



## Article

# Development and Validation of a Measuring Instrument for the Improvement of University Guidance and Tutoring

Belén Suárez-Lantarón <sup>1</sup>, Irina Sherezade Castillo-Reche <sup>2,\*</sup> and Ana López-Medialdea <sup>3</sup>

<sup>1</sup> Education Sciences Department, Faculty of Education, University of Extremadura, 06006 Badajoz, Spain

<sup>2</sup> Department of Didactics and Scholar Organization, Campus de Espinardo, Universidad de Murcia, 30100 Murcia, Spain

<sup>3</sup> Faculty of Education, University of Extremadura, 06006 Badajoz, Spain

\* Correspondence: irinasherezade.castillo@um.es

**Abstract:** Guidance and tutoring in university has become relevant in the last decade, associated with various issues. However, many of the actions undertaken by universities do not meet the needs of our students. Therefore, we consider it necessary to know the perception, use and satisfaction that university students have about the tutoring they receive, raising as an objective of this work the design of a tool with which to achieve this end. In the construction of this tool, different phases have been followed: (i) a review of previous works from which ideas for the design of the instrument are taken, (ii) a validation of its content with the collaboration of experts in the field and (iii) a administration of the designed scale to a representative sample, whose analysis has allowed to verify the validity of the construct as well as its reliability. As a final result, a questionnaire with forty items distributed in four dimensions is constructed: socio-demographic profile of the students, knowledge of the students about the Tutorial Action Plan, use and knowledge of the students about academic tutoring and attitude/satisfaction of the students about academic tutoring. As a conclusion, we point out the need to promote the participation of students and enhance communication with tutors, as they are key to achieve better results.

**Keywords:** questionnaire; university students; students support; university guidance; academic tutorial



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## 1. Introduction

Since the beginning of the European Higher Education Area (EHEA) in Spain, several adjustments and reforms have been made that affect not only structural and curricular issues, but also methodologies and the teaching-learning process itself (Álvarez 2017; Carbonell 2015). This process has been affected in recent years by the health situation resulting from COVID-19 (Bruschi et al. 2021; Pérez-Jorge et al. 2020; Tejedor et al. 2021).

In the university context, there are more and more classrooms in which the role of the teacher has changed from being a mere transmitter of knowledge to becoming a guide and an accompanist of the students, who occupy the center of the teaching-learning process (Jiménez et al. 2019; Solaguren and Moreno 2016). From this perspective, there is no doubt that university tutoring has a central role in this process (Baugh 2018; Clerici and Da Re 2019), and this must be rethought to adapt to new needs (Parra and Segura 2021). This idea is supported by studies developed during COVID-19 (Ahmed and Firdous 2020; Naidoo and Cartwright 2020).

Some authors (Pérez et al. 2015) associate the relevance that tutoring has been gaining in the Spanish university with several factors or events, among which, of course, is the EHEA, but also the fact that in 2010, the Student Statute was approved and that university orientation services were considered as an indicator of quality of the university institutions themselves.

Thus, the Student Statute ([Real Decreto 1791/2010, de 30 de Diciembre, por el que se Aprueba el Estatuto del Estudiante Universitario 2010](#)) in its article 7.1, paragraphs e and f, sets out the right of students:

(e) Counseling and assistance by teachers, tutors and student care services, in accordance with the provisions of the Statute.

(f) Vocational, academic and professional information and guidance, as well as advice by universities on their activities that affect them, and in particular on university extension activities, university accommodation, sports and other areas of healthy living, and their transition to the world of work.

Article 8(e) of that regulation states that one of the specific rights of undergraduate students is to:

*Receive personalized guidance and tutoring in the first year and during the studies, to facilitate adaptation to the university environment and academic performance, as well as in the final phase in order to facilitate the labor incorporation, professional development and continuity of their university education.*

This defines the work of orientation and tutoring at the university stage that the institutions have carried out through guidance and information services that address, mainly, the rights mentioned in article 8 and adding to the teaching work the tutorial function to achieve personalized attention and follow-up, mainly academic, of their students.

