University professor behaviors and academic success in childhood education and primary teacher students

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Título: Comportamientos del profesor universitario y éxito académico de los estudiantes de los grados de maestro de infantil y primaria.
Resumen: Es inquietante la idea de pensar que el profesor puede conseguir que un alumno alcance grandes éxitos o que, por el contrario se hunda académicamente.
Es por ello por lo que se hace necesario explorar los comportamientos de los profesionales de la enseñanza en la Educación superior, desde el punto de vista del alumno, para conocer cuáles son los que ellos consideran que repercutirán de forma positiva en su éxito académico.
Para ello se contó con una muestra de 486 alumnos, pertenecientes a los grados de Maestros de Educación Infantil (199) y Educación Primaria (287) en la Facultad de Educación de Albacete (Universidad de Castilla la Mancha).
Se aplicó un cuestionario (Tuncel, 2009) y mediante un Análisis Factorial exploratorio, aparecieron seis dimensiones a las cuales los alumnos le otorgaron la mayor importancia, siendo estas: "Aptitud emocional de los profesores"; "Interacción profesor-alumno"; "Lograr y conseguir los objetivos de la enseñanza", "Conexión durante la instrucción de la teoría con las practicas"; "Planificación y organización de la docencia"; "Corregir y proporcionar informaciones a los alumnos de sus avances y progresos".
Palabras clave: Comportamiento del profesor; éxito académico; estudiantes de Maestro.

Abstract: It´s disturbing to think about the idea that the teacher can lead a student to achieve great successes or, on the contrary, beat him academically.
It´s for this reason that it´s necessary to explore the behavior of teaching professionals, from the point of view of the student, to know which ones they consider that will impact positively on their academic success.
In order to this, a sample of 486 pupils from grades Primary Education Teachers (199) and Primary (287) in the Faculty of Education of Albacete (University of Castilla La Mancha) Education was analized.
A questionnaire (Tuncel, 2009) (from few questions and the type of response) was applied and, using an Exploratory Factor Analysi, there were found six dimensions to which the students gave the highest importance: "Emotional aptitude of teachers", "Teacher-student interaction", "Achieving the goals of education", "Connecting between teaching of theory and practices ", "Planning and organization of teaching", "Correct and provide information to students about their advance and progress".
Key words: Teacher behavior; academic success; student teacher.

Introduction

Student´s academic performance is an indicator that enables a realistic look at the education of our universities and constitutes a determining factor at the hour of addressing the quality of higher education (Birch and Miller, 2006; Di Gresia, Fazio, Porto, Ripani and Sosa Escudero, 2005; Galan, Gonzalez and Roman, 2012).

However, there are different components of learning that influence said performance (Rodríguez, Fita y Torrado, 2004). One of these components which significantly affects the academic achievement of students is without doubt the performance of the teacher (Jansen and Buinsma, 2005).

It's disturbing to think that a teacher can be responsible for a student attaining great success or academic failure. For this reason there is an ever growing demand inside of the Espacio Europeo de Educacion Superior (EEES) for a change in the strategies of teaching by University teachers. In this regard, apart from the incorporation of the Sistema Europeo de Transerencia de Creditos (ECTS), there is a call for training which is centred on the student and which re-

lates the aims of learning to previous knowledge and integrates theory and practice (Biggs and Tang, 2007; Entwistle, 2007).

There are various studies that advise that teachers should use modern methodologies, centred on the student (Brunner, 2011; Palomares, 2011; Velez Van and Roa, 2005). Although this has always been a current issue it is now being given more importance. Teachers are responsible, among other things, for introducing changes and nuances that adjust the classroom atmosphere, the quality of work and the orientation of the students learning. In their hands rests a great part of the success of educational policies and the study plans. Darling-Hammond (2000) confirms that institutions exercise a small influence in the performance of students but a great part of that substantial difference is attributed to teachers. To that effect the success or failure of the reform of the programme of study in the Espacio Europeo de Educacion Superior is in the hands of teachers (Garcia-Ruiz, 2011). The teacher is considered as a socializing agent whose behaviour influences the students' motivation, their performance and their relationship or dependency with the educational institution (Salonava, Cifre, Grau and Martinez, 2005).

