Scale of Pedagogical Authority Meanings in the Classroom (ESAPA) for Ibero-America built on the opinions of student teachers

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Abstract

Students' perceptions of teachers as authority figures affects teaching-learning processes. This quantitative instrumental study is a design and assessment of the psychometric properties of a Likert scale (the Scale of Pedagogical Authority Meanings in the Classroom[1] –ESAPA) that examines these perceptions. The Scale underwent an expert assessment and was applied to 913 university students from four Ibero-American countries. After the factor analyses, the goodness-of-fit indexes revealed that the four-factor correlated model suited the data well. Thus, the scale is a reliable instrument to spot the meanings attributed to pedagogical authority.

Key words: pedagogical authority, Likert scale, test validity, teacher influence, teacher empowerment.

Introduction

The teaching and learning at school make up a process that is chiefly interpersonal and that is based on the establishment of pedagogical relationships between teachers and their students. The instruction of the latter, the development of new abilities and competences, even of autonomy, require of a specialised guidance with the capacity and experience to lead, direct and accompany in their growth. Therefore, the pedagogical relationship entails asymmetries,

[1] Escala de Significados de Autoridad Pedagógica en el Aula (ESAPA)

hierarchies; that is to say, pedagogical authority. The concept of pedagogical authority can be considered as a power that grants obedience and discipline in the classroom (Foray, 2007). Thus, authority is linked to the leadership of teachers, particularly, to their ability to influence and encourage others (Elicor, 2017).

The authority styles may take different forms. Some authors underscore that these forms are related to the manner in which teachers' empowerment is established in the education system, and how they aim to influence the outcomes of the groups (Fawcett et al., 1994). In particular, Harjunen (2012) verifies the existence of three patterns that characterise each kind of teacher-pupil interaction according to different procedures and attitudes. On one side, it appears a strong teacher dominance, distinguished by imposition and pedagogical mechanization, in which the teacher acts on the deontic logic and generally do not leave room for any kind of creativity or spontaneity. The second type of power pattern shows an equitable distribution regarding the decision making among the agents involved, and that creates an environment characterised by reliance, respect and acceptance. Finally, on the other end of the scale, it emerges the pattern in which the student exercises the highest role of dominance, marked by a clear lack of control from the teacher and sometimes followed by situations of instability and chaos.

Harnujen (2011) proposes a pedagogical authority that pays attention to the students' learning, characterised by a willingness to listen to their interests and needs. Author 1 et al. (2010), in turn, remark that teachers hold different pedagogical styles according to the school context and the age of the students. The most common styles of authority use are (1) through a relentless application of the school rules; (2) by making use of power in a discretionary manner; (3) by boosting the bond of affection with the students; (4) by establishing moral rules for the

students to become better people; (5) by ensuring that everyone has the opportunity to learn. The authors lay stress on the last style and point out that it is not enough for teachers to be experts in their field; they must also commit to the learning of every student. This is closely related with the findings of Tallone (2011), who observes that in the exertion of an authority that aims for learning, the mastery of the subject must be associated with the proper transmission of the concepts to the students. In this vein, the teacher becomes a 'fuente habilitadora para el acceso a los distintos saberes' (p. 32) [a source that enables to reach different knowledge].

The application of authority is strongly linked to the beliefs and meanings teachers attribute to it. Diversos estudios han advertido la necesidad de examinar los significados y creencias de los profesores acerca de la enseñanza y el aprendizaje pues ello permitirá comprender las estrategias y prácticas que realizan dentro de las aulas (Fernández, Pérez, Peña, & Mercado, 2011; Hernández & Maquilón, 2011; Marrero, 2009; Monereo & Pozo, 2011; Pozo et al., 2010).

In this context, the main purpose of this study is to design and validate an instrument (a scale) that allows for analysing the meanings and dimensions of the pedagogical authority in the classroom from the perspective of college students that are studying to become teachers. In the state-of-the-art education research, no instrument that addresses how student teachers perceive pedagogical authority has been found. While it is true that there are instruments that do examine teachers' beliefs about the instructional sphere (Martin & Sass, 2010), the education field lacks scales to measure the meaning of authority and the factors teachers associate with it.