The Student Statute (Articles 20 and 21) also describes tutorship in relation to two situations:

- Degree tutoring, in which “the coordinators and tutors of the degree will assist and guide the students in their learning processes, in their transition to the working world and in their professional development” and which the university institutions have implemented, in general, through their Tutorial Action Plans (TAP).
- Subject or subject tutoring, in which “students will be assisted and guided, individually, in the learning process of each subject or subject of their curriculum through tutoring developed throughout the academic year”.

In the last few decades, tutoring has also become an important factor for university institutions when associated with the quality of these ([Álvarez and Álvarez 2015](#); [Martínez-Clares 2017](#); [Kurniawan 2018](#); [Pérez et al. 2017](#)). In the case of Spain, it is seen as a criterion in the verification and accreditation of official degrees and postgraduate degrees ([Geruzada and Malik 2015](#)).

It is clear that, in this new context, the mentoring/accompaniment system at the University becomes especially relevant. Evidence of this is the numerous studies developed in recent years that show the interest of higher education institutions in this subject, studying orientation and tutoring from different areas. Some examples:

- Accompaniment of new entrants and prevention of dropout ([Bintani 2020](#); [Cano and Paula 2008](#); [Da Re et al. 2015](#); [Figuera and Álvarez 2014](#); [Lizalde et al. 2018](#));
- Peer tutoring ([Arco and Fernández 2011](#); [Llanes et al. 2017](#); [Molina et al. 2019](#));
- Career guidance ([Do Ceu and Rodríguez 2010](#); [Suárez 2013](#));
- Academic tutoring ([Ghenghesh 2018](#); [Lochtie et al. 2018](#); [Martínez et al. 2016](#); [Rodríguez et al. 2015](#); [Solaguren and Moreno 2019](#));
- The Tutorial Action Plan ([Alonso et al. 2018](#); [Coromoto and Quiroz 2018](#); [Lledó et al. 2018](#); [Venegas and Gairín 2018](#));
- University support, guidance and information services ([Arfasa 2018](#); [Purnama et al. 2020](#));
- Transition of students to university ([Domínguez et al. 2013](#); [García et al. 2014](#));
- Student satisfaction regarding the services and tutoring offered by their universities ([Hernández de la Torre et al. 2021](#)).

On this issue, some authors ([Giménez et al. 2018](#), p. 29) stated that, as a result of these works, universities “begin to analyze, within the tutoring, different aspects and complementary elements among themselves: their different forms (academic, personal and professional), manifestations (individual, group, among equals) and roles (student/tutor)”.

From these studies, in addition, it can be concluded that university orientation is understood holistically, with the mission of favoring the integral development of the student (academic, personal and professional), but above all, their emotional intelligence and capacity for empowerment (Da Re et al. 2022); therefore, higher education institutions work to offer a response in this direction (Saburovna and Rajabboevna 2022; McIntosh et al. 2021).

However—and despite these efforts—we find studies (Álvarez and Álvarez 2015; Andrés et al. 2016; Echeverría and Martínez 2015; Hernández-López and Tobón-Tobón 2017; Pantoja Vallejo et al. 2022) that point out the deficits that university tutoring presents. We highlight the following:

