

## **Infaliun: A Project to Identify Effective Leadership in Higher Education Faculty and Students**

**Gastón Sanglier Contreras<sup>1</sup>, Aurora Hernández González<sup>2</sup>,  
Inés Serrano Fernández<sup>2</sup>, Carmen B. Martínez Cepa<sup>4</sup> and  
Juan Carlos Zuñ Escobar<sup>5</sup>**

<sup>1</sup>Escuela Politécnica Superior, San Pablo - CEU University, Madrid, Spain

<sup>2</sup> Faculty of Pharmacy, San Pablo - CEU University, Madrid, Spain

<sup>3,4,5</sup> Faculty of Medicine, San Pablo - CEU University, Madrid, Spain

*Corresponding autor:* Gastón Sanglier Contreras, Escuela Politécnica Superior, San Pablo – CEU University, Spain. Tel: +34 91 372 4025

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### **Abstract**

Although the leadership competences of university teachers are important for student learning, most research on leadership and universities focuses on how leadership training is embedded in teaching programmes and formal leadership positions (3). Few studies have been conducted on leadership in teaching itself and in university teaching (1). Furthermore, it is also necessary to know what the students' perspective is on the leadership characteristics of university teachers and what impact they have on them (18).

In order to achieve graduates trained in leadership, as demanded by society and the labour market, it is necessary for university teaching staff to also have these competences.

It is therefore necessary to study the competences and factors related to leadership that university teachers possess. It is also necessary to know what effect they have on the learning and formative development of university students. All of this should make it possible to define valid tools for evaluating their impact.

**Keywords:** effective leadership, teachers, teaching, learning

## **1. Introduction**

Over the last decades, there has been a great evolution in all organisations. Organisations are characterised by highly complex structures, made up of professionals with very different profiles, in order to achieve the required objectives (25). Added to this is the fact that the current environment changes very quickly and is highly volatile. This means that the management of organisations has changed substantially; it is now necessary for the people in charge of managing them and the different work teams that make them up to be capable of adapting to these new situations, being very flexible (4).

The definition of leadership has also evolved in recent years. Traditionally, the concept of leader was associated with a person in a position of power and authority (9,22). However, change in organisations, as well as the need for interdisciplinary work, has led to the emergence of other ways of understanding leadership. Moreover, nowadays, when talking about leadership, not only the leader is taken into account, but also the followers (3).

Although there is no consensus on its definition (6), it can be stated that a leader is "a person who can motivate, empower and inspire a group of people to work together towards a common goal" (13). Therefore, leadership is related to the ability to be able to lead a group or an organisation, obtaining a series of results through the actions carried out by the said team (10).

There are several essential aspects to consider in a leader. Thus, there has been a shift from leadership related to power or charisma, to definitions in which more emphasis is placed on other skills. These include the listening skills of the democratic leader and the management of emotional intelligence, characteristic of the resonant leader (22). Transactional and transformational leadership are particularly interesting. The former is based on the establishment of relationships in the team from agreements based on the mutual benefit of meeting the objectives. In transformational leadership, it is the leader who achieves the commitment of his or her work team through encouragement and his or her own example in carrying out and being involved in the tasks to meet the proposed objective (1,22).

This evolution of the concept of the leader has been accompanied by the realisation that this requires a series of competencies and skills (10). These include both technical competencies in their own individual discipline, as well as competencies related to effective communication, the management of emotional intelligence, the ability to influence others and the organisation, project planning and management, teamwork, self-care, personal and professional development, the achievement of common objectives, etc. (6,13,22).

The University, as a complex organisation whose objective is the training of future professionals, has not been unaffected by this evolution. In addition to being models of efficiency, universities have had to adapt to the new demands of society, the

labour market and the expectations of students (5). For all these reasons, leadership within the university is an important aspect to take into account.

The studies and research collected to date do not seem to have analysed in depth the factors associated with leadership and its impact on university teaching staff, and of these on the students of different university degrees. Under this approach, the general objective of this Project is based on determining which factors associated with effective leadership make the level of teaching staff more efficient and how it affects students in different environments (degree, gender, market demands, etc.). Determining the factors, classifying them, analysing them and seeing the influence on the teaching staff and students will be a prior step to achieving higher quality teaching, focused on improving the Spanish university system.

