

TEACHING COMPETENCES IN SECONDARY EDUCATION. ANALYSIS OF TEACHERS' PROFILES

[*Competencias docentes en secundaria. Análisis de perfiles de profesorado*]

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Abstract

This paper reports some of the findings from a study that aimed to analyse the importance attributed by secondary education teachers from the province of Castellon (Spain) to teaching competencies and to establish professional profiles from their responses. The survey was based on a purposely designed questionnaire answered by a representative sample of 136 secondary teachers from Castellon, representing 23 school departments. From an analysis of the responses we identified three professional profiles based on the importance that teachers attribute to a range of competencies; although all the competencies were valued highly, we found that teachers still consider the traditional delivery of knowledge to be the most relevant competency.

Keywords

Teaching competences, Secondary Education, teacher profile, 21st century education, multivariate analysis.

Resumen

En el presente trabajo se muestran los resultados de una investigación cuyo objetivo ha sido analizar la importancia que el profesorado de secundaria de la provincia de Castellón otorga a las competencias docentes y determinar los perfiles profesionales en función de las respuestas dadas. La investigación llevada a cabo se ha basado en un estudio de encuesta, cuyo cuestionario ha sido aplicado a una muestra representativa de 136 profesores de secundaria de Castellón, integrado por 23 departamentos didácticos. Los resultados obtenidos han permitido caracterizar tres perfiles profesionales en función de la importancia otorgada a las competencias y, si bien todas ellas han sido valoradas de manera elevada, se aprecia que se sigue confirmando mayor relevancia a la transmisión tradicional de conocimientos.

Descriptores

Competencias docentes, Educación Secundaria, perfil docente, educación siglo XXI, análisis multivariado.

The teacher's role in the context of educational requirements in the twenty-first century

Concerns about what teachers should be like, how they should act, and what characteristics they should have as professionals are questions that still remain open and are not easily defined. As Carbonell (2008) suggests, this is a diverse, heterogeneous, contradictory and changing professional group.

However, most experts agree that the role of teachers has changed, as they are no longer the main mediator of knowledge (Gimeno, 2012). One of the dilemmas facing teachers today is therefore that their traditional role, based on the routine transmission of knowledge, appears to be insufficient to meet current and future educational demands.

Clearly, classroom teaching is very different now from what it was thirty years ago. Firstly, the processes of change in the educational and

social landscape in recent decades (heterogeneity of students, extension of compulsory education, loss of authority, increased conflict, incorporation of ICT, democratised access to information, among others) have led to a real revolution in education that has modified the objectives, ways of working and the very essence of the educational system (Esteve, 2003).

Furthermore, various reports (Hernández, 2006) explain that the poor scores of Spanish students in the OECD PISA tests are due, in part, to the fact that they are not taught to *use what they have learned in routine everyday life situations* (Rico, 2005:13). In other words, what they learn is useful for passing exams and obtaining qualifications, *but not for acting as informed, reflective citizens and intelligent consumers* (Rico, 2005:15), which is what the PISA tests inquire into and is required in today's context.

In today's information society, marked by rapid social change, it is particularly important to develop students' skills and attitudes to learning throughout life (Aspin *et al.*, 2001; Knapper and Cropley, 2000; Herrera, Lorenzo and Rodríguez, 2008) in new and increasingly uncertain situations. Thus, according to a recent OECD report (2012) on education in the twenty-first century, the importance of preparing students to be creative, think critically, solve problems, use tools for communication and collaboration, be socially responsible, and so forth, implies that teachers must abandon their traditional role of simply transmitting knowledge.

This context suggests that teachers should be given a new role incorporating new professional competencies in order to be successful in their teaching tasks (Vaello, 2009) and not merely be a "teacher of" a particular subject (Bolívar, 2007) in order to face this new situation (Esteve, Franco and Vera, 1995).

Professional competencies of secondary school teachers

Various authors (Mulder, Weigel and Collins, 2006) consider what we now know as professional competency to have its origins in the business context, in light of the growing research interest in non-cognitive and personality variables based on the work of David McClelland (1973). According to this author, the best performers are differentiated by a set of characteristics related not to the traditional concept of intelligence, but rather to personality traits, stable motivation or personal values, reflected in thoughts, emotions and behaviours.

The literature on the concept of competency reflects a great diversity in terminology (Barragán and Buzón, 2004). It is therefore no easy task to identify one unambiguous and widely shared definition. However, our contribution in this paper is to synthesise the common features taken from the definitions by several authors (Bisquerra, 2002; Le Boterf, 1995; Pereda and Berrocal, 1999; Repetto and Pérez-González, 2007; Zabalza, 2003) as follows:

- They are personal characteristics or attributes: knowledge, skills, aptitudes, character traits, self concepts.
- They are related to interventions that produce successful results. They are therefore manifested in action.
- They achieve results in different contexts and, consequently, they are not stable characteristics.
- They are transferable in that the subject can apply them to any activity, sector or function.
- They can be cultivated and developed through training programmes.

In addition, reflections on competencies specific to teachers have been gaining momentum in recent years. The UNESCO report on education for the twenty-first century, chaired by Jacques Delors (1996), highlighted the need to develop competencies in the field of educa-

tion. The report states that the mission of education in the current reality should be organised around four pillars of learning professional and social competencies throughout a person's life: learning to know, learning to do, learning to live together and learning to be.

Another prominent author, Perrenoud (2001), emphasises the idea that the objectives of the educational system cannot easily be separated from the competencies required of teachers:

[...] the figure of the teacher varies according to whether what is desired in a school is to develop autonomy or conformity, openness to the world or nationalism, tolerance of or contempt for other cultures, inclination towards intellectual risk or demand for certainty, a spirit of inquiry or dogmatism, a sense of cooperation or competition, solidarity or individualism (p. 80).