In this context, the role of the teacher as an exponent of contents, transmitter of knowledge and evaluator of that knowledge is changing to a role in which first and foremost

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they stimulate and guide the educational process. The teacher shouldn´t just focus their attention towards what they expect that the student is capable of learning, of doing, and how they can demonstrate what has been learned at the end of the programme (Solano, Frutos, and Carcelen, 2004) The said changes are influenced by the constant changes and new technologies in which we are immersed (Beran and Violato, 2005; Berk, 2005; Chapell and Craft, 2011).

This change should immediately produce as a given that the poor academic performance of students, the excessive amount of time inverted in the study of a title and the abandonment of studies is a common problem in many countries (Garbanzo, 2007). And the economic situation of many European Union countries is bringing changes to universities, given that the public expenditure on Higher Education is not producing the desired results (Martinez and Esteban, 2005).

In this context of change, a greater participation and implication on the process of learning is conferred upon the student. The studies of Stuyyen, Dochy, Janssens and Gielen (2006); Wilson and Fowler (2005) and Baeten, Kyndt, Struyyen and Dochy (2010) advocate the introduction of teaching methods centred on the student. The effect will be precise, as determined by Tunning (2013), the introduction of active methodologies in the classroom.

Specifying and supervising the quality and quantity of the proposed academic activities to learn what is required and to increase the possibilities of success involve the teaching staff as well as university students (Fuentes, 2004). Tejedor and Garcia-Valcarcel (2007) upon resuming the technical level and factors that can determine low university performance of students, pointed out the following factors inherent to the teacher: 1. Pedagogical deficiencies (poor student motivation, lack of clarity in explanations, inappropriate activities, poor use of didactic resources, inadequate evaluation, etc...). 2. Lack of individual treatment of students. 3. Lack of greater dedication to teaching tasks. It´s for these reasons that in the last twenty years, the teaching effectiveness has been measured by the grades awarded to students, by means of scales of the courses received or their teachers (Alaminos and Castejon, 2006; De Juan and Perez-Cañaveras, 2006)

Bloom (1968), four decades ago, confirmed that it is possible for as many as 90% of students to dominate the contents of subject, if and when the teacher finds the means that facilitate the learning of each student and the particular style of learning needed to meet the individual needs of their students. To this effect, the contents should be clearly transmitted and explained the necessary number of times, following the opportune time and strategies. For example, it has been demonstrated that one of the most effective ways to motivate students is by using praise to positively reinforce (Eyre, 2007) as without motivation there is no learning (Pozo, 1999). Allowing students to progress at their own rhythm is beneficial for the success of their final exam (Springer and Pear, 2008).

There are various investigations dedicated to the study of factors that affect the academic performace of university students (Glenn and Galan, 2011). These incorporate a wide variety of possible causes. From personal carácter factors, such as gender, age, economic situation, intellectual aptitude, etc., through to academic factors like previously realized studies or previous achievement, up to the pedagogical factors like educational methodologies or the system of evaluation (De Miguel at al. 2002; Martín del Buey and Romero, 2003; Tejedor and García-Valcárcel, 2007). But there are few studies which focus on the causes of the academic results in the environment of Spanish universities (Marcenado and Navarro, 2003). Some studies confirm that the opinion of students should be taken into account so that academic success can be at its best (Bartual and Poblet, 2009; Check, 1999). It is a given that the improvement of the academic activities of teachers in respect of what students want, could increase the probability of the academic success of said students.

As such, it is necessary to know the variables that affect the perception of the teacher's behaviour that the students consider to have an impact on their academic success, thus allowing the possibility of improving the academic results of university students. In order to reach this point it is vital to elaborate the instruments of measurement that are valid and reliable of the variables studied and group analysed and that student opinion is taken into consideration.

From these analyses the objective of this study was to ascertain which types of teacher behaviour were considered by students, who were studying degrees in Infant and Primary education in the University of Albacete, Faculty of Education, Castilla La Mancha, to have an impact on their academic success.

