**LA ENSEÑANZA-APRENDIZAJE DE LOS ALUMNOS MAYORES UNIVERSITARIOS: VALORACIÓN DE LA FUNCIÓN DOCENTE.**

**Principio del formulario**

**THE TEACHING-LEARNING PROCESS OF OLDER UNIVERSITY STUDENTS: ASSESSMENT OF THE TEACHING FUNCTION.**

**RESUMEN:**

El proceso de enseñanza-aprendizaje en el seno de la universidad para mayores supone conocer las características del aprendizaje de este grupo de población. Del mismo modo, la enseñanza debe estar adaptada a estas características, por lo que el profesional que ejerce su función docente en este ámbito deberá ser un profesional específico cuya formación sea integral, adaptada a esta población y socialmente hábil. El conocimiento no es definitivo, ni el aprendizaje estático y las personas mayores han de tener la oportunidad de acceder a un aprendizaje dinámico y permanente para facilitarles un desarrollo integral.

En este artículo se identifican y valoran las características del docente en el marco de los Programas Universitarios para Mayores (PUM’s). En el seno de una investigación evaluativa, bajo el modelo Cipp de Stufflebeam (1989), los mayores, los coordinadores del Programa y los profesores valoraron diferentes aspectos de la función docente. Esta evaluación educativa se realizó durante los tres primeros cursos del Programa UNED SENIOR. Se configuraba desde los cuatro tipos de evaluación que demandaba el modelo: contexto, entrada, proceso y producto, siendo múltiples las variables identificadas para la investigación. with several variables identified for the research. Se elaboraron 9 cuestionarios, uno por curso y grupo de participantes. Se estimaron 3 poblaciones: Alumnos (N1); Profesores (N2) y Coordinadores (N3); y se calcularon las tres muestras representativas para cada aplicación. El estudio se llevó a cabo con un total de n válidos para cada población de n1=1083, n2=124 y n3= 33. Los instrumentos resultaron altamente fiables al presentar coeficientes de Spearman-Brown entre 0,7 y 0,9.

 Las técnicas de análisis de clasificación, reducción y segmentación evidenciaron los rasgos y habilidades del docente, así como configuraron las características “ideales” de un buen profesor en el ámbito de los PUM’s. Además los resultados mostraron que los alumnos mayores manifestaron su interés por una metodología docente activa y participativa que les ayudara a fijar los conocimientos y provocarán cambios satisfactorios en su vida personal y social.

**PALABRAS CLAVE**: “educación de mayores”; “formación del profesorado”; “estilos de enseñanza”; “evaluación educativa”.

**ABSTRACT:**

The teaching-learning process in the core of the elderly university involves knowing this group learning’s characteristics for this age group. In the same way, teaching must be adapted to those features, so a specialized professional with a holistic training, tailored to that age group and socially skilled is needed. Neither the knowledge nor the static learning is definitive; the elderly should have the opportunity to access a permanent and dynamic learning to promote their integral development.

In this article the teacher’s features are identified and valued in the frame of the University Programs for Elderly (PUM’s). In the core of an evaluative research, based on the Cipp of Stufflebeam model (1989), the elderly, the Program’s coordinators and teachers assessed several aspects of the educational field. This educational assessment was carried out during the first three courses of the UNED SENIOR Program. Four types of assessments based on the model were created: context, beginning, process and product, with several variables identified for the research. 9 questionnaires were elaborated one for each level and group of participants. 3 populations were estimated: Students (N1); Teachers (N2) and Coordinators (N3); and three representative samples were calculated for every application. The study was carried out with a total of n valid for each population of n1=1083, n2=124 and n3 = 33. The tools turned out to be highly trustworthy with Spearman-Brown’s coefficients between 0,7 and 0,9.

The techniques of analysis and classification, reduction and segmentation showed the teachers’ features and skills, as well as the “ideal” characteristics of a good teacher in the area of the PUM’s. In addition the results showed that the older students showed interest for an active and participative educational methodology that should help them to fix the knowledge and that will turn into satisfactory changes in their personal and social life.