In a later work, Perrenoud (2004) puts forward ten competencies for teachers, the ability to: 1) organise and stimulate learning situations; 2) manage the progress of learning; 3) develop and take forward devices for differentiation; 4) engage students in their learning and their work; 5) work in teams; 6) participate in the management of the school; 7) inform and engage parents; 8) use new technologies; 9) tackle the ethical dilemmas and duties of the profession; and finally 10) organise their own continuing professional development.

Zabalza (2007) also refers to the competencies teachers should have in the twenty-first century. While broadly coinciding with Perrenoud (2004), he adds others such as the ability to communicate and interact with students and to reflect on and research into teaching.

Sarramona (2007) explains that teachers' competencies should include not only technical, but also social and ethical aspects, implying that *professional problems should be solved with a critical and constructive attitude* (p.35). He also makes what we consider to be

a very useful contribution, namely that reflection and putting reflections into practice should be used to set both initial and ongoing teacher training targets.

For their part, Monereo and Pozo (2007) define four areas of competencies: educational (managing knowledge and learning), professional (access to employment and effectiveness as a worker), community (education in living together and interpersonal relations) and personal (self-esteem and emotional control).

Finally, the work of Tribó (2008) is particularly noteworthy, as it provides a thorough and unifying proposal on the competencies of secondary school teachers, and it is the proposal we selected for the purposes of our research. First, it is grounded on the contributions from seminal literature such as the aforementioned UNESCO report (1996), or the 'Tuning Educational Structures in Europe' report (González & Wagenaar, 2003), both of which represent significant groups of education experts and professionals; secondly, it adapts Monereo and Pozo's (2007) proposal and its approach is consistent with contributions from other authors (Coll, 2007; De Miguel, 2005; Echevarría, 2002).

This author defines the areas of competency of a secondary school teacher as subject competency (learning to know), methodological competency (learning to do), social competency (learning to live together) and personal competency (learning to be).

Tribó (2008) considers a secondary school teacher to be competent when s/he knows hows to simultaneously interrelate and coordinate knowledge from the four areas defined above, in order to apply them holistically to a particular professional situation, and has acquired the skill to transfer the knowledge of this competency to new knowledge situations.

The importance of competencies in teaching praxis: learning to know, learning to do, learning to live together and learning to be

Having presented the conceptual definition of the term competency, both at a general level and specifically referring to secondary school teachers, we now turn to the question of why it is important for teachers to have the specific competencies in these four areas (namely, learning to know, learning to do, learning to live together and learning to be) as defined by Tribó (2008). While the discussion is broad, it seems appropriate to at least mention the most important aspects according to Tribó's taxonomy.

Concerning competencies related to *learning to know*, the teacher must be a facilitator of learning (Torrego, 2008) and guide the acquisition of increasingly complex and broad subject matter, while placing the learner at the centre of the teaching-learning process (Martínez-Clares, Martínez-Juárez and Muñoz-Cantero, 2008). However, as Coll (2007:20) points out, *it is not enough to acquire knowledge, retain it and memorise it*. In other words, teachers cannot limit their activity to transmitting knowledge (traditional role) because knowledge is increasingly available to students through a range of media in today's information society, and, consequently, teachers are no longer the only source of knowledge. They should therefore also be trained to use tools for the treatment of information and knowledge management (Gairín, 2007; Vaello, 2009).

As for *learning to do* competencies, when a teacher does not have sufficient methodological skills, general classroom management is difficult, the expected development of the activity is curtailed and it can therefore hamper (or impede) learning. Teachers must therefore show leadership in class, as moderators of discipline and facilitators of good relationships (Torrego, 2008). In this vein, teachers should have the mechanisms and strategies that enable them to create an educational climate in the

classroom, thus guiding work in the classroom and managing this climate (Fontana, 1995). They have to integrate students' behaviours, facilitate communication and interaction, take diversity into account when planning activities, integrate ICT, promote authority, communicate in more than one language, and so on.

As regards the *learning to live together* competencies, new school and educational institution structures demand greater interpersonal interaction, which can only be achieved through cooperative and non-individualistic attitudes. The fact that teaching is an inherently social activity (Vaello, 2009) means that teachers do not work in isolation, but have to relate to different members of the educational community (students, families, other professionals, and so on), and build links with them. In their work, they must therefore have the skills to interact and collaborate with others in a communicative and constructive way (Tejada, 2009) and have an ethical and respectful approach to regulations.

Moreover, a pluricultural society requires teachers who are not only able to live harmoniously with social diversity, but also draw on its richness to build open schools and societies (Monereo and Pozo, 2007).

Finally, *learning to be* competencies are crucial to personal interactions in schools. This dimension implies that teachers should be in control of their own emotions and know how to interpret the feelings of others and act accordingly, with empathy and reciprocity (Ortega, 2007).

We have already mentioned that teaching takes place in interactive contexts, and as such the emotions and attitudes transmitted implicitly play an essential role. Firstly, teachers should generate 'positive emotions' and high self-esteem in their students, both of which are essential to their development (Avia, 2007). Secondly, teachers' own emotional states and the effectiveness of their work should also be kept in mind (Abarca, Marzo and Sala, 2002).

Indeed, imbalances among these personal competencies frequently lead to insomnia, stress, absenteeism or burnout (Extremera, Durán and Rey, 2010; Silvero, 2007). As Vaello (2009:15) points out, *in the past emotional competencies were recommendable (to be a good teacher); today, they are necessary (to be a teacher)*.

Objectives

In view of the importance of these competencies in developing professional teachers and their influence on students' personalities and teachers' well-being, our objective is to determine how important teachers now perceive them to be, and to identify professional profiles based on these perceptions.

The specific objectives of this paper are as follows:

1. To identify the importance that teachers in Castellon attribute to teaching competencies.
2. To determine whether any teacher profiles emerge from their evaluation of these competencies, taking a multivariate perspective.
3. To classify these profiles according to the personal and contextual variables considered in the study.