Method

Participants

486 students participated, including: 199 students from Primary Education Teacher degree, and 287 students from Infant Education Degree, both groups from the Faculty of Education at the Albacete University in Castilla La Mancha (Spain). The said faculty only imparts the two above mentioned qualifications. The age of the participants ranged between 18 and 48 years, with an average age of 21.27 years and a typical deviation of 3.37 presenting a proportion of women of 85.45%.

Instrument

The instrument developed by Tuncel (2009) has been used to determine the types of behaviour by teachers that are viewed as essential by students for their academic success. In said study 100 students from the University of Ankara (Turkey) in the academic year 2004-2005 made a list of teacher behaviour that they thought was crucial for their ac-

ademic success. Based on the lists the investigators created their own list with 48 different types of teacher behaviour. This list was passed to students in the next academic year (2005-2006) at the same university. This time 220 students were asked about teacher behaviour that had influenced their academic success, they had to classify the behaviour as "Important", "Not very important" and "Not at all important".

Procedure

A translation of the questionnaire included in the article (Tuncel, 2009) was carried out, the translation was then guaranteed by a group of experts composed of University Professors from two Spanish Universities. The process followed was that the ítems that did not have an equivalent with the original were analysed by the investigating team and the translators until an adequate expression was arrived at. After, bilingual people realized a valuation of the similarity between the original and Spanish version. Finally, they evaluated the comprehension of all of the used items using a sample group of 25 students. The definitive administration of the questionnaire (Tuncel, 2009) of a total of 48 items was realized collectively in every classroom, during the month of November 2014. At all times it was guaranteed that all information obtained would be treated with total discretion, assuring the anonymity of the participants. It was stated that in no moment would anybody's name appear, and if it did the questionnaire would be abandoned. The completion of the instrument was carried out in approximately 15 minutes in a single sitting. The university students responded on a Likert type scale, each item was divided into three points (3 = "Important", 2 = "Not very important", 3 = "Not at all important").

Data analysis

The first step was a descriptive analysis of the items through absolute and relative frequencies. We decided to continue only with those ítems which students gave the greatest importance to, eliminating all items that obtained less than 50% considering them of little use (Tuncel, 2009). Next a factorial analysis of focal principles was realized to identify the fundamental areas of behaviour extracted from the student information. Only items that had passed the first step were used. They verified the test of Kaiser-Meyer-Olkin (KMO), an index to measure the suitability of the sample, and the spherical proof of Bartlett to determine if the data was suitable for factorial analysis. The rotation varimax method was applied to minimise the number of high charge variables in a factor and to realize the interpretation of factors with greater clarity. The coefficient alfa of Cronbach was evaluated to measure the degree of internal consistency and interrelation between items in the final questionnaire. The same analysis was realised, dividing by degree, but this

time with the confirmed character of the questionnaire structure.

Finally the marks obtained from the questionnaire through averages and standard deviations, for the total sample, as well as for each of the degrees, realizing a comparison between them, through the no parameter test U-de-Mann-Whitney. The same comparison was also realized by gender in order to evaluate possible differences.

Results

In order to elaborate on the exploratory factorial analysis 21 of the 48 behaviours from the original questionnaire (Tuncel, 2009) were used, the ones which contained at least 50% in the category "important", those that did not meet this criterion were eliminated. The works of Berk, (2005); Biggs, (1999); Knight, (2005); Monereo y Pérez Cabani, (1996); Nancy van Note, (2007); Tójar, y Manchado, (1998); Seldin, (2006) and Shulman (1986 y 1987) were taken as a reference.

The conditions were checked in order to realize an factorial analysis of the principle components of the questionnaire, for the total as well as for each of the two courses of study, the results given had a KMO value of 0.86, 0.76 and 0.86 respectively, this indicates that the sample is suitable for the analysis of the principal components of each of the three groups. In the same way the results obtained from the spherical proof of Bartlett ($p < 0.000$) indicated that the variables are correlated and thus suitable for factorial analysis in all the groups.