**KEYWORDS:** "adult education"; "teacher training"; "teaching styles"; "educational assessment".

1. **INTRODUCTION**
	1. **Seniors learning’s characteristics**

The lifelong learning includes the adaptation to strategies and processes in order to guaranteed the development of seniors to all levels, so the teaching-learning process adaptation to this age group its essential.

Therefore, the elderly learning goals go beyond the academic achievement and results. These goals are closer to all those aspects improving the live quality, personal development and autonomy increment. So the elderly teaching-learning process must be an optimistic process devoted to the promotion of their autonomy. The pursued goals of this stage are to get and independent life, to develop sociability, to enhance the usefulness feeling, and to prepare older people for a new future involving growth and improvement.

As Pérez Serrano (2006) pointed, “The educational process of the third age has many questions because they are plenty of specific issues involving them” (p. 73).

Taking those aspects into account, teaching becomes a transversal issue that must boost the adaptation of methodologies, contents, and the pedagogical process seniors’ related. However, it is not enough, specific features for senior learning must be known. Cuenca (2011) stated that this learning was mainly defined in order *to react to the perceived or felt necessities, to be personalised, to react to older people interests or expectations; to be active, participatory and cooperative, and being meaningful* from the previous senior knowledge; and above all, to be a means towards the end and not just an end itself.

It should be consider older people’s methodological adaptation possibilities, a learning coming from their previous experiences and that takes into account their cognitive structure, the social relation and the immediate application of learning (Sallán, Gómez, Armengol & del Arco, 2013, p.64).

In short, it is a facilitating and empowering learning, that offers the senior more inclusion, development and personal growth possibilities as well as social and cultural development.

* 1. **A competent professional in the old people’s education field.**

The learning-teaching process for older people needs a constant adaptation, so that it is a dynamic field undergoing continuous changes. Professionals must adapt themselves to those changes and develop abilities that enable them to perform their task in a more effective and competent way (Cuenca, 2013).

Therefore, the learning-teaching process of old people needs not only be a *skilled professional*, but also a socially skilled in order to identify the complex reality of this age group, being sensitive to their needs and promoting their active ageing.

Abilities of a professional working with old people:[[1]](#footnote-1)

* *Personal skills.*
* *Unconditional attitude and support to the older person.* It is essential a balance in the adult treatment. All persons must have the same support and, even more important, the professional should be able to instil that attitude.
* *Patience and understanding.* It should be kept in mind that they have a broad life experience, but most of them have scarce and limited personal relations; and show some resistance to social receptiveness.
* *Communication skills with older people.*
* *Use of an understandable language.*
* *Assertive behaviour.* There are situations, in which a professional should react adequately to repeated negative attitudes or attempts to control the teaching-learning process by the older people.
* *Basic instrumental skills for reinforcement.* Being able *to boost motivation* in older people in order to gain their collaboration for the teaching-learning process, as well as to reinforce positive behaviours and attitudes.
* *Pedagogical skills.* The professional is a guide for older people; in order to boost the active ageing, avoid negative stereotypes and minimize physical deterioration on older persons, they should believe in it by not having prejudices, promoting a pleasant ambiance and with an accurate teaching style.
* *Skills related to the teaching-learning process.* The teacher must have specific skills, as well as ability for:
	+ *Trying* to create an accurate process, performing the instrumental or procedural adaptations that may be needed.
	+ *Being sensitive* when necessary.
	+ *Plan* realistic and meaning *task* for older persons.
	+ *Making* the process more *flexible*.
	+ *Promote an active role in their learning process.*

To sump up, it is a professional trained to teach older people. This educational field includes several scenarios within the non-formal education. Among them, outstands the University Programs for Seniors (UPS´s) given that it is the closest study context for this paper.

* 1. **The context: The University Programs for Seniors**

The active ageing brings changing elements coming from all sectors and dimensions of the society. One of those elements is the Lifelong Learning, given that education is perceived (at national and international level) as the cornerstone of all big social transformations.

The Lifelong Learning has its origins in the Permanent Education, consolidating itself, after several decades, as a continuous human development process including all learning (formal, non-formal and informal). From this thought the first University for the Third Age was created in France (Toulouse, 1973), as a part of the University of Social Sciences. The Professor Pierre Vellas (Law and Economics University) offered an activity program for seniors, taking into account their expectations and needs. This was the way in which the first generation of socio-educative programs for seniors was created (IMSERSO, 2011).