Method

Sample

The project was led by the Universitat Jaume I in collaboration with Castellon CEFIRE (*Centro de Formación, Innovación y Recursos Educativos*, i.e., Centre for Training, Innovation and Educational Resources) and addressed to secondary school teachers from the province and city of Castellon (N=2000 approx.) from all teaching departments in compulsory and post-compulsory secondary education, vocational training and language schools (for the sake of simplicity, we use the generic term 'secondary' to cover all these institutions). For the analysis we grouped subject departments into specialties (reducing 23 departments into 9 subject areas), following the classification criteria used in the Master's in Teacher Training at the Universitat Jaume I (see Table 2).

The sample included teachers from as wide an age range as possible and with varying years of teaching experience. To this end we sought the collaboration of Castellon CEFIRE to distribute the questionnaire among secondary teachers. The sample is significant at 95% with a sampling error of 8%.

The results of our study are based on 136 responses (on paper or electronic, depending on each institution) to the questionnaire, during the period April to June 2012. Random sampling was used to select the teachers. Descriptive statistics are provided in the tables below (Tables 1 and 2).

Table 1. Sample distribution according to personal variables

Variable	N	Mean	Min.	Max.	SD	CV
Age	135	46.22	27.00	62.00	7.35	15.90
Years of teaching experience	134	17.12	1.00	37.00	8.17	47.74

Number of responses (N), mean value (Mean), minimum value (Min.), maximum value (Max.), standard deviation (S.D) and coefficient of variance (CV)

Table 2. Sample distribution according to contextual variables

Variable	Description	%	N
Subject Department	Experimental Sciences and Technology	39.71	Total: 54 Biology-Geology (20), Physics-Chemistry (19), Natural Sciences (5), Technology (5), IT (4) and Electronics (1)
	Languages	22.06	Total: 30 Spanish (10), English (9), Valencian (7), Spanish as a second language (2), Arabic (1) and French (1)
	Mathematics	10.29	Total: 14 Mathematics (14)
	Educational Guidance	8.09	Total: 11 Educational Guidance (11)
	Social Sciences and Humanities	6.62	Total: 9 Social Sciences (4), Economics (1), History (1) and Philosophy (3)
	Administrative vocational training	2.21	Total: 3 Administration and management (2) and Vocational training and guidance (1)
	Drawing	1.47	Total: 2 Drawing (2)
	Physical Education	0.74	Total: 1 Physical Education (1)
	Music	0.74	Total: 1 Music (1)
	<i>Blank responses</i>	8.09	Blank (11)
Level	Secondary school (compulsory education)	47.17	100
	Secondary school (post-compulsory education)	41.51	88
	Vocational Training	7.55	16
	Official Language School	3.77	8
Location and size of school/institution	Castellon city	45.58	Total: 62 Large (36), medium (24), small (2)
	Province (coastal)	38.24	Total: 52 Large (5), medium (40), small (7)
	Province (inland)	16.18	Total: 22 Large (4), medium (9), small (9)

Percentage (%) and number of responses (N)

Instrument

Descriptive survey methodology was used, for which we developed a purposely designed questionnaire to collect the data, adapted from Tribó's (2008) proposal as shown in Table 3. The first section consisted of six questions about the teachers' contextual and personal variables; the second section contained 44 questions related to competencies under the headings of subject competency (Cronbach's

alpha=0.67), methodological competency (Cronbach's alpha=0.92), social competency (Cronbach's alpha=0.85) and personal competency (Cronbach's alpha=0.81). Responses were made on a Likert-type scale (0 = not at all important and 3 = very important). The questionnaire was distributed, with the collaboration of the CEFIRE in Castellon, in paper and digital formats.

Table 3. Classification of competencies according to Tribó (2008)

<p>Subject or scientific competencies <i>Learning to know area</i> Includes: theoretical knowledge about the subject, teaching, pedagogy-psychology, ICT and languages</p>
<p>Methodological or technical competencies <i>Learning to do area</i> Includes: classroom management, teamwork techniques, attention to diversity, conflict resolution, didactic planning, evaluation and use of ICT.</p>
<p>Social or participatory competencies <i>Learning to live together area</i> Includes: attitudes of collaboration in the educational community, teamwork, coordination, tutorial work, respect for regulations and educational research.</p>
<p>Personal, inter-personal or intra-personal competencies <i>Learning to be area.</i> Includes: attitudes of emotional control, decision making, taking on duties and responsibilities, educating in values</p>

Source: the authors, based on proposals by Tribó (2008)

Analysis and discussion of results

We now describe the results of the study after processing responses to the questionnaire using the SPSS 19.0 statistical software package for Windows and Microsoft Excel. The study objectives are dealt with in turn. We first calculated the basic descriptive statistics (mean, standard deviation and coefficient of variance) for the first objective, namely, description of perceived importance. For the second objective, analysis of the teachers' profiles, we used k-means cluster analysis (Q-cluster). Finally, we used the Chi-squared coefficient to classify the profiles (objective 3) resulting from the personal and contextual variables.

Description of the importance attributed to competencies

We based the description of the importance teachers attributed to the competencies on the descriptive indicators obtained (Table 4).

The following evaluation scale, based on the Likert scale used in the questionnaire, was used to interpret the mean value (Table 5):

Table 5. Valuation scale of the scores

Score	Level of importance
[0 - 0.50]	Very low
[0.51 - 1.00]	Low
[1.01 - 1.50]	Medium-low
[1.51 - 2.00]	Medium-high
[2.01 - 2.50]	High
[2.51 - 3.00]	Very high

The mean obtained from the total sample (in all the items) is around 2.50, showing that, in general, teachers' perceptions of the importance of these competencies are high.

The responses are also very homogenous, as seen from the standard deviation and coefficient of variance (0.57 and 23.68%, respectively).

The personal competencies group, associated with the teachers' psychological traits, obtained the highest score (mean=2.68, SD=0.32), followed in importance by subject competencies (mean=2.50, SD=0.30), methodological competencies (mean=2.48, SD=0.40) and social competencies (mean=2.40, SD=0.42).