The Alphas of Cronbach were then calculated for all of the sample group, and for the separate courses of Infant and Primary Education. The value of the combined groups was 0.79, 0.76 for Primary Education and 0.81 for Infant Education in the 21 items, considering all of the values which met the recommendation of George and Mallery (2003).

In table 1, the data presented is that which gave proper values of more than 1 and an accumulation of the explained variance of 61.01% of the entire sample, and includes six areas or factors. The factors which correspond to table 1 are: Factor 1: "Emotional aptitude of the teachers" which represented 16.72% of the explained variance; then Factor 2: "Student-teacher interaction" which represented13.99% of the variance: and Factor 3: "Achieve the teaching objectives" that showed slightly less than 10% of the variance, Factor 4: "Connection of theory and practice during teaching", Factor 5: "Planning and organization of the teaching staff", and Factor 6: "Correct and give information to students of their advances and progress", gave less than 10% of the total explained variance and also corresponded with the factors that contained less items.

A confirmed factorial analysis, as observed in Table 1 was realized using all of data of the courses Teacher of Infant Education and Teacher of Primary Education, separately, obtaining the same factorial structure in each of them, with values of 62.16% of the explained variance for Primary Education, and 64.19% for Infant Education. The first two

factors were those which supplied the most information, equivalent to the global analysis. Table 2 shows the appropriate factor scores of the items of each factor, completely and according to the degree Infant Education and Primary Education.

Table 1. Self values and percentages of the explained variance for the whole questionnaire and by course: Infant Education and Primary Education.

	Total		Primary Education		Infant Education	
	Eigenvalues	% Cumulative variance	Eigenvalues	% Cumulative variance	Eigenvalues	% Cumulative variance
Factor1: Emotional apptitude of teacher	2.461	16.717	1.548	15.753	3.260	20.523
Factor2: Teacher-student interaction	1.890	30.716	1.548	29.778	2.000	35.046
Factor3: Achieve teaching objectives	1.841	39.481	1.548	38.745	1.754	43.397
Factor4: Connecting theory and practical instruction	1.835	48.221	1.548	47.411	1.602	51.028
Factor5: Planning and organization of teaching	1.531	55.512	1.548	54.792	1.408	57.733
Factor6: Correct and provide information to students of their advances and progress	1.154	61.008	1.548	62.162	1.356	64.190

Table 2. Factorial marks of the items of every factor, both the overall total and according to the title of Infant Education and Primary Education.

Effective Teacher Behaviour (*factor scores*)	TOTAL	Primary education	Infant education
Factor 1: Emotional aptitude of teacher			
1. Provide help willingly and voluntarily.	0.728	0.556	0.602
2. Listen attentively to student's questions.	0.698	0.426	0.693
3. Treat students fairly and with equality.	0.611	0.781	0.648
17. Motivate students.	0.474	0.682	0.468
Factor 2: Teacher-student interaction			
11. Give time at the end of class for questions.	0.608	0.719	0.683
13. Give constructive criticism.	0.514	0.579	0.576
14. Emphathize with students.	0.520	0.612	0.530
15. Ask students to use suitable language when they speak or write.	0.798	0.708	0.753
Factor 3: Achieve teaching objectives			
5. Present information in a logical manner.	0.450	0.638	0.561
6. Set objective exams.	0.505	0.446	0.608
16. Mark and give results to students as quickly as possible.	0.618	0.647	0.620
23. Have a break in classes of two hours or more.	0.785	0.752	0.767
Factor 4: Connecting theory and practice during classes			
9. Be professional in what is said and done.	0.629	0.689	0.667
20. Relate the teaching to interests of the degree.	0.418	0.623	0.429
24. Use real examples in class.	0.510	0.511	0.486
Factor 5: Planning and organization of teaching			
4. Set reasonable hand in dates for student projects.	0.411	0.524	0.738
7. Give advance notice of exams.	0.717	0.761	0.571
8. Use slides, hand outs and presentations to teach	0.781	0.464	0.675
Factor 6: Correct and provide information to students of their advances and progress			
29. Revise the previous class before giving the lesson.	0.687	0.575	0.652
33. Write notes on the board whilst teaching.	0.559	0.421	0.554
36. Do practice exams before final exams.	0.593	0.423	0.558

It can be observed that Factor 1 is that which contains the greatest percentage of explained variance, the most important differences in the marks obtained between the courses of Primary Education and Infant Education were the items " Listen attentively to students' questions" and " Motivate students". The first of these obtained a far higher mark from the Infant Education course than the Primary Education course, and the second obtained more relevance in the Primary Education than the Infant Education course.