- Lack of planning and effective development of PAT in careers (Degrees);
- There is no adequate methodological and management structure for the development of the tutorial function;
- The need to define the tutor's profile with their mentoring modalities and the concrete actions to be taken;
- Little commitment to assume the role of the tutor on the part of the teachers and the institution;
- Minimum impact of tutoring on students' comprehensive training;
- In most cases, there is not a great availability of schedules by teachers and students for the full development of tutoring;
- In many cases, there are also no adequate spaces to attend students;
- Little relevance given to subject tutoring in the PAT;
- There is little recognition of the work of the tutoring coordinator by the academic managers of the career (Degree);
- Little tradition in the use of ICT in the development of the PAT, in the management and follow-up of students;
- In some cases, mentoring becomes bureaucratic and administrative (scholarships, administrative procedures, etc.);
- Academic tutorial accompaniment is often confused as a space for emotional relief;
- The absence of a teacher-tutor training and awareness-raising programs and mentoring coordination;
- Insufficient coordination between the subject teachers, the career teacher-tutor and the guidance services of the university. There is also a poor coordination of tutors with each other and with mentoring coordination;
- Poor dissemination process of tutorial action, whose objectives sometimes do not match the expectations and needs of the students;
- The tutorial action has not been truly tracked and evaluated;
- A lack of interest of the students and a lack of time that prevents teachers from carrying out their tutoring;
- Existence among teachers of the false belief that students are able to manage their own training project autonomously.

Another issue that can be observed in various studies (Giménez et al. 2018; Martínez et al. 2016) is that, although many actions are undertaken by universities in the field of guidance, they either do not reach or do not meet the needs of our students. Therefore, it "is necessary to consider the student's point of view in order to assess the extent to which the actions undertaken have a sufficient impact on their perception" (Torrecilla et al. 2013, p. 83).

In the same vein, other authors (Giménez et al. 2018) state that the actions undertaken in the field of tutoring and guidance must be coupled with a process of re-adjustment and continuous evaluation as an opportunity to improve the quality of teaching, highlighting the importance of evaluating tutoring from indicators such as student satisfaction in relation to this aspect.

Based on this premise—the importance of knowing the perception, use and satisfaction that university students have about the tutoring they receive—the objective of this study is to build a tool with which to assess this issue and whose application can be extended to students of any degree or postgraduate, thus allowing comparability.

## 2. Materials and Methods

Since the objective of this work is the construction of an instrument with which to assess the knowledge, use and satisfaction of university students towards the tutorials offered by university institutions, the procedure followed to achieve it is described in the following sections.

### 2.1. Review of Other Work

Before starting the construction of our tool, other works dealing with research methodology, selection of techniques and previous studies whose objective has been the construction of a tool with similar characteristics to our project are reviewed. Examples are given in Table 1.

**Table 1.** Examples of revised texts.

Revised Text References
entry 1
Alaminos, Antonio y Castejón, J.L. (2006). <i>Preparation, analysis and interpretation of surveys, questionnaires and opinion scales</i> . Ed. Ivory.
Albert, M.J. (2009). <i>Educational research</i> . McGraw Hill.
Amor, M. I., Saldarriaga, K., & Dios, I. (2021). Assessing university guidance and tutoring in higher education: Validating a questionnaire on Ecuadorian students. <i>PloS ONE</i> , 16(6), e0253400.
Andres, M., Flores, R., Caballer, A. and Gil, J.M. (2016) Tutoring tool at Jaume I University. A proposal for the Degree in Psychology. In J.L. Castejón (Coord.) <i>Psychology and education: present and future</i> (pp. 2282–2289). ACIPE.
Bisquera, R. (2009). <i>Methodology of educational research</i> . The Wall.
Caldera, J.F., Carranza, M.R., Jiménez, A.A. and Pérez, I. (2015) Attitudes of university students towards tutoring. Design of a measuring scale. <i>Journal of Higher Education</i> , XLVI (1) (173), 103–124
Callejo, J. (Coord.) (2009) <i>Introduction to social research techniques</i> . UNED.
Cheung, R. Y., Siu, A. M., & Shek, D. T. (2017). Survey of needs and expectations for academic advising in a Hong Kong university. <i>NACADA Journal</i> , 37(2), 21–32.
Grey, D., & Osborne, C. (2020). Perceptions and principles of personal tutoring. <i>Journal of Further and Higher Education</i> , 44(3), 285–299.
Hernández, R., Fernández, C. y Baptista, M.P. (2014) <i>Methodology of the research</i> . McGraw Hill.
Hernández, C., Jiménez, M., Guadarrama, E. y Rivera, A. (2016) The perception of motivation and satisfaction of tutoring received in postgraduate studies. <i>University Education</i> , 9 (2), 49–58.
Hixenbaugh, P., C Pearson, & Williams, D. (2006). Student Perspectives on Personal Tutoring: What Do Students Want? In <i>Personal Tutoring in Higher Education</i> , edited by L Thomas and P Hixenbaugh, 45–56. Trentham books
Lacave, C., Molina, A.I., Fernández, M. y Redondo, M.A. (2016) Reliability and validity analysis of a teacher questionnaire. <i>Re-vision</i> , 9 (1), 1–10.
Lafuente, C. y Marín, A. (2018) Methodologies of Social Science research: phases, sources and selection of techniques. <i>EAN magazine [online]</i> , (64), 5–18.
López, P. and Fachelli, S. (2015) <i>Quantitative social research methodology</i> . Barcelona, Spain: Autonomous University of Barcelona. Digital editing. Accessible at: <a href="http://ddd.uab.cat/record/129382">http://ddd.uab.cat/record/129382</a>
Martínez, Francesc (2002). <i>The questionnaire: an instrument for research in the Social Sciences</i> . Laertes.
McFarlane, K. (2016). Tutoring the Tutors: Supporting Effective Personal Tutoring. <i>Active Learning in Higher Education</i> 17 (1): 77–88.