The impact of the pedagogical authority

All these dimensions derivatives of teachers' empowerment turn into a predictor of their satisfaction and motivation in their job, as Bloger & Nir (2012) emphasise. These authors also make a distinction between the intrinsic and the extrinsic satisfaction of teachers. The former is

related to those factors involving perception of self-efficacy and autonomy in the performance of their job, while the latter is connected to the status acknowledged by the people around them and the respect derived from such status.

The fair authority is enriched by the construction of learning environments where warmth, justice, trust and the firmly belief in the potentialities of the students take precedence. They feel confident when there are some specific rules whose observance ensures a peaceful setting, where the teacher masters the required strategies to face the emergence of disruptive scenarios (Author 1 et al., 2010). Furthermore, if teachers become a leading figure from a personal viewpoint for their pupils, this will contribute to an openness of the latter toward imagination and creativity, as well as reflection, good humour and mutual aid (Mierella, 2015). Nonetheless, all that has been said will turn up depending mainly on the presence of some qualities that lie in the personality and character of the person. Thus, some authors state that it is very important for a teacher to experience a real vocation toward education in order to show along the teaching-learning processes the proper degree of care and patience. This, along with interest and willingness of improving, contributes to the authenticity of the authority of the leader (Määttä & Uusiautti, 2012; Tenti, 2007).

All those issues that have been considered about the pedagogical authority along with the variables that validate it strengthen the key role of the teacher as a guide for the students' learning. Furthermore, they contribute to the improvement of the educational quality, paying more attention to the pedagogical work. Therefore, if the educational research aims at seeking the optimal conditions to develop the teaching-learning processes, it has to take as one of the most important objects of its study, from varied viewpoints, the pedagogical authority (Tallone, 2011).

In line with this, Cava, Estévez, Buelga & Musitu (2013) cite the studies of Emler et al, (1990) and Emler & Reicher (1995, 2005) to point out that there is a strong link between the kind of relationship that students hold with their teachers and the one that they maintain, later on, with the other authorities formally established. The way in which a particular student perceives teachers according to their figure of authority influences on the degree of acceptance of the former toward the school rules. By extension, this also affects on the adherence degree toward those rules that are beyond the school (namely, the laws and the civic behaviour). Thus, it is crucial for teachers to pay special attention to the way they uphold their authority because it will determine the relationship with the students and, by doing so, also the relationship between them and the rest of authorities (that is to say, the police, the rules, and so forth).

Measurement of the pedagogical authority

Identifying and measuring the meanings of pedagogical authority in the classroom require, according to Weber (1983), to examine the reasons why people recognise as an authority figure a person. Weber (1983) identifies three sources or motives of acknowledgment. One of them is the 'Charisma', by which people regard someone as authority holder because he or she possesses a special trait. In this case, authority is linked to the person and his or her personal features. Another source is the 'Tradition': the subject of authority is someone who embodies the traditional values. In this case, the role that has traditionally been attributed to authority becomes essential. The third source is the 'Rational-legal': someone has authority if he or she possesses expert knowledge and the institution grants him/her with a legal status to act upon others. From these distinctions of Weber (1983), this piece of research delves into the following reasons or factors of authority acknowledgment of the teacher in the classroom: i. Personal and charismatic factors: for example, if students recognise a teacher with authority because he or she is nice; ii. Factors related to the

role that has traditionally been held by the teacher: for instance, if students consider a teacher an authority holder because he or she applies sanctions relentlessly; iii. Factors linked with the teachers' degree of expertise: such us considering a teacher an authority because he or she has a deep knowledge of the subject. Furthermore, this study includes whether the gender of the teacher is relevant for the authority recognition or not.

At this point, it is pertinent to underscore that the studies that have examined the meanings of authority in the classroom so far are qualitative. In these kinds of studies, researchers tend to make use of semi-structured interviews to find out those factors that students point out as highly important in order to acknowledge the authority of their teachers, and to identify the teachers' perception toward their empowerment at the classroom (Baleghizadeh & Goldouz, 2016; Harjunen, 2011; Mierella, 2015). In this vein, Author 1 et al. (2015b) carried out the validation process of an observation protocol that aimed to evaluate teachers' authority by analysing the behaviour that they showed when interacting with their students. Two years later, those same authors employed that behavioural pattern to measure the kind of authority depending on the socioeconomic group of the students (Author 1 et al., 2017). However, this type of evaluation instruments is under the influence, to certain extent, of subjectivity. When using them, sometimes it is difficult to tell apart what is observed from what is prompted by the beliefs and opinions of the researchers.