In factor 2, we observe that the marks are very similar between both teaching courses. It should be noted that the item with the highest mark is "Give time at the end of the class for questions". In factor 3 the stand out ítem is "Set objective exams" that obtained a mark of 0.608 in Infant

Education and 0.446 in Primary Education, being in the last group the item that the least influence had in this factor. In relation to factor 4 the existing difference is underlined in the item "Relate teaching to the interests of the degree", within each of the two courses. In Factor 5 greater differences appear between both courses. In the Primary Education degree the highest marks correspond to the items "Give advance notice of exams", and "Establish reasonable hand in times for projects", while in the Infant Education degree the most valued item was ""Establish reasonable hand in times for projects", followed by the item " Use transparency in teaching".

In factor 6 the marks of the different items from both courses are very similar, although they are higher in Infant

Education than Primary Education, the most important item being "Revise the lesson before giving the class", for both groups.

The range of the average marks and standard deviations for the whole questionnaire, and all of the extracted factors are described in Table 3.

Upon close examination of the data contained in table 3 it is apparent that the average marks are very homogenous for each of the courses, although the highest marks stand out in Infant Education, except in Factor 1, where it is the Primary Education course that has the highest marks, alt-

hough the difference is minimal. The only significant differences are found in Factor 5: "Planning and organization of the teaching staff", in which the averages are 8.09 in the Infant Education course and 7.80 in the Primary Education course. This is consistent with what is seen in table 2 where the greatest differences in the composition of the factors by course.

Finally, in Figure 1, the average marks for each factor are shown by the gender of the students and divided into Infant Education Teacher and in Figure 2 Primary Education Teacher.
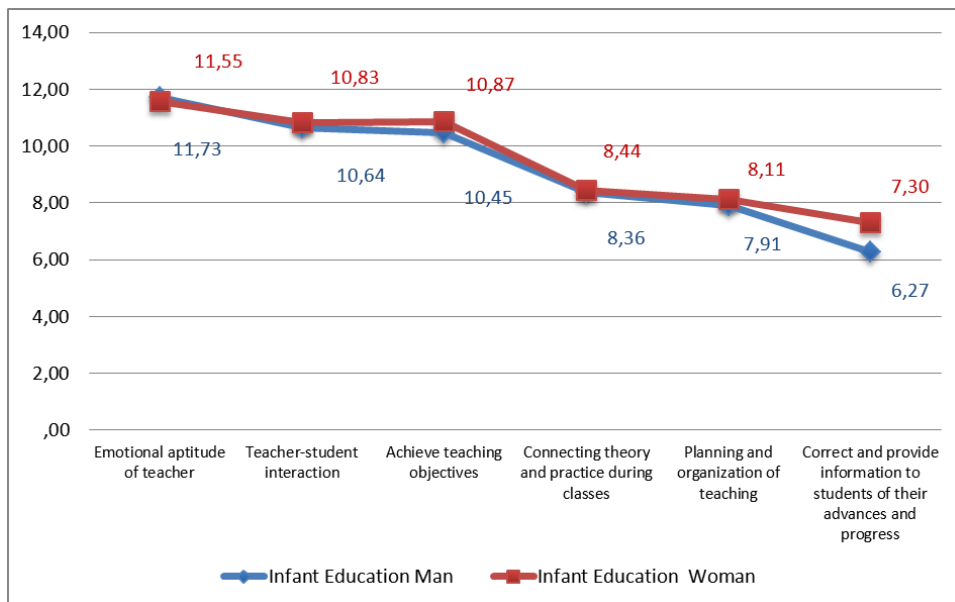