The specific objectives that have guided this research project are as follows:

1. To develop a methodology to identify possible leadership factors that may be influencing university teaching staff in the development of their teaching activity and to improve it, as well as the students in their performance and learning.
2. To validate the methodology by means of the 'expert opinion' technique, studying the concordance of the answers obtained through surveys.
3. To identify, through the application of Statistical Analysis techniques, the possible relationships of the factors measured and to deduce a mathematical model.
4. To study the consistency of the proposed methodology and provide a package of solutions with a cost-benefit study.

## **2. Methodology and materials**

The CEU San Pablo University and each of the selected sites have made available to the Infaliun Project the documentation and library infrastructures (access to databases and specialised bibliography), the infrastructures related to study work (offices and computers), as well as the fieldwork infrastructures (vehicles and computers). No special equipment has been required in this project, as the field work depends, for the most part, on the availability of funding to be able to carry out the surveys and interviews necessary for the quality and reliability of the subsequent analyses, so most of the budget is related to the field work of each study (teaching staff and students), as well as for the dissemination of the results obtained at congresses. Some computer equipment has been requested for possible field work and data collection in the event of any unforeseen event that may arise.

The basis of the Infaliun project is interdisciplinary, with the participation of specialists in Psychology, Humanities, Physiotherapy and Physics, among others, so specific techniques from each discipline are being used. In addition, all the

participants are prepared to carry out studies and statistical analyses related to different socio-demographic, general and leadership factors in university teaching staff and students, including disabled people in both study samples, due to their high level of training in Statistics subjects and Leadership courses (CCL-Center for Crative Leadership) which they teach in the different Masters and Degrees offered by the CEU-San Pablo University with participation in International Congresses (CIDICO and Latina de Comunicación Social).

The methodology being used is characterised in the first phase by the selection of the different degrees to be studied and by the selection of the samples and identifiers (items) to be applied in the surveys of the teaching staff and students under study. In phase 2, a characterisation of the most important variables of influence on both teaching staff and students has been carried out in terms of socio-demographic factors, general factors and factors related to leadership.

We will also collaborate with an advisory group of experts to validate the results of phase 3 (model generation) and phase 4 (model evaluation). This group will be formed by part of the teaching staff working in companies and/or associations with a significant track record in the use of participatory leadership techniques in particular. For this group there are already teachers trained by CCL within the CEU - San Pablo University in the different campuses of Madrid, Valencia and Barcelona.

Phase 3 is the generation of a mathematical model that can be fed with the variables defined in phase 2 of the project and can generate an output based on other variables or a combination of the above, providing a series of results based on the determination of the most useful and influential variables to be applied to the teaching staff, specific to each degree programme. For this type of data analysis, the statistical programmes StatGraphics and AMOS will be used to carry out a correlation study of input variables, a statistical model of clusters of efficient solutions and the validation of the model for different degrees of compatibility. This statistical study will provide a viability diagnosis methodology and recommendations for teaching staff and students, as well as the specification of improvement actions and analysis of undesired effects due to the application of the previous factors analysed. It will also lead to an analysis of the costs and benefits of implementing the improvements identified through the training of teaching staff and students in the form of courses, seminars, attendance at conferences, etc. All this will be analysed in phase 4 of the Project.

Finally, phase 5 will cover the productive capacity of the teaching staff through the application of the new techniques or skills and the identification of resources to optimise and put these tools into practice.

By way of summary, the Infaliun Project will develop a mathematical model, currently non-existent, based on a large number of variables, which will determine whether or not the use of the parameters assigned to Leadership, among others, improve the teaching of students by university or Higher Education teachers (20). It will also identify how students who have been taught by teachers who have mastered these factors have improved their academic performance, identify in which degrees they can be optimised and which are more likely to apply these

leadership factors among teaching staff. Recommendations will be made for both teaching staff and students with a view to further optimising teaching resources (21).

Specific proposals will emerge from this project in relation to the definition of new mathematical models and recommendations for future improvement and early incorporation of this type of skills in Spanish university teaching staff, and by extension, in primary and secondary education in our country.