Thus, so as to strengthen this measure, it is necessary to complement it with objective data obtained by other resources such as the School Participant Empowerment Scale of Short & Rinehart (1992). This scale appraises the variables of professional growth, self-efficacy and autonomy among others, through Likert-scale questions. However, it is important to note that this instrument probes only teachers' perceptions, without taking into account the students' ones.

The Attitudes to Institutional Authority in Adolescence Scale (AAI-A) developed by Cava et al. (2013) takes precisely the opposite standpoint. It aims to discover students' stance toward the authority, but not only their view of teachers' authority, but also the one of the police. These authors adopt this perspective because they assert that the attitude toward the different formally established authorities shows common patterns. The evaluation of these two authorities (teachers and policemen) makes up the first of two factors that are included within this scale. The second one tackles the perception and attitude concerning the school rules and the law. Gálvez-Nieto, Vera-Bachman, Trizano & García (2015) conducted an analysis of the psychometric properties of such scale (i.e. the AAI-A scale) and confirmed that the results showed enough empirical evidence of reliability and validity to back up its use.

On the other hand, Nichols (2006) designed an instrument to measure the motivation in the classroom. This instrument, which has been refined over different studies (Nichols, Agness, & Smith, 2008; Nichols & Zhang, 2011), also appraises, among other factors, the authority distribution between student and teacher. It is a Likert-scale questionnaire made up of 40 items; 10 of them devoted to the evaluation of student's empowerment, and other 10 intended to assess teacher's control.

Objectives and implications of the study

Based on what has been stated above, if teachers acknowledge the principles they should comply to be considered authority figures by their students, the relationship between them will be imbued with positivity and will aid in the prevention and reduction of conflicts (Tallone, 2011). As this is highly preferable, it is necessary to create a new instrument that fills the void in the pedagogical authority field of taking more into account students' opinions, given that they determine the consent –or lack– of authority of their teachers.

Thus, the present study addresses the following goals:

- To design a Likert scale –ESAPA – that examine the meanings and dimensions of the pedagogical authority in the classroom from the perspective of college students that are studying to become teachers.
- To evaluate the psychometric properties of the ESAPA.

The interest in analysing the meanings attributed to the pedagogical authority in students enrolled in teacher training studies affects two fields: psychometrics and education.

Firstly, the purpose is to design a valid instrument to measure the construct, and secondly, to have an effect on the college students who answer to such instrument.It is expected that the teacher training students reflect on their own future behaviour and procedures in the classroom. By this means, they will be able to identify the qualities they will be required to possess once they become teachers. The reason of taking as sample Primary Education future teachers is that at this level pupils are expected to develop respect towards authority figures so as to fit properly in their surrounding society.

Method

The present study is a quantitative research, which, according to the classification of Montero & León (2005), falls within the category of *instrumental study*.

Participants

Four programs of university level of teacher training were selected incidentally. Thus, the sample was composed of college students that aimed to become Primary Education teachers. Each program was located in a different Ibero-American country. The sampling among

universities was not proportional and the students that took part in the research did so voluntarily. The instrument was applied to two samples of each educational institution, to students that were enrolled in any course of the mentioned degree, as follows:

Sample 1. The first sample (used in the exploratory factor analysis) was made up of 455 students, aged between 16 and 43 years old (M=20.98; SD=3.60). Most of them were female (78.2%), while about one fifth were men (21.8%).

Sample 2. The second sample (used for the confirmatory factor analysis) comprised 458 university students aged between 16 and 44 years old (M=20.98; SD=3.24). They were 351 women (76.6%) and 107 men (23.4%).

The distribution of students among universities for each sample is shown in Table 1.

Instrument

The ESAPA was designed taking the theoretical framework developed by Author 1 et al. (2010), Author 1 et al. (2015a), Author 1 et al. (2015b), and Author 1 et al. (2017). The instrument is composed of 17 items that point to factors related to different meanings of the pedagogical authority. The range of possible answers, associated with numbers from 1 to 5 is: Not important at all (1), Of little importance (2), Of average importance (3), Very important (4) and Absolutely essential (5). All the items are positive.

Procedure

In order to design and evaluate the psychometric properties of the instrument, the stages proposed by Carretero-Dios & Pérez (2005) were applied.