Table 4. Basic descriptive statistics for the competency items

Item	N	Mean	SD	CV
1. Subject competencies (learning to know)	136	2.50	0.30	12.12
1.1. Knowing the content of my subject	136	2.93	0.28	9.49
1.2. Being up to date with innovations in the subject	135	2.79	0.43	15.41
1.3. Knowing the history and development of the subject I teach	135	2.32	0.70	30.09
1.4. Knowing how to transfer my knowledge so students learn	135	2.96	0.23	7.64
1.5. Knowing how to plan and organise content	136	2.87	0.33	11.57
1.6. Being trained in pedagogy and psychology for young people	135	2.25	0.77	34.22
1.7. Knowing about innovative educational strategies	135	2.42	0.66	27.40
1.8. Knowing about ICT (new technologies, Internet)	135	2.50	0.56	22.32
1.9. Having a high level of linguistic competence in official languages	136	2.35	0.71	30.00
1.10. Knowing a foreign language well enough to teach (English)	134	1.58	0.89	56.14
2. Methodological competencies (learning to do)	136	2.48	0.40	16.03
2.1. Managing the classroom climate (working atmosphere, confidence, etc.)	135	2.89	0.32	10.90
2.2. Applying strategies enabling students to work in groups	135	2.30	0.72	31.48
2.3. Fostering dynamics for class cohesion	136	2.49	0.63	25.38
2.4. Responding to problems of diversity in the classroom	133	2.57	0.54	21.05
2.5. Developing initiatives for students with education needs	132	2.37	0.62	26.29
2.6. Knowing how to resolve conflict in the classroom	133	2.78	0.41	14.89
2.7. Holding tutorials and being able to give academic and professional guidance	134	2.37	0.66	27.72
2.8. Introducing improvements after reflecting on my practices	136	2.72	0.50	18.27
2.9. Proficiency in verbal and non-verbal communication competencies	133	2.67	0.57	21.50
2.10. Using various student evaluation techniques and systems	135	2.44	0.57	23.32
2.11. Exploring students' previous knowledge with initial evaluation	132	2.23	0.72	32.24
2.12. Following up students' learning levels	132	2.49	0.59	23.53
2.13. Using evaluation as a tool to improve learning	135	2.47	0.64	26.07
2.14. Designing teaching programmes	135	2.19	0.71	32.60
2.15. being able to prepare teaching materials	136	2.46	0.70	28.37
2.16. Being proficient in ICT for use as a classroom resource	135	2.40	0.61	25.54
2.17. Educating students in technological information and communication	135	2.31	0.64	27.71
3. Social competencies (learning to live together)	136	2.40	0.42	17.31
3.1. Stimulating students to formulate rules for living together	135	2.50	0.58	23.36
3.2. Strengthening students' attitudes of critical citizenship	135	2.57	0.61	23.54
3.3. Having an attitude of collaboration with the educational community	134	2.54	0.56	21.93
3.4. Working in teams with other professionals	135	2.47	0.60	24.13
3.5. Participating in school/institutional projects	134	2.24	0.66	29.55
3.6. Facilitating communication with students and families	134	2.54	0.58	22.99
3.7. Respecting and being able to apply education system regulations	136	2.39	0.65	27.03
3.8. Fostering the school's relationship with agents in the community	132	2.27	0.65	28.72
3.9. Participating in educational research projects	136	2.10	0.69	32.71
4. Personal competencies (learning to be)	136	2.68	0.32	11.98
4.1. Knowing myself and my capabilities well	136	2.68	0.53	19.63
4.2. Knowing how to take decisions individually	135	2.70	0.51	18.81
4.3. Taking on responsibilities in the school, if necessary	134	2.41	0.60	25.02
4.4. Fostering a climate of respect and freedom of expression	133	2.83	0.40	14.10
4.5. Having self-control and being emotionally balanced, resisting frustration	136	2.83	0.38	13.29
4.6. Teaching students values (and being aware of them)	136	2.74	0.47	17.19
4.7. Recognising the need for continuing professional development	136	2.64	0.53	19.92
4.8. Showing capability for relationships and communicating	136	2.64	0.50	18.83
Total		2.50	0.57	23.68

Number of responses (N), mean value (Mean), standard deviation (S.D) and coefficient of variance (CV)

However, if we turn to the individual competency level, the item teachers value most highly is the ability to transmit knowledge (item 1.4) (mean=2.96 SD=0.23), while the least valued

item is knowledge of a foreign language (item 1.10) (mean=1.58 SD=0.89).

Also of note are the low scores obtained for some key competencies for the twenty-first century (OECD, 2012), such as digital competence (items 2.16 and 2.17) and attention to diversity (items 1.6 and 2.5). Although the mean absolute value is high (ranging from 2.01 to 2.50), they were rated as less important than some traditional aspects of teaching subject content (items. 1.1, 1.2 and 1.4, are the most notable examples).

Analysis of teacher profiles based on evaluation of competencies, from a multivariate perspective

We performed a multivariate study using cluster analysis (Q-cluster), taking the mean values of the questionnaire's dimensions as grouping variables, to analyse whether different patterns emerged in the way the competencies were evaluated.

Three significantly different clusters were obtained (Tables 6 and 7) in all the factors ($\alpha=0.01$).