Table 1. Cont.

Revised Text References
Páramo, P. (Comp.) (2013) <i>Research in Social Sciences: research strategies</i> . Bogota, Colombia: Pilot University of Colombia.
Retna, K. S., Chong, E., & Cavana, R. Y. (2009). Tutors and tutorials: Students' perceptions in a New Zealand university. <i>Journal of Higher Education Policy and Management</i> , 31(3), 251–260.
Ross, J., K. Head, L. King, P. M. Perry, and S. Smith. (2014). The Personal Development Tutor Role: An Exploration of Student and Lecturer Experiences and Perceptions of that Relationship. <i>Nurse Education Today</i> 34 (9): 1207–1213.
Salaguren-Beascoa, M. y Moreno, L. (2016) Attitudes of university students towards academic tutoring scale. <i>Education XXI</i> , 19 (1), 247–266.
Stuart, K., Willocks, K., & Browning, R. (2021). Questioning personal tutoring in higher education: an activity theoretical action research study. <i>Educational Action Research</i> , 29(1), 79–98.
Torrecilla, E.M., Rodríguez, M.J., Herrera, M.E. y Martín, J.F. (2013) Quality assessment of a university degree tutoring process: the perspective of the new student in education. <i>Revista Española de Orientación y Psicopedagogía</i> , 24 (2), 79–99.
Stockemer, D. (2019) <i>Quantitative Methods for the Social Sciences. A Practical Introduction with Examples in SPSS and Stata</i> . Springer?
Wood, P. and Smith, J. (2017) <i>Research in education: basic concepts and methodology to develop research projects</i> . Narcea.
Yale, A.T. (2019). Quality Matters: An In-depth Exploration of the Student-personal Tutor Relationship in Higher Education from the Student Perspective. <i>Journal of Further and Higher Education</i> . <a href="https://doi.org/10.1080/0309877X.2019.1596235">https://doi.org/10.1080/0309877X.2019.1596235</a> .

Source: own production.

This review has taken into account some issues, such as:

- Choice of data collection tool;
- The process of construction of the instrument and its phases;
- Advantages and disadvantages of Likert scales;
- Items and their construction;
- Dimensions of the instrument;
- Approaches to measuring attitudes.

It is also concluded that the survey is a widespread social research technique (Bihu 2021; López and Fachelli 2015; Taherdoost 2016), and the use of a questionnaire is the “simplest and quickest method” to evaluate research aspects (Lacave et al. 2016). However, we must consider that to guarantee the usefulness and meaning of the results obtained, it is not possible simply to create a list of questions and answers, but rather, the instrument used must be well “calibrated”, that is, it must be well designed according to the standard quality criteria. This task is not straightforward, as constructing a technically well-done questionnaires entails in itself an investigation (Lacave et al. 2016, p. 136).