Conceptual delimitation of the construct subject of evaluation

Firstly, an extensive bibliographical revision on the construct of *pedagogical authority* was carried out. After that, Weber (1983), Author 1 et al. (2010), Author 1 et al. (2015a), Author

1 et al. (2015b), and Author 1 et al. (2017) were selected as the theoretical framework. Given that the objective is to design a Likert scale with clear evidences of validity and reliability that examines the pedagogical authority meanings in the classroom, there were identified, firstly, those factors closely related to teaching, training, personal and labor characteristics and personality that could be pedagogical authority indicators in the classroom. After that, they were conceptually defined.

Items related to the sources of pedagogical authority were drawn up. For this design, we followed the basis of the stated objectives and the criteria for items drafting set forth by Edwards (1957). By doing so, we aimed to identify the importance students from teaching training programs give to factors related to that construct. Then, the items underwent the judgement of three experts to assess the validity of content.

Instrument application

Before the application of the instrument, we asked for the informed consent of the students that were about to take part in it, and they all confirmed that. Between March and June of 2017, a total of 916 instruments were applied to subjects (with the characteristics already described in the participants' section) in a self-administered way. These applications took place at the beginning of pedagogical formation classes, with a presence of 20 to 50 students in each one. They were all granted the possibility not to continue with the test at any time they wanted. The instructions given to the participants were the following ones: *according to your viewpoint, what is the importance of these factors for a teacher to be recognised as an authority by their students?*

Once the instrument was applied, we codified the data reported by the participants in order to assess the psychometric properties. For those items in which no answer was found, a

value of 3 was assigned (3 is the mean value of our Likert scale). As we found out 3 subjects from the sample with more than 10% of lost values, we decided to leave them out of the study.

After the data base was obtained, the subjects were distributed into two samples randomly, but in proportion with the educational institution they came from.

Psychometric properties analysis

The *KMO* index must be greater than .50 to be acceptable, and the Bartlett´s sphericity test in must be statistically significant (p <.05). Both analysis leads to the rejection of the hypothesis of independence of the variables and it is deduced that it is appropriate to continue with the factorial analysis. The factorial loads of each item should be greater or equal to .40 (Hair, Anderson, Tathan & Black, 2014). When selecting the number of factors (figure 1), the AFE used as a basis the *Rule K1* (eigenvalues > 1) and the Cattell's sedimentation graph (1966).

Regarding the construct validity assessment of the ESAPA we conducted an exploratory factor analysis (EFA) with the sample number one. The principal component analysis (PCA) was the extraction method used. This is the most commonly employed method and the most suitable one when the goal is the data reduction. It has been designed with the purpose of serving in a first exploratory stage, to the factor analysis (Fabrigar, MacCallum, Wegener, & Strahan, 1999); Landero & González, 2006). The rotation method applied was *Varimax*, and it was executed under the IBM SPSS 24.0 system.

Una escala puede estar compuesta por uno o varios factores y cada factor tiene un determinado número de ítems. El análisis factorial confirmatorio es una herramienta esencial para la psicometría, ya que permite demostrar si los ítems que forman un factor realmente miden lo que afirman medir (Jöreskog, 1978; Jöreskog, Olsson & Wallentin, 2016).

The confirmatory factor analysis (CFA) was conducted with the second sample under the AMOS 24.0 system. The purpose of this analysis was to explore the goodness of fit of the four-dimensional model. The CFA was carried out taking as a basis the Pearson's 'r' correlation matrix and the unweighted least squares estimation (Hair, Anderson, Tathan & Black, 2014). The goodness of fit values were determined by Chi-Square (χ^2); however, given that the χ^2 is sensitive to sample size (Fujikoshi, 2000), the relative Chi-Square (χ^2/df) was reported instead (Bollen, 1998). The χ^2/df expresses a suitable fitting model because it shows values between two and three, or, more flexibly, with values ≤ 5 (Carmines & McIver, 1981). The Goodness-of-fit index (GFI), the Comparative-fit index (CFI), the Normed-fit index (NFI), the Root mean square error of approximation (RMSEA) and the Standardised root mean square residual (SRMR) were calculated. The values indicative of good fit were used, which for the case of the GFI are AGFI and NFI > .90 and RMSEA and SRMR < .08 (Hu & Bentler, 1999). Regarding factor loading (λ´s), values ≥ .40 were considered as suitable (MacCallum, Widaman, Zhang, & Hong, 1999).

