activities; develop mentoring functions; take part in the evaluation; research and innovate.

Finally, the third dimension includes three items related to personal aspects:

- V6: Acquire strategies in order to encourage the student's effort and promote their ability to learn for themselves and with others.
- V11: Inform and advise families regarding the teaching and learning process and the personal, academic and professional orientation of their children.
- V12: Encourage critical, reflective, entrepreneurial spirit and active job-seeking habits.

Table 6.
Results of the descriptive analysis

Variables	Academic Dim.	
	Mean	Stand. Dev.
V.1. Know the curricular contents of the subjects related to each teaching specialization.	3.40	1.042
V.2. Plan, develop and evaluate the teaching-learning process by enhancing educational processes that facilitate the acquisition of skills.	3.35	1.003
V.3. Search for, obtain, process, and communicate information (oral, printed, audiovisual, digital or multimedia), transform it into knowledge and apply it, showing a proper management of ICT and mastery of a second language in communicative processes.	3.41	1.014
V.4. Settle the curriculum; develop and apply both group and personalized teaching methods adapted to the diversity of the students.	3.15	1.029
V.9. Know the regulations and the institutional organization of the educational system, along with the quality improvement models that are suitable for educational centers.	3.44	1.004
V.10. Know and analyze the historical features of the teaching profession, its current situation, perspectives and interrelation with the social reality.	3.31	1.020

Variables	Social Dim. (3.22)	
	Mean	Stand. Dev.
V.5. Design and promote learning contexts, paying particular attention to equity, emotional and educational values and equal opportunities between men and women	3.19	1.087
V.7. Know the interactive and communicative processes in the classroom, master the social skills which are necessary to promote learning and coexistence in the classroom, and address problems of discipline and conflict resolution.	3.19	1.066
V.8. Design and carry out formal and non-formal activities; develop mentoring functions; take part in the evaluation; research and innovate.	3.13	1.063
V.13. Promote and guarantee respect for human rights and the principles of universal accessibility, equality, non-discrimination and the promotion of democratic values and a culture of peace.	3.37	1.139
Variables	Personal Dim. (3.03)	
	Mean	Stand. Dev.
V.6. Acquire strategies in order to encourage the student's effort and promote their ability to learn for themselves and with others	3.17	3.17
V.11. Inform and advise families regarding the teaching and learning process and the personal, academic and professional orientation of their children	3.03	3.03
V.12. Encourage critical, reflective, entrepreneurial spirit and active job-seeking habits.	2.92	2.92

3.3. Factors that affect each dimension and differences among them

With regard to the factors that affect the academic dimension (Model 1), the best model maintains only two variables, namely field of knowledge and employment status (Table 7). The post-hoc Fisher test shows significant differences among the different fields of knowledge, in which Art is clearly separated from Humanities, Technology and Experimental Sciences (Fig. 2), whereas in the

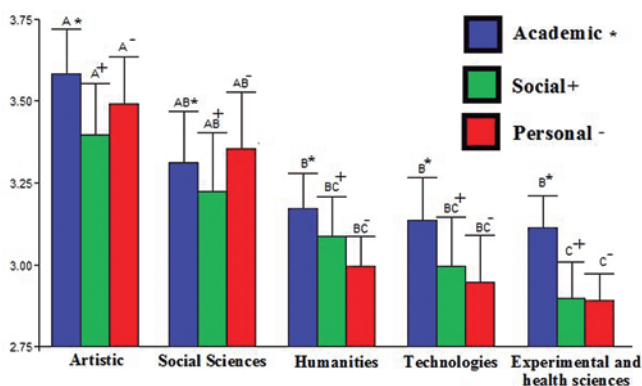


Figure 2. Post-hoc Fisher test according to fields of knowledge in each dimension

case of employment status, unemployed students are distinctly separate from the other groups (Fig. 3).

Furthermore, in the case of the social dimension (Model 2), the best model follows the same pattern as in the previous case, retaining only 2 parameters. In this case, the post-hoc test shows a clear distinction between Artistic training and Experimental and Health Sciences while, with regard to the employment status, it again shows two groups and a third group between the two previous ones that coincides with those who study competitive exams to become Secondary School teachers (Fig. 3).