This brings us to the next step in the process: the design of the tool.

## 2.2. Design of the Instrument

We agree with the investigation by Alaminos and Castejón (2006) that the drafting and structuring of the questions in the questionnaire should be a careful task, since it depends on “obtaining the information desired and not another and not influencing the responses of individuals” (p. 84).

In addition, the authors pointed out that, in the design of the instrument, a series of rules should be considered, the most important being:

- Structure: build a series of topics on which you want to obtain information, entering in each of them a number of questions;
- Wording of the questions: clear, without double meaning, simple and concise;
- Open or closed questions;

- Closing Format.

Taking these issues as a reference, the initial design of the questionnaire has four dimensions or topics on which we want to gather information, and which are in line with the objectives that are intended to be achieved. These dimensions are:

1. Socio-demographic dimension. Profile of students, including questions about age, gender, course or access to university, among others.
2. Students' knowledge of the PAT. Section that includes issues, related to tutoring and guidance actions that the faculty carries out in a more generic and group way.
3. Knowledge and use of students of academic tutoring or more specific subjects.
4. Perception/satisfaction of students with academic tutoring.

Closed issues are chosen, as *"these are easy to ask and quick to answer, avoiding wasting time when writing answers [. . .] Closed questions are preferable when the objective of the researcher is to obtain the opinion (agreement or disagreement) with a certain point of view"* (Alaminos and Castejón 2006, p. 90).

Likewise, as the authors point out, their interpretation is fast and with few complications.

In the writing of the items—in addition to seeking to be simple, clear and concise—to avoid stereotyped responses, we sought to establish a symmetry, writing positive and negative items.

As for the answers to the questions this will be on a Likert scale, combining a graphic and numerical design with four gradations of agreement. The choice of even values for this skill is justified, eliminating in these options the neutral value (mean), since it is associated with indecision.

As to the decision to adopt even or odd number of degrees, there seems to be no clear reason to use either number; however, some authors indicate the advantage of having an even number of degrees to avoid intermediate response biases (Alaminos and Castejón 2006, p. 102).

Since the final objective when applying the instrument is to analyze the knowledge, use and satisfaction of students in relation to tutoring, the neutral would not provide relevant data for such knowledge. By eliminating this option, it is intended to avoid the bias of selfless response on the part of the students, inviting them to define their position.

As indicated by other authors, the use of questionnaires necessarily implies the control of the goodness of the questionnaire by studying its reliability and validity. Validity refers to the degree to which the instrument measures what is intended to be measured; reliability of a questionnaire refers to the confidence given to the data obtained from it and is related to the internal consistency or consistency and precision of the measures collected. These two options are crucial, because a "flawed" questionnaire cannot guarantee a successful diagnosis (Lacave et al. 2016, p. 136).

We must, therefore, demonstrate that our instrument possesses the psychometric properties indicated. To this end, the authors explain that the validation of a questionnaire is carried out around two issues:

- The validity of the content of the questionnaire, in order to determine the degree of comprehension of the questions contained in the questionnaire. Unlike other types of validity, this is usually not expressed quantitatively through an index or coefficient, but is usually estimated subjectively or intersubjectively. The most common procedures for this are consultation with similar subjects to the future interviewees or by expert judgment.
- The construct validity, in order to explore the questionnaire and find out if the relationships between the variables define a dimensional structure in the questionnaire that maintains invariant and can serve as a basis for the interpretation of the results in different populations.

### 2.3. Content Validation

Following these considerations, we proceed to the next step: the content validation of the designed questionnaire. To do this, it is sent to experts in the field, selected for their knowledge on guidance and tutoring in the university field, who we thank for their collaboration.