When the factorial structure of the scale was determined, we obtained the liability indices through an inter-item liability analysis with the use of the Cronbach's Alpha test (Cronbach, 1951). It was applied to each factor (or meanings groups) found in both samples. DeVellis (2003) states that below 0.60 the liability is unacceptable, from 0.60 to 0.65 it is undesirable, between 0.70 to 0.80 it is substantial and from 0.80 to 0.90 it is very good. Furthermore, this author also highlights that there is no agreement among researchers regarding the minimum values of acceptance of the Cronbach's Alpha coefficient. However, on the other hand, there is a clear consensus with the fact that those values that are more close to 1 show a higher degree of reliability.

Finally, we obtained item and dimension descriptives in order to spot the dimension that more

accurately explained the pedagogical authority meanings from both samples.

Results

Analysis of psychometric properties

Respecting to the obtained data, the *KMO* value was acceptable (>.50) and the Bartlett´s sphericity test was statistically significant (p <.05) (See Table 2). The factorial loads were greater than .40. In the figure 1, it is presented the sedimentation graph. The AFE offered a factorial solution composed of four factors (see Table 3), which have been denominated 1) Closeness and Empathy, 2) Teaching and Respect, 3) Gender of the teacher, and 4) Character, Demand and Experience, according to its defining aspects. As showed in Table 3, the percentage of the variance that is explained by the factor for each subscale was adequate in every case.

For the CFA, each one of the 17 items of the ESAPA was loaded into four latent variables that represented the four dimensions of the scale (see figure 2). The goodness-of-fit indexes revealed that the four-factor correlated model fitted the data well ($\chi2$ = 435.14, df = 98. p = .000, $\chi2$/df = 4.44, GFI = .961, AGFI = .946; NFI = .911; RMSEA = .069 and SRMR = .068). The standardised factorial loads (λ's) for the four-factor model were: Closeness and Empathy factor (item v.9 = .678, item v.11 = .725, item v.5 = .723, item v.15 = .656, item v.8 = .682, item v.13 = .427), Character, Demand and Experience factor (item v.3 = .212, item v.14 = .286, item v.14 =. 286, item v.12 = .045, item v.1 = .312), Gender of the teacher factor (item v.16 = 1.085, item v.17 = .838) and Teaching and Respect factor (item v.4 = .626; item v.2 = .731; item v.7 = .639; item v.6 = .467), with an average λ of .552. It is important to point out that the item v.10 of the Character, Demand and Experience dimension had to be removed in order to attain the

goodness of fit of the model, since its factorial load was very low (<.10). By removing this item, the goodness of fit of the model was achieved.

Once the dimensions of the scale were defined, the internal consistency indexes for each sample were obtained, as it is stated in table 4.

According to DeVellis (2003), the reliability of the different dimensions of both samples ranged from respectable to very good; however, the Character, Demand and Experience component is unacceptable.

Descriptive statistics

The descriptive statistics (mean and standard deviation) by item and by dimension are expressed in Table 5. In both samples, the larger means are located in the Teaching and Respect dimension and the smaller ones in the items related to the Gender of the teacher. This implies that the students attribute greater meaning of pedagogical authority to this dimension and consider that the Gender of the teacher is not a source of authority.

Conclusion

This study emerged from the interest in delving into the notion of the pedagogical authority; given that most of the learning that take place in the classroom relies on the empowerment of the teacher toward the group. The nature of the teaching-learning process is primarily set upon the beliefs and meanings teachers hold about the manner in which they should interact with their pupils, and, particularly, on the way in which they can reach the status of pedagogical authority. Hence, any improvement or modification to the teaching procedures implies a previous alteration of those beliefs and meanings. In this regard, this piece of research constitutes a contribution to the formation of student teachers all over the world because it

provides with a validated instrument that allows for spotting and characterising the meanings that underpin their concept of pedagogical authority. The scale makes it possible to acknowledge what they understand as pedagogical authority, what are the dimensions involved, and how these dimensions relate to each other. Thus, by having an instrument that measures the construct in a valid and reliable way, it will be possible to obtain a quick diagnosis of the required teaching skills to have actual authority in the classrooms.