Table 6. Cluster analysis (profiles)

Competencies	Profiles		
	1 (High)	2 (Medium)	3 (Low)
Learning to know	2.74	2.39	2.18
Learning to do	2.84	2.35	1.91
Learning to live together	2.77	2.28	1.79
Learning to be	2.91	2.63	2.25

Table 7. ANOVA

Competencies	Cluster		Error		F	Sig.
	Root mean square	d.f.	Root mean square	d.f.		
Learning to know	3.061	2	.047	133	64.772	.000
Learning to do	7.948	2	.041	133	193.849	.000
Learning to live together	8.650	2	.045	133	191.075	.000
Learning to be	3.790	2	.048	133	79.044	.000

Table 8. Descriptive statistics by cluster

Item	Profile 1 (High)		Profile 2 (Medium)		Profile 3 (Low)	
	Mean	SD	Mean	SD	Mean	SD
1. Subject competencies (learning to know)						
1.1. Knowing the content of my subject	3.00	0.00	2.88	0.40	2.94	0.24
1.2. Being up to date with innovations in the subject	2.92	0.27	2.68	0.53	2.61	0.50
1.3. Knowing the history and development of the subject I teach	2.54	0.64	2.23	0.66	2.00	0.77
1.4. Knowing how to transfer my knowledge so students learn	3.00	0.00	2.93	0.35	2.89	0.32
1.5. Knowing how to plan and organise content	3.00	0.00	2.85	0.36	2.39	0.50
1.6. Being trained in pedagogy and psychology for young people	2.72	0.51	2.10	0.67	1.67	0.60
1.7. Knowing about innovative educational strategies	2.77	0.43	2.28	0.60	1.72	0.57
1.8. Knowing about ICT (new technologies, Internet)	2.72	0.46	2.25	0.63	2.28	0.46
1.9. Having a high level of linguistic competence in official languages	2.69	0.52	2.13	0.65	2.06	0.80
1.10. Knowing a foreign language well enough to teach (English)	1.74	0.94	1.27	0.71	1.39	0.85

Table 8. Descriptive statistics by cluster (continued)

Item	Profile 1 (High)		Profile 2 (Medium)		Profile 3 (Low)	
	Mean	SD	Mean	SD	Mean	SD
2. Methodological competencies (learning to do)						
2.1. Managing the classroom climate (working atmosphere, confidence, etc.)	3.00	0.00	2.83	0.38	2.67	0.48
2.2. Applying strategies enabling students to work in groups	2.77	0.48	1.90	0.59	1.61	0.78
2.3. Fostering dynamics for class cohesion	2.92	0.35	2.25	0.49	1.72	0.57
2.4. Responding to problems of diversity in the classroom	2.92	0.27	2.35	0.48	2.06	0.54
2.5. Developing initiatives for students with education needs	2.69	0.52	2.23	0.42	1.67	0.60
2.6. Knowing how to resolve conflict in the classroom	2.97	0.16	2.73	0.45	2.44	0.51
2.7. Holding tutorials and being able to give academic and professional guidance	2.79	0.41	2.15	0.53	1.72	0.57
2.8. Introducing improvements after reflecting on my practices	2.95	0.22	2.68	0.47	2.11	0.58
2.9. Proficiency in verbal and non-verbal communication competencies	2.95	0.22	2.50	0.60	2.17	0.79
2.10. Using various student evaluation techniques and systems	2.74	0.44	2.17	0.55	1.94	0.42
2.11. Exploring students' previous knowledge with initial evaluation	2.69	0.47	1.88	0.56	1.61	0.78
2.12. Following up students' learning levels	2.79	0.41	2.35	0.48	1.78	0.65
2.13. Using evaluation as a tool to improve learning	2.82	0.39	2.33	0.53	1.67	0.77
2.14. Designing teaching programmes	2.51	0.64	2.15	0.58	1.50	0.51
2.15. Being able to prepare teaching materials	2.69	0.47	2.50	0.55	1.94	0.99
2.16. Being proficient in ICT for use as a classroom resource	2.74	0.50	2.10	0.54	2.11	0.58
2.17. Educating students in technological information and communication	2.67	0.48	2.00	0.51	1.94	0.54
3. Social competencies (learning to live together)						
3.1. Stimulating students to formulate rules for living together	2.85	0.37	2.35	0.48	2.17	0.62
3.2. Strengthening students' attitudes of critical citizenship	2.87	0.34	2.65	0.53	1.89	0.47
3.3. Having an attitude of collaboration with the educational community	2.87	0.34	2.40	0.50	1.89	0.47
3.4. Working in teams with other professionals	2.87	0.34	2.25	0.54	1.94	0.64
3.5. Participating in school/institutional projects	2.64	0.49	2.10	0.59	1.44	0.51
3.6. Facilitating communication with students and families	2.92	0.27	2.35	0.53	2.06	0.54
3.7. Respecting and being able to apply education system regulations	2.67	0.53	2.23	0.62	1.94	0.42
3.8. Fostering the school's relationship with agents in the community	2.62	0.54	2.08	0.35	1.50	0.62
3.9. Participating in educational research projects	2.38	0.54	2.10	0.59	1.22	0.65
4. Personal competencies (learning to be)						
4.1. Knowing myself and my capabilities well	2.90	0.31	2.73	0.51	2.11	0.58
4.2. Knowing how to take decisions individually	2.85	0.37	2.68	0.47	2.22	0.65
4.3. Taking on responsibilities in the school, if necessary	2.56	0.50	2.45	0.55	1.72	0.57
4.4. Fostering a climate of respect and freedom of expression	3.00	0.00	2.78	0.48	2.50	0.51
4.5. Having self-control and being emotionally balanced, resisting frustration	3.00	0.00	2.75	0.44	2.56	0.51
4.6. Teaching students values (and being aware of them)	3.00	0.00	2.65	0.48	2.44	0.51
4.7. Recognising the need for continuing professional development	2.87	0.34	2.55	0.55	2.11	0.58
4.8. Showing capability for relationships and communicating	2.90	0.31	2.50	0.51	2.11	0.47

Mean value (Mean), standard deviation (SD)

From this analysis we can distinguish between three teacher profiles, shown (Figure 1) and defined below in light of the evaluations each profile attributed to the individual items:

- High profile: represents 41.91% of the valid responses from 57 cases. This profile corresponds to teachers who attribute the greatest importance to all the competency areas

(mean around 3), of which the *learning to know* variables are the least valued.

Some of the most notable results from the descriptive statistics for this profile (Table 8) are as follows. First, of the *learning to know* items, great importance is attached to having knowledge (item 1.1) as well as knowing how to transfer (item 1.4) and organise (1.5) that knowledge (all with mean=3; SD=0.00). Second, the most highly valued of the methodological competencies is ability to manage the classroom climate (item 2.1, mean=3, SD=0.00). The least valued items in the *learning to live together* group concern relationships with other actors in the educational community (item 3.8; mean=2.62; SD= 0.54) and research into educational practice (item 3.9; mean=2.38; SD= 0.54). In the area of personal characteristics, the relatively low score for leadership and taking on responsibilities is notable in this group (item 4.3, mean=2.56, SD=0.50).