Professor Vellas said that older people could received at the same time benefits from intellectual culture and social and affective recognition, by means of meeting with the others in order to reach common aspirations. In order to create the Senior University, several goals were defined (AEPUM, 2012):

* Studying the ageing process and perform researches for its improvement.
* Enabling older people the access to the cultural heritage.
* Raising awareness in society over the ageing process.
* Providing training to this age group.

 Moreover, the contents of the Program were focused on their interest and the specific training of professionals working with them. On this basis, subjects were distributed on thematic fields: health, cultural heritage, life cycle and intergenerational activities.

Given the success of this initiative, Pierre Vellas founded in 1976 the AUITA (Association Internationale des Universités du Troisième Âge ). Its goal is to promote the creation and development of universities for the third age, the scientific relation among members and the coordination of the activities of education, learning and research fields (Stadelhofer, 2002).

This project spread quickly all over France, followed by Belgium, Spain, Switzerland, Poland, Canada, Sweden, Italy, United States, England and Germany; and even reaching Latin America, Africa and Asia.

Those Programs were more and more common given the growing demand of adults. Since 1980s, Spanish Universities have been designing several University Programs for Seniors, with a great approval. Those Programs are for women and men over 50 or 55 years old, that without any other requirement, what to acquire the knowledge offered by the University (Cabedo Alfageme, 2006).

 The presence of older persons in the University academic environment has spread over the country. Currently they take part on the majority of boards where the schedule for their attention is discussed.

Without doubt, the University has managed to adapt its contents, methodologies, pedagogical techniques and its philosophy for teaching-learning process to the expectations, needs and interest of older people.

 As a proof, a National Committee for University Programs for Seniors was created in the 5th National Meeting (Puerto de la Cruz, Tenerife, 2001) in order to integrate those teachings to the upcoming Law of Universities (LOU).

Later on (2004), the National Association for University Programs for Seniors (AEPUM) was formally created by the Ministry of Education, Culture and Sport. Currently, it gathers more than 50 senior training’s experiences. Those university programs are quite different between them and more and more experiences are consolidated at a national level.

The continuous growth of the University Programmes for Seniors all over Spain shows not only the initiative of the Spanish universities but also that their training is really demanded, and that there is an emerging field in the current society.

Lirio & Morales (2012) showed how new models of teaching-learning for older persons are needed:

Undoubtedly, these inherent aspects to this life stage lead teachers to search for more integrators and constructivist models in order to attend a great variety of perspectives, interests, ideas and ways of learning from senior students (p.164).

Our research focuses on the UNED University Program for Seniors. As Rodríguez (2011) said, “Universities must respond not only to the academic and professional demand but also to the social one. Programmes developing skills, abilities, competencies and knowledge must be organized” (p.47). UNED SENIOR is a training program that adapts to senior sharing high structural features with other university programs. However, in the UNED the program the structural network is disseminated over the Spanish territory and abroad which makes it more special and specific. It is a flexible and reachable program for the senior students that are enriched by several experiences in different Associated Centres coordinated form a Central Office. Through UNED SENIOR, the older students acquire a continuous training on all fields, interests, needs and concerns for this age group in order to improve their life quality.

1. **METHODOLOGY**

After the brief description of the context and the theoretical elements of this paper work, we present the methodology used for the evaluative research in the University Program for Seniors.

Those are the proposed goals:

General goal: To assess the teaching function in the teaching-learning process for senior students of UNED SENIOR.

Specific goals:

* Description of the teacher’s social skills.
* Detail the teachers’ learning styles.
* Define the classroom climate created by teachers.
* Identify some characteristics that teachers must have.

This study is framed in the educational assessment. The model CIPP of Stufflebeam was taken for assessing the improvement, given it was the option that suited best what we were looking for. The decision of using this model was consolidated over others that only suited an individual aspect or purpose of the study.