On that account, the main goals of this study addressed the design and analysis of the validity and reliability evidences of the ESAPA in university students.

Summing up, with a close look at the results obtained, it can be asserted that the ESAPA displays a proper functioning and, therefore, can be used for research purposes.

The conducted analyses generate a Likert-type scale that examines the meanings that university students attribute to pedagogical authority, through the interpretation of four dimensions:

- Closeness and Empathy dimension (items 5, 8, 9, 11, 13, 15): it is the affective dimension of pedagogical authority, and it is related to what Harjunen (2011), Mierella (2015) and Author 1 et al. (2010) assert about such dimension and with the authority source that Weber (1983) regards as 'Charisma'. High scores in this aspect show that students perceive a teacher as someone with authority based on the degree in which they understand the personal and academic circumstances their students are going through, and act on them, showing interest for their welfare and being fair in their conduct.
- Teaching and Respect dimension (items 2, 4, 6, 7): it is the intellectual aspect of the pedagogical authority. High scores point out to the fact that students regard teachers as with authority toward the group inasmuch as they demonstrate their intelligence|, have

experience in the subject they teach and know how to convey the knowledge with clarity to their students. Furthermore, they make clear the need of the students of being respected by their teacher along the teaching-learning process. The basis upon which this dimension has been established are the assertions of Author 1 et al. (2015) and Tallone (2011), and its characteristics are framed by the 'Rational-legal' authority source defined by Weber (1983).

- Gender of the teacher dimension (16, 17): this is a dichotomyc aspect that implies that teachers are seen as authority holders depending on their gender. Given that one item is the opposite of the other and both are graded in the same way, it is impossible to extract high scores. On the other hand, low scores reveal that students do not attribute too much importance to the teacher's gender when assessing their authority. This might explain why there are very few studies in which the teacher's gender is related to the pedagogical authority of them in the classroom (Blanco, 2015).
- Character, Demand and Experience dimension (1, 3, 12, 14): this aspect explains pedagogical authority as the classroom empowerment product of the experience and seniority. High scores in this dimension exhibit that students perceive the longest-service teachers as the ones with more pedagogical authority; because they have more experience (Author 1 et al., 2015), teach the most important subjects of the studies plan (Author 1 et al., 2015) and, to some extent, given that they know the code of conduct best, they are the ones who apply it more implacably. In Weber's (1983) categorization of authority sources, this dimension receives the name of 'Tradition'.

The EFA of the ESAPA provides with evidence for the construct validity of the described solution of four dimensions, given that the factorial loads are appropriate (λ´s >

.40).

Regarding the analysis of the internal structure with the CFA, the results support the four-dimensional arrangement of the ESAPA as well. Although the Character, Demand and Experience dimension turned out to show factorial loads below the expectations (λ´s < .40), due to its theoretical and practical importance, we decided not to remove it from the Scale. Despite it is clear that there has been bias to some extent, maybe it is explained by the nature of the population of study. In spite of the fact that the standardised factorial loads were low, it did not prevent from obtaining correct goodness-of-fit indexes in the CFA. Future studies should pay special attention to this dimension and prove if the bias was due to the kind of participant or to any type of strange variable.

The CFA outcomes are related to the inter-item analyses of reliability carried out with the Cronbach's Alpha, because the Character, Demand and Experience dimension was the one with the lowest internal consistency.

In conclusion, the ESAPA results of the analyses for both Ibero-American samples show the presence of the indispensable psychometric properties in order to measure the pedagogical meanings of authority in university students. Nonetheless, it is necessary to carry out more psychometric studies in varied populations. Furthermore, it is important to highlight that the use of self-administered tests (as the ESAPA) for international-scale studies is, by reason of its simplicity and quick application, a promising line of research.

On the other hand, it is important to highlight that the findings show that the dimension *Teaching and Respect* is the most relevant one in relation to the pedagogical authority. This allows to draw the conclusion that if a teacher aspires to possess pedagogical authority and to have influence over the behavior of his/her students, it is unnegotiable for him/her to teach in a

clear manner, to display domain of the contents, and to be perceived for his/her words and actions as someone intelligent. On top of this, he/she must treat with respect his/her students.These findings are aligned with the results of Author 2 et al. (2016), who ascertained that teacher training students deemed that the performance of pupils was influenced by the quality of education.