- **Medium Profile:** represents 41.17% of the valid responses received, with 56 cases. This profile corresponds to teachers who, in general, attribute high importance to competencies (mean between 2 and 2.50), especially those related to the teacher's internal or psychological aspects (*learning to be*).

It is noteworthy that this group perceives knowledge of pedagogy and psychology (item 1.6, mean=2.10, SD=0.67) and language competency (item 1 9; mean=2.13,

SD=0.65) to be less important. Of the items from the methodology dimension, they also attach a great deal of importance to managing the classroom climate (item 2.1, mean=2.83, SD=0.38) but significantly less to technological competencies (item 2.16, mean=2.10; SD=0.54). As in the high profile group, relationships with the educational community (item 3.8, mean=2.08, SD=0.35) and educational research (item 3.9, mean=2.10, SD=0.59) are not highly valued. Finally, this group also considers leadership and taking on responsibilities (item 4.3, mean=2.45, SD=0.55) to be less important.

- **Low Profile:** represents 16.92% of the valid responses received, with 23 cases. These are the teachers who attribute the least importance to competencies, (below the overall mean of 2.50), particularly in the social variables (*learning to be*).

The teachers in this profile consider the most important competency in the *learning to know* dimension to be the most traditional aspect, namely, knowledge of the subject (item 1.1, mean=2.94, SD=0.24). Of the *learning to do* items, greater importance is attributed to classroom management (item 2.1, mean=2.65, SD=0.48) than the other competencies in this group. Finally, in the social dimension the most highly valued competency is stimulating students to formulate rules for living together (item 3.1, mean=2.17, SD=0.62).

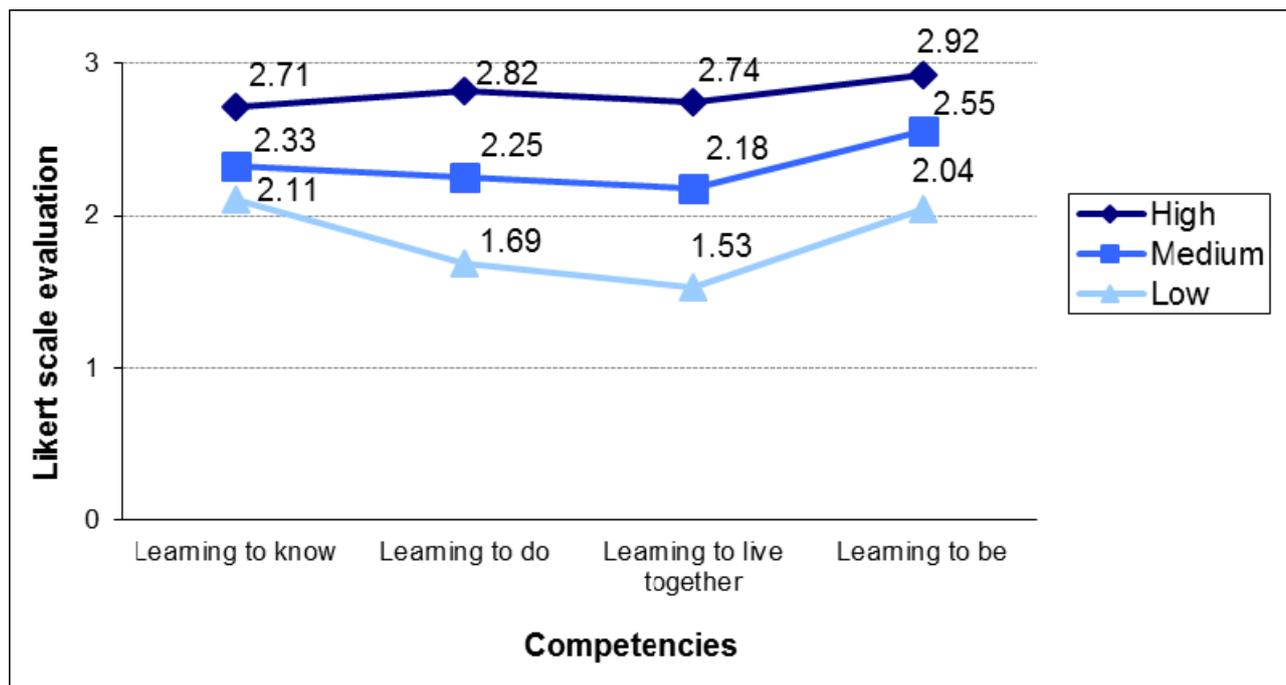


Figure 1. Teacher profiles resulting from the cluster analysis

Characterisation of professional profiles according to personal and contextual variables

Having defined each cluster (profile), we then examined the differences in personal and contextual variables to characterise the profiles. To do this, we calculated contingency tables with Chi-square and likelihood ratio tests (the latter was considered when the observed frequencies were lower than 5) based on the respondent's group or profile and the variable considered.

a) Personal variables

The personal variables included in the study were years of teaching experience and age, grouped into ranges of 5 and 10 years, respectively.

The results reveal no significant differences for any of the variables considered in this section. It therefore appears that personal variables are not relevant to explain differences in the perceived importance of competencies.

b) Contextual variables

The contextual variables considered were the location and size of the school/institution, subject type (basic sciences, arts, applied subjects), the subject department and the level taught.

The statistical analysis revealed no significant differences in any of the variables. However, concerning school/institution size (with a significance level close to 95%), grouped into three ranges according to the number of students, teachers working in larger institutions (over 1,000 students) attribute the most importance to competencies, while those from medium-sized institutions (between 500 and 1,000 students) give the lowest ratings. The importance attributed by teachers in small institutions (fewer than 500 students) was average.