The project is divided into five successive phases in time, with overlapping between some of them as certain items must be achieved in order to continue with other activities:

### ***2.1. Phase 1: Selection of Qualifications and Study Samples***

This phase has two activities assigned to it with a series of tasks classified as follows:

#### ***Activity: A1.1***

- Documentary and bibliographic review of documentation related to the research.
- Generation of a database with the relevant information available.
- Identification and selection of indicators to make up the surveys.
- Management for selection of degrees for detailed study.

#### ***Activity: A1.2***

- Selection of the sample of teachers.
- Selection of the student sample.
- Analysis of the total dimensions of the samples.
- Theoretical analysis of the indicators considered in each of the samples.
- Final selection of indicators.

### ***2.2 Phase 2: Characterisation of variables***

This phase has three assigned activities with a series of tasks classified as follows:

#### ***Activity: A2.1***

- Characterisation of teachers' conditioning factors

#### ***Activity: A2.2***

- Characterisation of student conditioning factors
  - Socio-demographic factors (gender, country, age, grade, etc.)
  - General factors (assessment, tutoring, projects, participation in centre activities, etc.), participation in school activities, etc.)
  - Factors associated with leadership (emotional intelligence, values, active listening, feedback, etc.),
  - Active listening, feedback, etc.).

#### ***Activity: A2.3***

- Determination of statistical indicators
- Determination of a sample of case studies
- Biunivocal characterisation of teacher/student compatibility.

### **2.3 Phase 3: Model generation**

This phase has three activities assigned to it with a series of tasks classified as follows:

#### **Activity: A3.1**

- Methodological design of a survey
- Conducting face-to-face/online surveys
- Design of qualitative teacher research
  - Identify and study suitable degree programmes for the survey
  - Select 6 degree programmes to be studied
  - Drafting of survey questions for groups of teachers
  - Design of focus groups with different groups of teachers.
- Design qualitative student research design
  - Identify and study students in different degree courses
  - Select 30 students from each of the degree programmes
  - Drawing up a script of questions for a student survey.
  - Design focus groups with different groups of students.

#### **Activity: A3.2**

- Critical evaluation of information obtained on the current state of affairs (theoretical model and collected data)  
(theoretical model and data collected in-situ and on-line)
- Obtaining weights for adjustments of the model
- Improvements with adjustments to the teaching staff
- Improvements with student adjustments
- Teacher/student compatibility studies
- Evaluation of the impact of improvement measures

#### **Activity: A3.3**

- Determination of input variables for the teaching staff
- Determination of the input variables for learners
- Determination of output variables for teachers
- Determination of output variables for learners
- Determination of a sample of case studies
- data collection of input and output variables (output variables by individualised study of independent experts)
- Statistical study of correlation of input variables
- Creation of a statistical model of clusters of efficient solutions. Expert simulation
- Validation of the real data model for Degrees of Compatibility.

## **2.4 Phase 4: Model evaluation**

This phase has three activities assigned to it with a series of tasks classified as follows:

### **Activity: 4.1**

- Development of a methodology for a feasibility diagnostic and recommendations for teachers
- Development of a methodology for a feasibility diagnosis and recommendations for students.
- Estimation/quantification of the Productive Capacity of the teaching staff
- Identification of resources for teacher optimisation

All the phases of the project have been detailed, where some of them are already being carried out and others remain to be done, but a clear methodology to obtain the final objective set in the project has been highlighted.

## **3. Discussion**

In this section it is necessary to distinguish between the different leaderships applied in student education, in the organisation and in the university teaching staff. The three forms of leadership form a chain and are of utmost importance for the proper functioning of the whole and the common goals of all parts.

### **3.1 Leadership in student education**

As mentioned above, today's world is characterised by complexity and constant change. Organisations are characterised by being interdisciplinary, which leads to problems in the management of teams and work groups. For this reason, university-trained professionals must have the necessary skills to be able to adapt to this permanent change. Moreover, working groups are characterised by being interdisciplinary, which means that problems may arise that must be handled appropriately, always seeking to achieve the proposed objectives (13).

It is society itself that is demanding this type of competences in graduate professionals. Numerous research studies have investigated the different competences that professionals should have, as well as their impact on their professional work, in different areas of knowledge (6,7,10,12,23).