Bearing in mind the results obtained, it is possible to assert that the concept of pedagogical authority shows a twofold structure with a horizontal and a vertical dimensions. The former refers to the proximity to others, in which affectivity and democratic relationships are prioritised. The latter considers the role of teachers from the point of view of their level of expertise in their subject and their teaching aptitudes. The challenge of the student teachers' formation is to be able to develop both dimensions in an integrated manner. It does not suffice to have a positive interpersonal relationship if this does not come along with a rigorous teaching-learning process. On the other hand, being an expert in your field does not automatically make you a teacher with pedagogical authority; it is also fundamental to be held in high esteem by your pupils. The comprehensive development of the horizontal and vertical dimensions is crucial for the development of the teaching identity. The beginner teachers sometimes face the challenge of deciding between emphasising interpersonal relationships or appearing as experts in the subjects they teach. Nonetheless, according to the results of the scale, this dilemma is ungrounded; the acknowledgement of pedagogical authority encompasses both dimensions. Then, how can it be possible to develop the horizontal and vertical components together? The scale that is being validated sheds lights upon this issue: the dimension related to 'teaching' includes the concept of 'respect', and this connection may account for the notion that proper teaching procedures imply being respectful with pupils. Therefore, 'respect' is linked to the

vertical dimension (the teaching of the expert) and the horizontal one (the proximity and consideration of others).

This scale might be used in settings where teachers experience a lack of authority a respect issues. This procedure would help to spot the underlying concept of authority that the students of these environments have, and thus, to determine the features that teachers should have in order to develop their work with ease and security in the classroom and to influence their students' behavior for the sake of their academic goals.

Furthermore, it is highly recommended to apply, along with the ESAPA scale, another instrument that measure the actual authority level of the teachers so as to conduct an analysis of the current situation. The information over authority and the meanings that the students of a particular setting attribute to it would provide with the key for an effective intervention.

Finally, as the metaanalysis of Jerez, Horsini and Hasbún (2016) about the quality of education also detected that the dimensions linked to a clear teaching manner, the use of teaching strategies and the command of the contents were regarded as essential in teachers, it would be interesting to measure both constructs (pedagogical authority and quality of education) so as to clarify if there is any kind of correlation or even causality between these variables.

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Appendix A. Tables

Table 1

Distribution of the sample regarding the University they belong to

University	Frequency		Percentage	
	First sample	Second sample	First sample	Second sample
University A	235	255	51.6	55.7
University B	115	96	25.3	21.0
University C	67	67	14.7	14.6
University D	38	40	8.4	8.7

Table 2

KMO y Bartlett test

The Kaiser-Meyer-Olkin sample adequacy measurements		.763
The Barlett's sphericity test	χ^2 aproximate	2415.294
	Gl	136
	Sig.	.000

Table 3

Analysis of the main components with Varimax rotation

	C1	C2	C3	C4
1. Possessing much professional experience				.573
2. Teaching in a clear way		.715		
3. Having a strong character				.549
4. Possessing a deep knowledge of the subject		.753		
5. Being nice	.723			
6. Being intelligent		.603		
7. Being respectful with students		.755		
8. Teaching in an entertaining way	.609			
9. Being cool	.828			
10. Being demanding in teaching				.517
11. Being friendly with students	.770			
12. Teaching an important subject				.559
13. Being democratic in the classroom	.435			
14. Applying sanctions relentlessly				.615
15. Having an outgoing personality	.677			
16. Being a woman			.964	
17. Being a man			.956	
Eigenvalues	3.887	2.366	1.729	1.425
Percentage of the variance explained by the factor	17.998	14.924	11.287	11.125

Note. C1: Closeness and Empathy; C2: Teaching and Respect; C3: Gender of the teacher; C4: Character, Demand and Experience.