Figure 1. Average marks for each factor shown by the gender of the students and divided into students of Infant Education Teacher.
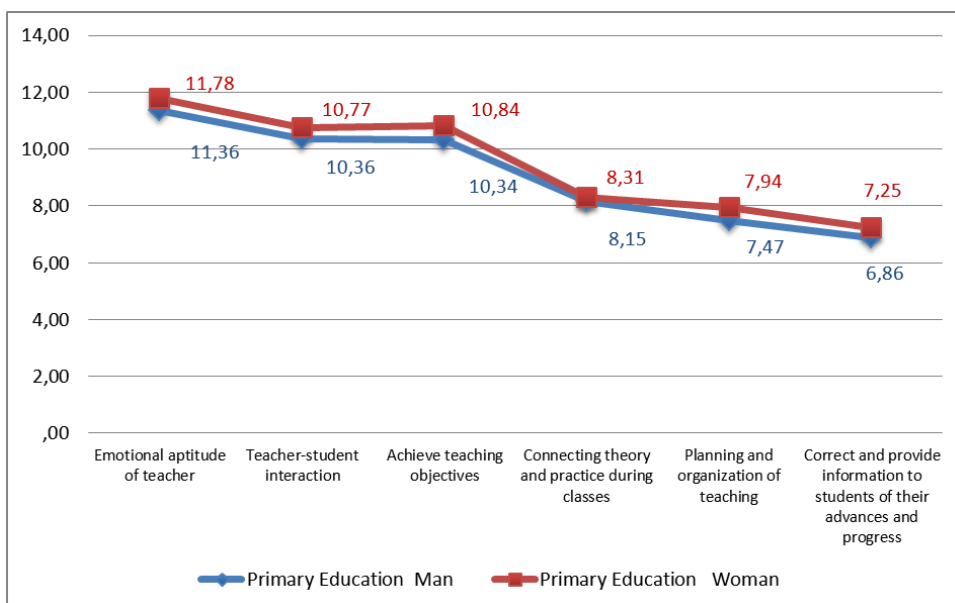

Figure 2. Average marks for each factor shown by the gender of the students and divided into students of Primary Education Teacher.

It can be observed that females always obtain higher average marks although no significant differences are found, as such it cannot be stated that there is a difference in valuation between male and female students.

Discussion

Putting emphasis on the parts previously expressed, the investigation on the success of teaching students demonstrates a grand wealth in lines of study of the teaching staff in higher education. For this reason the final considerations of the present study classify, in part, the academic success of students as a consequence of the behaviour of their teachers in class, and also in the perception of the aforementioned behaviour that the students have on both distinct courses in the same faculty, those being Infant and Primary Education Teacher Degree.

The quality of Higher Education cannot be spoken about without knowing the associated indicators of the academic success of university students. The study realized represents a strategic part, that being the academic exercise of the teachers. Knowing the factors that, according to university students, incite academic success, permits, among other things the possibility of revealing to institutions and teachers academic results and the ability to analyze their incidence in the educational quality that is expected in Higher Education. It can also be used as a tool to help teachers make decisions. This study concludes, from the students' perspective, that teacher behaviour in class is vital and contributes to academic success. This allows the conclusion that there exists the need to toast good practice and that educational orientation is provided to students by their teachers during the implementation phase of the distinct subjects within the course of Infant Education Teacher and Primary Education Teacher.

The task of teaching cannot by itself achieve learning, given that learning is something that occurs in the student and comes conditioned by diverse personal variables of the students that the teachers cannot change (Chappell and Craft, 2011). But, it is also true that the didactic action of the teacher constitutes one of the principal factors which determine the success of the learning that the student realizes (Glenn and Galan, 2011). What is basically being said is that students learn more or less according to the manner that their teacher develops their teaching skills (Zabalza, 2009).