So, given the selected model, the UNED SENIOR Program’s three first courses were researched through data and information provided by coordinators, teachers-tutors and seniors enrolled in the academic years during which the research lasted.

The methodological approach allowed gathering of information on the teaching-learning process, use of sources, contents of subjects, teaching methodology and the program organization. The opinions, suggestions and difficulties experienced by the persons involved in its development helped to the decision taking for its improvement, optimization and perfection.

Based on the selected assessment model, several variables were involved in this study. It should be keept mind that we consider evaluation as a process relating all aspects and participants involved in the Program with the four elements determining the systemic assessment: context, beginning, process and product.

Considering the subject of this paper, the relevant aspects are at the Assessment of the Process whose study variables were:

* *EV. PROCESS:* How is the program developed? Coordinators (monitoring and control of the program resources), Students (development of activities, lessons, participation, interpersonal relations, subject content, available resources for the program development), Professors (methodology, teaching style, ambience, students care, and participation channels).

According the above exposed, people of the UNED SENIOR Program were considered the elements for the study. That involved participants of 15 Associated Centers:

* Students over 55 enrolled in the offered topics.
* Teachers-tutors select for each Associated Center, which have taught subjects in the Program and carried out activities in the aforementioned periods.
* The Associated Center's coordinators that have implemented the Program.

Each of those groups present different features and propose several approaches to the object of study, so three populations for each course are considered to develop the different assessment in the framework of the global research.

Regarding the samples of coordinators and professors-tutors, given that they were small groups, all opinions from coordinators of the Associated Centers that implemented the Program during 2008/2009; 2009/2010 and 2010/2011 will be gathered, as well as those of the group of teacher-tutors of the same period.

In the case of the students enrolled in the Program the sample were calculated to establish a minimum representative size through the statistical software “R”. (See table 1).

**TABLE I.** *Population and students, coordinators and teacher-tutors sample.*

Although the students’ samples were not stratified, the Associated Centers to which they belonged were taken into account. It was important to detect in assessing specific features in teachers’ at each Center that might be significant.

 Research terms were established as follows:

* It was assumed that the gathered information would be distributed according to the normal probability law.
* The most unfavourable situation was taking into account with a variance of p=q=0.5.
* A confidence interval of 2 σ with a probability of 95% was established.
* A sampling deviation of 5% (0.05) was estimated.

Given the nature of the research, a survey was selected as tool for gathering opinions, beliefs and assessments of coordinators, teachers-tutors and students of the UNED SENIOR Program.

The assessment model used for this research needed the development of several questionnaires for each participating groups in order to evaluate the context, beginning, process and product. Therefore, 9 open and closed question questionnaires are created in order to distribute them among students, teachers-tutors and coordinators of the UNED SENIOR during the evaluation period.

Given the technical characteristics of the tools, its reliability was analysed through the internal coherence of the sample’s answers, selecting the procedure of calculate the correlation among two halves of the questionnaire using the Spearman-Brown formula.

However, to calculate its reliability the questionnaire items’ heterogeneity was considered. We believed that it was important to gather some of them in measurable dimensions to deepen inside them and, above all, to consider the reliability of the questionnaire addressed to students and coordinators.

Questionnaires for students were measured for “Expectations”, “Lessons”, “Teachers” and “Organization”. Relevant data for this research are those related to the teacher, so it is outlined the reliability of these group of items regarding “Teaching staff”, which is acceptable-good with a valued of 0.776.

Items of the questionnaire for teachers-tutors were analysed as a whole, given its homogeneity. That was highlighted when it obtained a 0.964, showing the questionnaire items an extremely high internal consistency.

The questionnaires designed for coordinators were analysed from three items: Center, Program and Teaching staff. At the same time, it can be seen that the analysis of the “Teaching staff” item shows a 0.884 coefficient. So, it can be considered that it shows a high internal consistency.

In relation to its feasibility, this research has taken into account the content reliability because it was a validation and measurement questionnaire for recipients satisfaction, so, what is interesting is to determine if its items enable us to obtain valid data according to the established goals. For this purpose a panel of experts validated this tool.

During the gathering process several questionnaires were preformed on the partners Associated Centers.