We also conducted a stepwise discriminant analysis to discover the extent to which the questionnaire variables are good predictors for classifying teachers by profiles.

The results show very high discriminatory power of the items, with 89.8% correctly classified. The items that best discriminate between the profiles are listed in the following table (Table 9) and have mean values that in

all cases are ordered from the highest to the lowest rating in the corresponding profile, with the exception of item 1.1, which was rated higher in the low profile than in the medium profile:

Table 9. Items that best discriminate

Sphere	Item
Learning to know	1.1 Knowing the content of my subject
	1.5 Knowing how to plan and organise content
	1.9 Having a high level of linguistic competence in official languages
Learning how to do	2.3 Fostering dynamics for class cohesion
	2.13 Using evaluation as a tool to improve learning
	2.17 Educating students in technological information and communication
Learning to live together	3.1 Stimulating students to formulate rules for living together
	3.2 Strengthening students' attitudes of critical citizenship
	3.4 Working in teams with other professionals
	3.5 Participating in school/institutional projects (Tutorial Action Plan, Quality...)
Learning to be	3.7 Respecting and being able to apply education system regulations
	4.3 Taking on responsibilities in the school, if necessary

These results allow us to deduce the following general characterisation of teachers in the province of Castellon (Table 10):

Table 10. Profiles of secondary teachers in Castellon according to their evaluation of competencies

Profile	Characteristics
High Profile	The largest group. Teachers in this group attach great importance to all competencies, value them more highly than the other groups and attribute the least importance to subject related (<i>learning to know</i>) variables; they tend to work in large schools and institutions.
Medium Profile	The second largest group. These teachers tend to work in small schools and institutions and in general attach great importance to teaching competencies, particularly those related to teachers' psychological aspects (<i>learning to be</i>).
Low Profile	The group with the lowest evaluation of the competencies studied. These teachers perceive competencies related to the social area as the least relevant. A minority group, they mostly work in medium sized schools and institutions.

Conclusions

The overall aim of this study was to analyse the degree of importance that secondary teachers in the province of Castellon attribute to competencies, and to classify teachers in profiles in line with their evaluation of these competencies.

Our first objective was to analyse the teachers' evaluations of competencies from basic descriptive statistics; results indicate that this group considers competencies to be important, although with certain qualifications.

Thus, although personal competencies were the most highly rated as a group, at the individual item level, the most highly rated competency was the ability to transmit knowledge, and the competency with the lowest rating, knowledge of a foreign language. In addition, other core competencies for education in the twenty-first century (ICT, attention to diversity, teamwork, etc.) obtained lower scores than those related to theoretical knowledge.

Such high evaluations for the knowledge-related competencies seems to suggest that the professional profile of teachers today is closer

to the traditional academic or subject specialist model. This conclusion reveals a need to redesign the teacher's role to ensure that teachers are *firmly convinced that teaching is not just transferring knowledge* (Freire, 1997:24). Ultimately, the focus of educational institutions and, therefore, teachers, must be to train competent students (Alonso-Martín, 2010). To do this, teachers have to accompany their students through the teaching-learning process, and find new alternative ways to engage them (Limón et al., 2011) by applying the necessary competencies.

The second and third objectives of our study were to determine whether any differentiating patterns emerged from the teachers' evaluations and, if so, to define them according to the personal and contextual variables included in the questionnaire.

Multivariate analysis uncovered three significantly different teacher profiles. We found, in short, that while some teachers are well aware of the importance of competencies (High Profile), other groups prioritise possession of knowledge over competencies relevant to today's context, such as those relating to methodology or participation in the school (Medium and Low profiles).

These results may be due, at least in part, to inadequate training of secondary teachers; as Esteve (2001:16) notes, *we continue training our secondary teachers to teach impossible classes in schools and educational institutions that no longer exist*.

Thus, bearing in mind what Sarramona (2007) says on the importance of reflecting on teachers' competencies when drawing up training proposals, this study highlights the need for training measures that will raise student teachers' perceptions of the importance of competencies, thus better preparing them and empowering them to meet the new social demands of education (Esteve, 2001).

Further, as we state at the beginning of the article, educating today is not so much about

training in content organised into subjects as preparing for changes in knowledge (learning to know), skills, abilities or procedures (learning to do), feelings and attitudes (learning to live together and learning to be) (Tejada, 2009). Teacher training programmes should therefore be designed to meet these requirements.

In this study we focused on teachers' opinions about the four areas of competencies proposed by Tribó (2008); however we highlight the need for future research since we recognise this to be an ongoing process, open to additional proposals that will enrich it further.

Hence, following Blández's (2000) methodology, we propose a triangulation addressed from two perspectives:

1. **Multiplying methods:** use of data collection techniques, as well as questionnaires, such as personal interviews, focus groups and expert panels on the subject analysed.
2. **Multiplying people:** in addition to teachers' opinions, other agents could be incorporated such as students and their families.

First, students could be involved because they are directly affected by the teacher's actions and are protagonists in the teaching-learning process (Álvarez-Rojo et al., 2011). They are direct witnesses to teachers' work, are in daily contact with them, and their expectations about what, how and why to learn lie with their teachers; the response they receive to these questions therefore impacts their performance and behaviour in one way or another.

Second, families place their trust in the school and its responsibility for providing their children with quality education (Cardús, 2007). For parents, this quality is achieved, in part, by an education system with teachers who are trained in and possess certain professional competencies that they apply in the right way in their children's classrooms.

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ANNEX 1

Questionnaire

TEACHING COMPETENCES QUESTIONNAIRE

The following questionnaire is designed to find out your opinions on the competencies you consider important for secondary teachers, a line of inquiry explored by students on the Teacher Training Master's Degree at the Universitat Jaume I. In this study, competencies refer to knowledge, skills, attitudes and values as a whole.

We would be very grateful if you would complete this short, anonymous questionnaire. We guarantee that your responses will be treated with complete confidentiality.