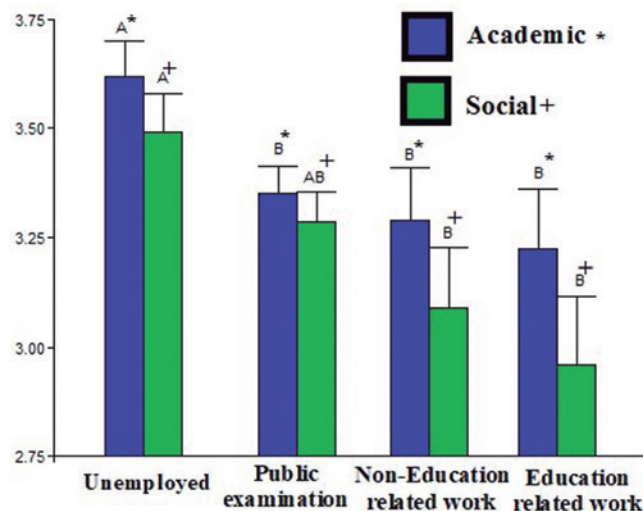


Figure 3. Post-hoc Fisher test according to employment status in each dimension.

Finally, the model related to the personal dimension (Model 3) is affected only by the field of knowledge (Table 7). The post-hoc test shows clear differences between Art and Experimental Sciences. Moreover, Social Sciences are closer to Art while Humanities and Technology are closer to Experimental Sciences.

Age, previous experience in other contexts and previous experience in educational contexts were also included as factors, but none of them had any relationships with the dimensions.

Table 7. Chi-square, P-values and coefficients of the variables included in the best models explaining the academic dimension (Model 1), social dimension (Model 2) and personal dimension (Model 3)

Var.	Chi-square	df	P	Coefficient ± E.S.
Academic dimension (Model 1)				
Interc.	3298.48	1	<.001	3.14 ± .14
Field of knowledge	3.73	4	<.01	2 = .07 ± .1; 3 = .21 ± .15; 4 = .01 ± .13 5 = .48 ± .13
Employment status	3.83	3	.01	2 = -.07 ± .18; 3 = .06 ± .13; 4 = .33 ± .14
Social dimension (Model 2)				
Interc.	2457	1	<.001	2.86 ± .15
Field of knowledge	3.43	4	<.01	2 = .2 ± .15; 3 = .34 ± .17; 4 = .09 ± .15 5 = .51 ± .15
Employment status	3.97	3	<.01	2 = -.13 ± .21; 3 = .20 ± .15; 4 = .40 ± .16
Personal dimension (Model 3)				

Var.	Chi-square	df	P	Coefficient ± E.S.
Interc.	2875.23	1	<.001	2.89 ± .08
Field of knowledge	4.32	4	<.01	2 = .1 ± .12; 3 = .46 ± .19; 4 = .05 ± .16 5 = .6 ± .17

4. Discussion

4.1. Factorial structure of the scale

We studied the internal structure using the FCA, since it provides an appropriate statistical framework with which to evaluate the validity and reliability of each item rather than focusing only on global evaluations. This was done by gathering the 13 items in the questionnaire together in a structure made up of three dimensions. This classification coincides with other authors' groupings (Amor Almedina & Serrano Rodríguez, 2018; González & Wagenaar, 2006).

In short, this scale as a whole fulfils the premises proposed by de Jager et al (2017) which indicates that it is essential for initial training to contemplate teaching skills not only on the academic plane, but also at a personal and social level.

4.2. Level of development of the competences

From a general perspective, the students positively assessed (about 50%) the development of general competences such as. We also observed that future teachers consider it important to achieve a good level of learning in training aspects related to the specific didactic treatment of the contents, which also partially coincides with the results obtained in other studies (e.g. Martínez & Sánchez, 2018).

Upon analyzing the first of the dimensions on the scale, it will be noted that the personal dimension included variables related to engage students and families as well as guide them enhancing critical thinking and attitudes. In this respect, it is extremely important for future teachers to begin developing their teachers' professional identity as soon as possible, since it is necessary for them to have a sense of belonging to this profession. This will consequently allow them to deal with tasks such as encouraging students, understanding the roles of families, or searching for jobs as teachers (Virta et al., 2019). Furthermore, this idea leads to a debate about the different way in which pre-service teachers construct their professional identity depending on whether they have been trained following a consecutive or parallel training systems.

When teachers are competent in terms of personal and emotional issues, their teaching is more effective (Muntaner et al., 2017). Nonetheless, unlike that which occurred in the research carried out by Buff (2014), whose results showed that the development of emotional competences by teachers improves students' learning, the participants in this study placed less importance on this dimension when compared to the academic and the social dimensions.

The *social dimension* incorporates variables related to communicative processes in the classroom, conflict resolution and mentoring functions. In general, these variables are related to activities that promote respect, diversity and cooperation among students. Previous studies (e.g., Barbre, 2018) emphasize the importance of promoting the acquisition of social, decision-making and leadership skills and of stimulating creativity and management, in addition to developing other competences.