Once the data gathering was finished, the appropriate steeps were developed for its study. The accurate data for quantitative analysis were introduced in the SPSS statistical program. Information from the open questions was gathered in specific documents for its qualitative study.

*In this sense, the gathered data* offered the possibility of performing several analyses:

🡆 Descriptive study. The goal of this analysis was to configure profiles from evaluations performed among the elements of the Program.

🡆 Relational study related to the classification variables.The segmentation analysis, the multidimensional scaling (PROXSCAL) and the multiple correspondence analyses showed satisfied users’ profiles, relations between the realized evaluations and the interrelations of the measured features.

Regarding the data gathering in the open questions, a classification and categorization treatment for its analysis and interpretation was undergone. This procedure is framed as part of the content analysis technique.

 To perform this analysis two different procedures were developed, regarding the information level obtained in the different evaluation stages. Therefore:

🡆 At the first year of the Program implementation the gathered data was processed according to Pérez Juste process (2006), enabling to select the information, reduce it and represent results in figures to its interpretation.

🡆 The gathered information to evaluate in the following years from the development of the evaluative research was processed by ATLAS.ti 5.0 Program.

1. **RESULTS**
	1. **Teachers-tutors’ social abilities**

Teachers-tutors’ social competence is a key element given that the Program is aimed to older people that not only needs an adapted methodology but also requires socially skilled teachers.

A multidimensional scaling between variables related to this dimension was done, in order to find out the students’ perception over the social skills required by teachers.

It can be seen that the model fits; given that *stress* represent a 0.00148 and the *normalized stress* a 0.00271. Moreover, the model’s dispersion and congruence shows good values (0.99729 and 0.99865, respectively).

The final coordinates shows how dimension 1 comes from the variable “solves conflicts satisfactorily” (1.408), in the positive level, to “being enthusiastic” (-413) in the negative one, creating a very distant dimension amongst them. Even given that separation, those variables present a common motivational feature, as to say, the successful attitude of the teacher staff.

Regarding dimension 2, variables are closer and shows features related to students. This dimension varies from “ability to communicate with students” (628) to “cares about students” (-379). (See table 2).

**TABLE II.** *Proxscal results. Common area. Final coordinates.* Student survey

In the Figure I, it can be seen in spatial representation how variables V24d, V24e, V24g, V24j and V24k are very close. For his part, V28 keeps some distance with the former group and V30 is very distant from the rest of variables. These results show how "facility to communicate with students" (V28) and "solves conflicts satisfactorily" are variables that stand out in each of the previously analysed dimensions.

**Figure 1.** *Proxscal results. Common area. Object points and separation between variables.*

*3.1.1. Analysis of correlation among the variables "Understand the teacher-tutor’s explanations" and "Associated Center (C.A)"*

 Students enrolled in the 2009-2010 academic year were asked to assess the degree of understanding of their teachers-tutors’ explanations. This variable was related with the different Centres to which they belonged, and those data presented an acceptable model, with an average of 60.8% for the explained variance between the two dimensions, showing values of 1,236 and 1,198, respectively.

In relation to the results of this correspondence, the category points diagram shows that Centers 3, 4, 6, and 7 are related, in the same upper quadrant, with the category "enough" of the variable "teachers-tutors’ explanation understanding”.

The "very much" corresponds to the same quadrant C9, C10, C12 and C14; while Centers 2, 11 and 13 are related, although not very directly, with the category "a few", showing low and distant values from the rest.

Therefore, it should be noted that the older students interviewed stated that they understood the teacher’s explanations, although a non related group of students to these positive assessments could not understand their explanations.

**Figure II.** *Results Diagram of categories points. Variables "I understand the teacher’s explanations" and "C. A.".* Student survey

* 1. **Teaching style**

The teaching style is defined by the students’ learning style. In this sense, prior decisions taken by the teacher and which attitudes he keep during the teaching-learning process are essential. Older students were asked to evaluate different aspects of the their teachers-tutors’ teaching style.

*3.2.1. Analysis of correlation among the variables "thinks that the teacher-tutor prepares lessons" and "C. A."*

 These two variables and the presented data were related and an acceptable model was presented, with an average of explained variance of 65.7% for both dimensions and values of 1,387 and 1,241, respectively.