Thank you for your cooperation

Please provide the following information:

a. Location of your school/institution

- Castellon city.
- Province (coastal)
- Province (inland)

b. School/institution size

- Fewer than 500 students.
- Between 500 and 1000 students.
- More than 1000 students.

c. Teacher of:

- Compulsory secondary education.
- Post-compulsory secondary education.
- Vocational Training.
- Official Language School.

d. Your subject department:

e. Years of teaching experience in secondary education: _____

f. Age: _____

Please indicate the **degree of importance** you attribute to each of the competencies listed below (0=not at all important, and 3=very important).

1. SCIENTIFIC COMPETENCIES (Learning to know)

1.1. Knowing the content of my subject	0	1	2	3
1.2. Being up to date with innovations in the subject	0	1	2	3
1.3. Knowing the history and development of the subject I teach	0	1	2	3
1.4. Knowing how to transfer my knowledge so students learn	0	1	2	3
1.5. Knowing how to plan and organise content	0	1	2	3
1.6. Being trained in pedagogy and psychology for young people	0	1	2	3
1.7. Knowing about innovative educational strategies	0	1	2	3
1.8. Knowing about ICT (new technologies, Internet)	0	1	2	3
1.9. Having a high level of linguistic competence in official languages	0	1	2	3
1.10. Knowing a foreign language well enough to teach (English)	0	1	2	3

2. METHODOLOGICAL COMPETENCIES (Learning to do)

2.1. Managing the classroom climate (working atmosphere, confidence, etc.)	0	1	2	3
2.2. Applying strategies enabling students to work in groups	0	1	2	3
2.3. Fostering dynamics for class cohesion	0	1	2	3
2.4. Responding to problems of diversity in the classroom	0	1	2	3
2.5. Developing initiatives for students with education needs	0	1	2	3
2.6. Knowing how to resolve conflict in the classroom	0	1	2	3
2.7. Holding tutorials and being able to give academic and professional guidance	0	1	2	3
2.8. Introducing improvements after reflecting on my practices	0	1	2	3
2.9. Proficiency in verbal and non-verbal communication competencies	0	1	2	3
2.10. Using various student evaluation techniques and systems	0	1	2	3
2.11. Exploring students' previous knowledge with initial evaluation	0	1	2	3
2.12. Following up students' learning levels	0	1	2	3
2.13. Using evaluation as a tool to improve learning	0	1	2	3
2.14. Designing teaching programmes	0	1	2	3
2.15. Being able to prepare teaching materials	0	1	2	3
2.16. Being proficient in ICT for use as a classroom resource	0	1	2	3
2.17. Educating students in technological information and communication	0	1	2	3

3. SOCIAL COMPETENCIES (Learning to live together)

3.1. Stimulating students to formulate rules for living together	0	1	2	3
3.2. Strengthening students' attitudes of critical citizenship	0	1	2	3
3.3. Having an attitude of collaboration with the educational community	0	1	2	3
3.4. Working in teams with other professionals	0	1	2	3
3.5. Participating in school/institutional projects	0	1	2	3
3.6. Facilitating communication with students and families	0	1	2	3
3.7. Respecting and being able to apply education system regulations	0	1	2	3
3.8. Fostering the school's relationship with agents in the community	0	1	2	3
3.9. Participating in educational research projects	0	1	2	3

4. PERSONAL COMPETENCIES (Learning to be)

4.1. Knowing myself and my capabilities well	0	1	2	3
4.2. Knowing how to take decisions individually	0	1	2	3
4.3. Taking on responsibilities in the school, if necessary	0	1	2	3
4.4. Fostering a climate of respect and freedom of expression	0	1	2	3
4.5. Having self-control and being emotionally balanced, resisting frustration	0	1	2	3
4.6. Teaching students values (and being aware of them)	0	1	2	3
4.7. Recognising the need for continuing professional development	0	1	2	3
4.8. Showing capability for relationships and communicating	0	1	2	3

ANNEX 2

Chi-square test (only significant results)

School/Institution (number of students)

Contingency table

			Profile		
			1	2	3
Size	Fewer than 500 students	Number	4	12	2
		Expected frequency	7.5	7.4	3.0
	Between 500 and 1,000 students	Number	28	30	15
		Expected frequency	30.6	30.1	12.3
	More than 1,000 students	Number	25	14	6
		Expected frequency	18.9	18.5	7.6
Total		Number	57	56	23
		Expected frequency	57.0	56.0	23.0

Chi-square test

	Value	d.f.	Asymptotic significance (bilateral)
Pearson's Chi-square	9.101 ^a	4	.059
Likelihood ratio	8.958	4	.062
N° of valid cases	136		

a. 1 box (11.1%) have an expected frequency of below 5. The minimum expected frequency is 3.04

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Abstract / Resumen	<p><i>This paper reports some of the findings from a study that aimed to analyse the importance attributed by secondary education teachers from the province of Castellon (Spain) to teaching competencies and to establish professional profiles from their responses. The survey was based on a purposely designed questionnaire answered by a representative sample of 136 secondary teachers from Castellon, representing 23 school departments. From an analysis of the responses we identified three professional profiles based on the importance that teachers attribute to a range of competencies; although all the competencies were valued highly, we found that teachers still consider the traditional delivery of knowledge to be the most relevant competency.</i></p> <p>En el presente trabajo se muestran los resultados de una investigación cuyo objetivo ha sido analizar la importancia que el profesorado de secundaria de la provincia de Castellón otorga a las competencias docentes y determinar los perfiles profesionales en función de las respuestas dadas. La investigación llevada a cabo se ha basado en un estudio de encuesta, cuyo cuestionario ha sido aplicado a una muestra representativa de 136 profesores de secundaria de Castellón, integrado por 23 departamentos didácticos. Los resultados obtenidos han permitido caracterizar tres perfiles profesionales en función de la importancia otorgada a las competencias y, si bien todas ellas han sido valoradas de manera elevada, se aprecia que se sigue confiriendo mayor relevancia a la transmisión tradicional de conocimientos.</p>
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