For teachers, as was stressed in the Eurydice Report (2014, 2017), this condition is necessary to ensure that education fosters the development of social and civic competences among

students, along with other cross-curricular competences: those regarding learning to learn, autonomy and initiative. This would be a possible explanation for the higher mean values of these items (mean 3.21) with respect to the items included in the personal dimension (mean 3.04).

Finally, *the academic dimension* includes variables directly connected to contents and theoretical teaching. However, this dimension may affect others (such as the personal dimension), since previous studies have stated that university students from diverse fields of knowledge have different emotional abilities (Muntaner et al., 2017). It is, therefore, important to consider each student's field of knowledge when assessing the development of competences. In addition, the items included within the academic dimension attained the highest values (mean 3.34), and this, therefore, coincides with that previously stated regarding the students' passive role. Nonetheless, it is a complex process to move from a teacher-centered model to a student-centered one (Wilks et al., 2019).

4.3. Factors affecting the development of dimensions

With regard to the level of development of the teaching competences within initial training, we have found little information concerning the factors that may affect the acquisition of these competences. In this study we have, therefore, attempted to explore the influence of certain parameters, such as each student's field of knowledge, in greater depth. It would appear that this variable significantly influences the development of teaching competences, since Martín and Molina (2017) found that graduates from different areas attribute different scores to the teaching competences acquired, as a result of, among other things, the quality of their teachers. The results of these authors coincide with those obtained in our study, which show that the area regarding the Arts obtained a higher score in the three dimensions analyzed, followed by those of Social Sciences, Humanities, Technologies and Experimental and Health Sciences.

Furthermore, as Ibarra and Barbulescu (2010) have indicated, employment status was significantly related to the academic and social dimensions, but not to the personal dimension. Our results indicate that the unemployed students were the group with the highest scores in both dimensions. These data allow us to conjecture that those who are unemployed invest more time in their training during the Master's Degree and the desire to obtain employment, therefore, becomes a motivation to achieve better results. On the contrary, and as stated by Izadinia (2016), the group of students who were in some respect involved in the teaching profession had possibly already acquired certain competences and did not, therefore, assume that they had gained them whilst studying for their Master's Degree. They consequently had fewer expectations of the program and different demands as regards their future requirements.

Additionally, Kapitanoff and Pandey (2017) discuss the existence of social stereotypes that may be marked by the progressive feminization of teaching. Gender was not, however, a factor in our study, unlike the results obtained in the research carried out by Chang and Lo (2016) and Authors (Pérez Gracia, Serrano Rodríguez & Pontes Pedrajas, 2019). Finally, and unlike that which occurred with authors such as Green (2015), Chang and Lo (2016) and Viciana and Mayorga (2017), age and previous experience in other educational contexts were not significant factors in our model.

5. Conclusions

Our results show that there are some competences whose level of development could be improved, and we have also identified

some weaknesses in the development of others, which have already been pointed out in previous studies (e.g. Tang et al., 2016). As it is stated by Bahia et al (2017), we believe that these facts provide a basis on which we should reflect on so as to improve the quality of teaching on this Master's Degree and its curriculum. Moreover, it is also necessary to expand educational research into initial teacher training in an attempt to discover how aspects such as the organization of the Master's Degree, the teacher's role, the contents of diverse subjects, the strategies and resources, and the evaluation of the training process may influence the development of those practical competences that are considered most relevant for those employed in the teaching profession (Chuo-Chun & Huisman, 2017; Wilks et al., 2019). We are conscious that, as stated by Gómez et al (2017), there is no one single profile of competences, but we do consider that it is necessary to discover the influence that these competences have on the teaching profession as regards their development.

Therefore, this study has the potential to rethink the curriculum and enrich the change required in planning with the objective of guaranteeing an adequate competence development level and the construction of TPI. However, it also leads us to discuss and reflect on how to train preservice teachers to prevent the professional identity crises they may suffer during their first years of professional development (Schwartz & Dori, 2020) and study the strengths and drawbacks that consecutive and successive training models could bring about on this regard.

It seems that these crises are more frequent in consecutive training models (Schaefer & Clandinin, 2019), as the one used in Spanish institutions, so this research may contribute to analyze in depth initial teacher education curriculum and reinforce TPI development along with the competences mentioned before.

Finally, it is important to recall that this information is the result of self-perceptions, which shows that self-reflection and self-evaluation allow teachers to recognize their own strengths and limitations in their professional development (Núñez, 2016). Furthermore, the participants' subjective viewpoint (perceptions) may be a limitation of this study for the reason that there are sometimes varied perceptions about the same reality, so it means that applying the same instrument in a different context may lead to other results. However, according to Gutiérrez and Cabrero (2016), it is an advantage to start by knowing first-hand how participants self-perceive the level of their competences.

6. References

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