 Regarding the outcome of this correspondence, the combined diagram of points of the studied variable shows that (figure III):

* The category "a lot" of the variable "thinks that the teacher-tutor prepares lessons" keeps a high correspondence with C1, C2, C3, C4, C5, C12 and C14.
* The point of the category "enough" shows a relationship between Centers 6 and 7; while C8 and C15 correspond to the category "a few".
* Finally, the category "nothing" does not show correspondence with any category of the variable "C. A. "; as well as C13, is very distant from the values of the category "thinks that the teacher-tutor prepares lessons".

In short, older students estimations on this issue show low values closely linked between them, so it should be noted that, in general, they have a positive opinion, and few of them openly expressed that the teacher-tutor does not prepares lessons.

**Figure III.** *Results Diagram of categories points. Variables "thinks that the teacher-tutor prepares lessons" and "C. A.".* Student survey

Another issue that was considered for this study is related to the importance of connecting theory and practice, when planning the content of learning. The teachers-tutors expressed their opinion on the issue and the data gathered at the 15 Associated Centres that participated.

The results of five Associated Centres showed that 100% of teachers indicated that they provided a lot or enough importance to the fact of linking theory and practice in for contents’ planning. Moreover, 75% of interviewed in 2 Centres considered very important that issue, while the rest of the Centers felt that it was important enough.

It also stands out that in 2 Associate Centers, 11% and 33% of teachers felt little or no important linking theory and practice.

Another element that characterized the teaching style was planning based on previous needs, experiences and knowledge of the older students. Among teachers who valued this aspect, 100% of those who taught in 3 of the studied Centers considered it to have "a lot" or "enough" importance. For its part, in 4 Associated Centers, teachers expressed, unevenly (13%, 20%, 20% and 33%), the importance of doing a planning based on these premises.

Regarding teachers-tutors’ assessments on the rest of Associated Centers surveyed, they appreciated that this was important, excepted form 25% of teachers in 1 of the Centers, which issued no answer.

The fact that the teacher-tutor encourages students to express themselves denotes a democratic and participatory teaching style. In this sense the most part of seniors enrolled in the various Centers felt that the teacher-tutor favoured this aspect, varying their appreciation from "enough" to "a lot", in more than half of the Centres.

* 1. **Atmosphere**

The atmosphere or ambience, which is generated in class, is an interesting factor for the teaching-learning process, so that it can promote the Program goal’s achievement. Aspects related to this dimension were analysed from estimations of the seniors enrolled mainly in the Program during the academic year 2009-2010.

The students expressed that the teacher-tutor takes into account their opinions unevenly. Higher ratings can be observed in 2 of 15 Centers, where 76% and 75%, respectively, stated that the teacher considers their opinions "a lot". Regarding students who pointed out that the teacher-tutor had "enough" into account their opinions, it stands out that 66% of the enrolled in one of the Centers gave an opinion on this.

The rest of older students indicated that the teacher-tutor had "little" into account their opinions, representing less than10%.

Another aspect for the atmosphere’s study was the provision of teachers to assist students in the process. Older attendees expressed that in general the teacher-tutor advised them and directed them "a lot" or "enough". The highest representations of students, who issued these estimations, belonged to 2 Centers, with 70% and 73%, respectively. Also noting that 66% of those seniors enrolled in another Center also manifested them in this regard.

The respondents who were in the categories "shortly" and “nothing” were 7%, in the best of cases.

Motivation towards learning in older people is one of the basic purposes of UNED SENIOR, along with the generation of a good climate in the classroom.

Older students were asked to assess in which extend did the teacher encourage them to continue learning. The gathered data showed that in general seniors perceived in high degree that teacher-tutor encourages them to learn. In this sense, should be noted the percentages of 3 Centers with 88%, 73% and 73%.

This aspect, proves that the category "a few" is more represented here than in previous studied aspects, although the percentage of students that stands out is 22% in one of the Centers.