It is important to point out that the competences detected by the various studies not only refer to technical competences, but also include those related to effective communication, empowerment, project planning and management, management of

group relations or alignment with the organisation's objectives. In other words, competences related to leadership (6,7,10,12,23).

For all these reasons, the university should encourage students to learn both technical and leadership competences (6,13). In fact, both undergraduate and postgraduate training programmes at universities have begun to include training programmes that include the main leadership skills (6,17,22). Specific centres have even been developed to facilitate the development of these training programmes in Leadership (13,17).

In this way, universities are trying to respond to society's demands regarding the need to train future professionals in leadership.

### ***3.2 Leadership in the organisation***

The University is an organisation that has also been affected by the changes in today's society. As mentioned above, these changes have affected educational needs, but also other areas of the university: the need to generate value through research, the need to be efficient organisations, the need for transparency, etc. These changes have meant an alteration in leadership itself within the university, as teaching staff have to carry out teaching, research, management, etc. (5).

Several studies have been carried out on leadership within universities (5,15,24). The aim of these studies has been mainly to evaluate leadership within the university organisational structure, as well as to try to establish definitions of leadership in the university environment. However, it is difficult to establish clearly what the characteristics of leadership in academia are. All authors point out that it is necessary to have technical skills in the individual discipline, but also interpersonal skills and operational and strategic competences (5). This is why exercising leadership in an organisation as complex as the university is difficult (14).

### ***3.3 Leadership in the university teacher***

In addition to the aspects mentioned above, it is important not to forget about leadership in university teaching. It has several dimensions: it must enable students to learn, it must induce change in the organisation, and it must encourage teamwork between different groups (8,11).

From the teacher's point of view, the last few decades have seen major changes in the teaching environment. On the one hand, students have increased in number and diversity, they have a wide range of abilities and even their learning styles are very

varied (19). In addition, there have been enormous changes in the university framework, such as the emergence of the European Higher Education Area and the competence-based approach, with its implications for learning (2). Finally, new technologies have an increasing presence and influence in the academic world (12,16).

Despite all these changes, the preparation of university teachers has not changed much. Technical training in individual disciplines is still predominant, and in many cases, pedagogical or leadership training is not necessary (16).

However, it should be noted that there is a conviction that the leadership skills of the university teacher are an essential aspect in facilitating the learning experience of students. Thus, aspects such as accountability, mutual respect and effective communication are essential for teacher-student interaction and influence students' learning and personal development (3).

#### **4. Conclusions**

This project is being carried out at the CEU-San Pablo University by the Research Group on Teaching Innovation Methodologies and Leadership (RGTIMaL), and although many of the activities outlined in the project have not been completed, the study methodology developed by the research group may be an interesting starting point for other research groups to carry out improvement and guidance work in order to identify all those factors that make teachers, and consequently students, better, with a view to improving universities and their teaching methodologies.

Evaluation and critique studies in education can contribute a lot to a necessary renewal of the concepts of knowledge transfer and teaching innovation. In this sense, one of the objectives of the project is the identification of factors of effective leadership (phase 3) and validations and recommendations (phase 4) is of the utmost interest for the university institutions that have to try to maintain the best optimisation indexes in the different degrees they teach. The theoretical and methodological advances (analytical approaches, glossary of techniques, methods of evaluation of results) are also potentially transferable to cultural institutions, public and private management companies, as well as being used in other research projects in other cases.

The results achievable as a result of achieving the objectives of this project will have a considerable impact at different levels and scales, and in different fields.

1) From an exclusively scientific-technical point of view, the proposal contains two innovative elements. A) To provide a study on identifying factors of Leadership in University teaching staff. B) To carry out a methodological proposal, which is based on collaborative and interdisciplinary work structured around the assumption

of the transdisciplinary nature of research on Leadership in teaching staff and students by means of a mathematical model.

2) From the point of view of Higher Education, the proposal will have a real impact in terms of leadership and the inclusion of new factors, which provides a way of improving the performance of teaching staff and students at university level.

3) Finally, this methodological dimension is closely related to the emergence of teaching innovation processes whose driving force is to achieve excellence in education and student learning. It is also linked to a greater capacity for attracting students, which will have repercussions on improving the economic and social assets linked to the different participatory proposals.

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