Table 4

Internal consistency index by dimension

Dimension	Sample 1 (n=455)	Sample 2 (n=458)
	Cronbach Alpha	Cronbach Alpha
Closeness and Empathy	.80	.78
Teaching and Respect	.71	.70
Gender of the teacher	.95	.95
Character, Demand and Experience	.48	.35

Table 5

Descriptive statistics by item & by dimension

	Sample 1 (n=455)		Sample 2 (n=458)	
	Mean	SD	Mean	SD
CLOSENESS AND EMPATHY DIMENSION	20.48 (3.41)	5.14	20.49(3.42)	5.30
Being nice	3.24	1.28	3.21	1.33
Teaching in an entertaining way	3.90	1.13	3.87	1.14
Being cool	2.99	1.26	3.03	1.28
Being friendly with students	3.37	1.19	3.35	1.19
Being democratic in the classroom	3.88	1.13	3.87	1.15
Having an outgoing personality	3.12	1.29	3.16	1.28
TEACHING AND RESPECT DIMENSION	16.99 (4.25)	2.67	16.94(4.24)	2.61
Teaching in a clear way	4.31	.93	4.30	.91
Possessing a deep knowledge of the subject	4.31	.88	4.36	.83
Being intelligent	4.05	.97	3.96	.99
Being respectful with students	4.32	.88	4.32	.86
GENDER OF THE TEACHER DIMENSION	2.78 (1.39)	1.79	2.74(1.37)	1.74

Being a woman	1.38	.91	1.37	.90
Being a man	1.40	.93	1.36	.88
CHARACTER, DEMAND AND	12.72			
EXPERIENCE DIMENSION	(3.18)	3.08	12.94(3.24)	2.86
Possessing much professional experience	3.78	1.13	3.86	1.18
Having a strong character	2.92	1.09	2.93	1.12
Teaching an important subject	3.24	1.43	3.29	1.39
Applying sanctions relentlessly	2.78	1.23	2.86	1.20

Appendix B. Figures

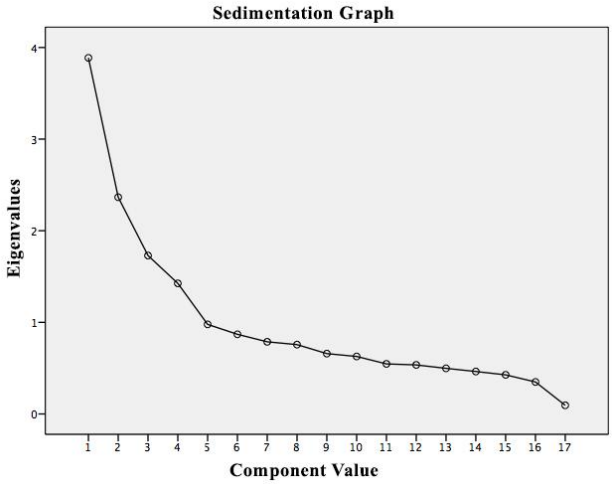

Figure 1. Sedimentation Graph for the selection of factors

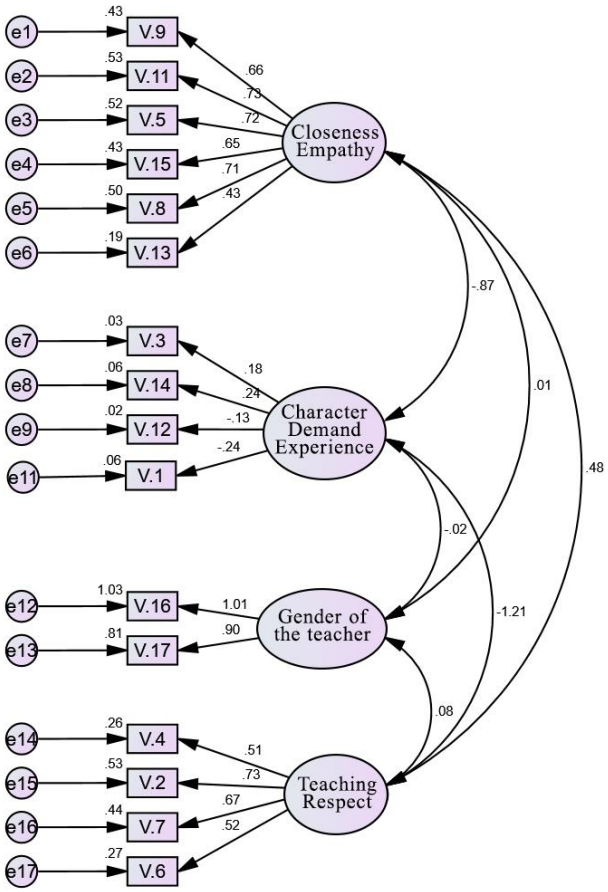

Figure 2. Four-factor correlated model of ESAPA