*3.3.1. Analysis of correlation among the variables "C.A." and "I have boosted a friendly atmosphere".*

The teachers-tutors were also surveyed on the atmosphere generated in the classroom. The perception of teachers in the Associated Centers was analysed showing an acceptable model that explained 78% of the variance in dimension 1, and 58.2% in dimension 2. For its part, the eigenvalues were 1,561 and 1,165.

The diagram of category points showed that teachers assessed very positively its performance to foster a good atmosphere in class.

It can be seen, in figure IV, that the category "very much" is related to the Centers 1, 6, 8 and 12, while C2, C11 and C13, more directly, and C9 and C14 in less direct relationship correspond, in the same quadrant, to the category "enough".

There are category points of the variable "Associated Center, (C. A.)" that do not keep a clear correspondence, in the same quadrant, especially C13 that presents with very high values away from the rest.

**Figure IV.** *Results Diagram of categories points. Variables ""C. A."and "I have boosted a friendly atmosphere".* Teachers-tutors survey.

The considered aspect was object of a qualitative analysis, while the enrolled students in the academic year 2010-2011 were encouraged to express themselves openly on this issue.

Older adults answering this question highlighted the good harmony between the partners, the interest in learning, the responsibility of the students and the ability of the teachers-tutors to motivate and make classes more compressive and pleasant.

On the other hand, the more negative assessments expressed by respondents were aimed to point out that there were situations in which everyone spoke at the same time, criticized the opinions of others or there was a waist of time. Some of the exposed considerations were as follows:

**P 1: STUDENTS.rtf - 1:64 (63:63); Codes: [DEVELOPMENT] [Atmosphere]**

*"We speak without rising the hand and we are critical with the college comments, we waste time"*

**P 1: STUDENTS.rtf - 1:108 (106:106); Codes: [DEVELOPMENT] [Atmosphere]**

*"Lessons are very nice and understandable"*

**P 1: STUDENTS.rtf - 1:125 (123:123); Codes: [DEVELOPMENT] [Atmosphere]**

*"That is a good harmony among students, motivation and effort"*

**P 1: STUDENTS.rtf - 1:146 (145:145); Codes: [DEVELOPMENT] [Participation]**

*"Great atmosphere and people with interest in knowing. Exchanges of knowledge and experiences"*

Students valued to which extent they considered that the teacher-tutor cared for them. In general, form the various Associated Centers it was perceived that teachers did, even in 1 Center, in which 100% of the respondents valued "a lot". In the rest of the Centers the percentages of students in this category were over 50%.

Moreover, the category "enough" was also very represented, confirming the general perception of students about teacher-tutor caring about them. However, 5 Centers showed values for the category "a few", with percentages ranging from 3% to 17%.

* 1. **Teachers-tutors characteristics**

After analysing the various items relating to several aspects of the teachers, it was determined essential to learn which characterized them more, according to the older students.

In this sense, it was decided to perform an analysis using the technique of segmentation or decision tree. The criteria was "degree of satisfaction with UNED SENIOR” and the predictive variables were all those included in the questionnaire in relation to the teachers-tutors characteristics. In this way, the most relevant features can be predicted.

It is stated in Figure V, that the obtained results indicate that the variable "is interested in being updated" is the one that best predicts the older students’ satisfaction.

Moreover, it can be observed that node 1 and node 2 which are classified, present high values in the categories "enough" and "a lot", so that it can still be predicted that variables as "cares about students" and "perform practical exercises on the subject", are also included in the profile of satisfied students, although somewhat is more significant the first by throwing a superior Chi-square (7,097).

In summary, the best-valued characteristics of the teachers-tutors are those arousing the interest to be updated, caring about them and the development of practical exercises of the subject.

**Figure V.** *Decision tree diagram for the model "Best valued aspects of the teacher-tutor".* Student survey

Continuing this line of study, the analysis was repeated in order to predict those characteristics, which, according to older adults, good teachers-tutors must have.

In this case, "the degree of satisfaction with UNED SENIOR” was also used as a criterion. The predictive variables were those items related to the traits of a good teacher-tutor, presented in the questionnaire.

It can be seen in Figure VI, that the obtained results indicate that the variable "domain of variety of teaching methods" is the one that better predicts the satisfaction of older students.