In relation to the behaviour that students value in the present study they coincide, in a certain manner, with the study of Tuncel (2009). In the present study students of the Infant Education Degree give priority to the following teacher behaviour: "Provide help willingly and voluntarily", "Listen attentively to students' questions", "Treat students equally and fairly", and the students of Primary Education give priority to: "Treat students equally and fairly", "Motivate students", and "empathize with students". The students of Infant and Primary Education Degree courses in a similar way give priority to questions such as "Give time at the end of the class for questions", "Ask students to use suitable language in class when they speak or write". It is clear that the commitment of the teacher to the students help them learn these (Castellanos y Garavito, 2007). The factors "Emotional attitude of the teacher" and "Teacher-student interaction" were the most notable. For this reason it is fundamental that in the development of university teaching the teacher should be empathetic with the students (Foote, Vernette, Wisniewski, Agnello and Pagano, 2000; Monganett, 1995). This means that the teacher should be approachable and show a personal interest in their students (Blackledge and Hunt, 1995) and that emotional factors of a teacher are relevant to teaching (Bailey, 1991).

Also, students on the Infant Education Teacher course consider important for their academic success "Give objective exams", and "Mark and give grades to the students as quickly as possible", "Have a break in classes that last for two or more hours" to which students of Primary Education, add "Present information in a logical and sequential manner". To this effect it is relevant for the teacher to know the contents of the subject well and to show enthusiasm for the material that they are teaching and how they teach, and that they take this into account to achieve the objectives of what they are teaching (Check 1999; Patrik, Hilsey and Kempler, 2000). "To be professional as much in what is said as done" and "Relate teaching to the interests of the degree" are two decisive aspects among students of the Infant and Primary Education courses. Students of the Infant Education degree want a greater part of the degree to be practical, which is without doubt connected to the development of artistic skills in the profession, in contrast to the Primary course which requires greater emphasis on theoretical contents for their professional development. A good relation between the instruction of theoretical contents and its connection with the post in practice of said contents is vital in the didactic knowledge of the contents (Tejedor y Garcia-Valcárcel, 2007). In tune with the greater practical demand in the Infant Education Teacher degree "Establish reasonable hand in dates for student projects", "Use slides, handouts and presentations to teach in class" and in the case of the Infant Education course while "Advise of exams in advance", in the case of students from the Primary Education course the questions are different between the courses, to consider teachers in relation to the planning of teaching staff, the organization and sequencing of same and that an effective teacher must dominate their subject (Watzke, 2007), which means linking or applying knowledge from distinct dominions such as content and the didactics of the subjects (Ball, Thames, and Phelps, 2008). "Revise the previous lesson befor giving the class" is another piece of advice that student's from the Infant Education Teacher degree direct to their teachers in order to achieve more academically, which means that students want to learn well the contents of the course (Galán, González y Román, 2012).

An analysis of the function of gender has not been carried out in the study because it is observable that there are not significant differences. However, a more demanding atti-

tude is shown by female students towards suitable teacher behaviour, as they consider that it impacts their academic success. This could be the reason of higher marks in students of Infant Education Degree as there are a greater number of female as opposed to male students in the said course.

Darling-Hammond (2000) confirms that educational institutions exercise a small influence on the success of their students, but a large part of this substantial difference is attributed to their teachers. It is hoped that the results of this study can contribute to the improvement of students' academic success. Abell (2007) and Shulman (2004) confirm that teachers evolve with time and grow with experience and as a consequence of this they produce an improvement in student learning in their classes. It is further hoped that the present study contributes to teacher arriving more quickly at the aforementioned professional growth and know how to treat with success their students whether they are studying Infant Education or Primary Education.

Conclusions

In conclusion this tool allows one to know the indicators associated with the academic success of university students and to know the factors that students perceive to affect them, such as facilitating help to students voluntarily and willingly, that the teacher listens to students' questions at the end of class and answers them, that all students are treated the same, that the teacher motivates the students, that the teacher is empathetic and that the teacher is demanding in class when the student has to use correct terminology. This will allow the best possible academic results.

At the same time this study will allow teachers from the Faculty of Education of University of Albacete, Castilla La Mancha (Spain) to be able to follow the different views of students and compare the results when the tool is used again with the purpose of detecting the factors or items that incite academic success in light of student opinion.

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