In addition, nodes 1, 2 and 3, which are classified from the previous one, have high values in the categories "enough" and "a lot", but are only significance for node 2. The other variable, which can predict the satisfaction of the student in the lathe to the characteristics of a good teacher-tutor, is "the ability to motivate".

With these data, it can be predicted that the good teacher-tutor’s profile is defined by the ability to dominate wide variety of teaching methods and the motivation ability.

**Figure VI.** *Decision tree diagram for the model "Characteristics of a good teacher-tutor".* Student survey

1. **INTERPRETATION AND DISCUSSION**

This research, considered extremely important the assessment of the characteristics of the teachers-tutors, as well as their skills and abilities, as stated by Barrero, Guerra, Lozano, Rey-Seijó & Roca (2010):

Tutors are responsible for being in permanent contact with students in each group, fostering in them the feeling of being welcomed in the institution, and that their problems and needs are handled in an individualized, personalized and effective way. As to say, an academic supervision of our students that improves learning and welfare oriented to their personal project (p.185) is necessary.

The teachers-tutors’ teaching skills were assessed by senior students, taking into account, on the one hand the satisfactory attitude of the teacher to act, in general, to resolve disputes satisfactorily or being enthusiastic and, o the other hand, those skills more directly related to themselves, as to be worried about students or to have facility to communicate with older adults.

Regarding the teaching style, the teachers-tutors stated that their planning was based on the interests, needs, experiences, and knowledge of their students, as well as on trying to link theory and practice for a better understanding of the subject, being very affordable to the elderly and promoting its self-learning. Enrolled students that highly valued that they understood their teachers-tutors’ explanations confirm those aspects, which were considered to be were very affordable.

In addition, older adults perceived a good atmosphere at class, as they valued very positively the layout of the teacher-tutor to guide and advise them in the process, as well as to continue learning. Similarly, students contributed to this good climate, maintaining harmony among them and showing great interest for learning.

Most part of the teachers-tutors valued that they had worried a lot about checking if the older students followed their explanations, in this sense enrolled students assessed this extend positively.

Best valued aspects of teachers-tutors by older students, were that they rise up their interest in being updated, care about them perform practical exercises on the subjects. Good teacher-tutor’s profile is defined by the ability to dominate a wide variety of teaching methods and the motivation ability. Not only teachers-tutors knowledge on the subject is necessary but also a training on elderly education and breadth of skills that must be developed, as well as, the application of different methodologies.

The teacher emerges as facilitator and motivator towards learning in adulthood as in any other school stage. According to Navarrete (2009), the teacher, in their motivating function, should consider a triple goal: raise interest, direct and sustain the effort and to reach the predetermine learning. This author refers to primary and secondary school teacher, motivation towards learning in adulthood stage based on the same premises. Students is more motivated as wider and better experiences live in the classroom (Navarrete, 2009). Older people valued that teachers care about them, resolve their doubts and have a great knowledge of subjects to help them better understand.

The methodology used in the process of teaching-learning at this stage must be active and participatory. The older students show interest in activities that help them to secure knowledge and provoke satisfactory changes in their personal and social lives. In this sense, Cuenca & De Juanas (2011) indicate that students’ satisfaction increases with the learning experience, promotes more positive attitudes toward the subject of study and can accommodate the different learning styles among the students. It has been shown that the collaborative and cooperative activity is very fruitful to solve different tasks and produces significant cognitive advances. (Hernández, 1998, cited in Cuenca & De Juanas, 2011).

This research has been shown the need to incorporate more active and participatory methodologies and propose a specific training adapted to the new contexts of learning among the senior students.

It is necessary to "define a system for the recognition of the quality of the PUMs trying to detect the decisive factors of the different quality levels and that, in addition, can serve as instrument for a continuous improvement" (Palmero, 2011, p.270-271). The new lines of work emerging from the results of this research would be studies and participatory analyses for the development of different quality models for the UNED SENIOR, as to say, those offering specific indicators of educational methodology.

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1. Some of this information comes from [http://www.imsersomayores.csic.es](http://www.imsersomayores.csic.es/) [↑](#footnote-ref-1)