The expert collaborators have been five tenured professors belonging to different Spanish universities and with years of experience in the subject. They rated each item on a scale of 1 to 5 (where 1: no agreement and 5: fully agree) against four dimensions: clarity, coherence, relevance and appropriateness.

The questionnaire was sent twice: in the first, these experts indicate agreement with the proposed dimensions, obtaining an average of clarity: 4.65; coherence: 4.6; relevance: 4.75; and adequacy: 4.99 (Table 2). To assess the agreement between the measurements given by the experts, the interclass correlation coefficient (ICC) was calculated, obtaining 0.830 (value close to 1, considered excellent (Liljequist et al. 2019)).

**Table 2.** Results obtained according to the five experts.

	Clarity		Coherence		Relevance		Adequation	
	M	DT	M	DT	M	DT	M	DT
Exp.1	4.51	0.551	4.56	0.502	4.68	0.471	5	0
Exp.2	4.76	0.435	4.61	0.494	4.76	0.435	4.98	0.156
Exp.3	4.71	0.461	4.66	0.480	4.83	0.381	4.98	0.156
Exp.4	4.37	0.488	4.56	0.550	4.71	0.461	5	0
Exp.5	4.90	0.300	4.62	0.481	4.80	0.401	5	0
Global	4.65	0.447	4.602	0.501	4.756	.0429	4.99	0

Regarding the wording of the items (on the semantics and syntax of the questions), the experts made clarifications on the following aspects:

- Formulate all the items with a verb in the first person of the way that an affirmation is made which the respondent will have to assess;
- Eliminate those items that are similar or that do not provide any relevant information;
- Correct items of dubious interpretation or that can lead to confusion;
- Use a more inclusive language, using both the feminine and masculine in some words;
- Correct the wording and formulation of some items due to grammatical errors.

As a result of this process, the questionnaire was modified and adjusted to these requirements, having 50 items distributed in four dimensions:

- Socio-demographic student profile (9 items);
- Students' knowledge of the PAT (12 items);
- Students' use and knowledge of academic tutoring (10 items);
- Attitude and student satisfaction towards tutoring (19 items).

Once the corrections have been made, the questionnaire is sent a second time to the experts, who confirm that they agree with the final format.

### 2.4. Administration of the Scale to a Representative Sample

Subsequently, the questionnaire is passed to a group of students studying Social Education (a total of 124 students). This pilot sample was chosen considering that, in addition to answering the questions, they can provide comments on the relevance of the questions. As some of them already have knowledge about the tutoring and guidance offered by the university, their contributions may be of interest to the research.

The data provided indicate that they consider the design to be relevant, understandable and that it gathers adequate information, although they proposed to improve the wording of some items, especially related to the TAP, which are more unknown to them.

In addition, these data were used to perform the statistical tests necessary to analyze the reliability of the designed questionnaire.

### 2.5. Construct Validity and Reliability

The following analyses are recommended when verifying the reliability of a questionnaire (Torrecilla et al. 2013; Bihu 2021; López and Fachelli 2015; Taherdoost 2016; Lacave et al. 2016):

- Analysis of internal consistency, in order to give significance to the questions of the questionnaire. The Cronbach alpha coefficient is usually calculated. If this is at intervals  $>0.7$  it is considered acceptable,  $>0.8$  good and  $>0.9$  excellent (George and Malley 2003).
- Analysis of the ability to discriminate items in a way that reinforces the one-dimensional character of the test.

#### (a) Internal Consistency

At this stage, the KMO sampling adequacy measure ( $>0.5$ ) is calculated, as well as the significance level of the Bartlett sphericity test ( $\rho < 0.005$ ). These data (see Table 3) confirm the adequacy of the data to a factorial analysis in SPSS.

**Table 3.** Sampling adequacy and sphericity statistics.

Sampling Suitability and Sphericity	
Kaiser–Meyer–Olkin	0.774
Bartlett’s sphericity	Chi-square: 2507, 63 gl: 846 $\rho$ : 0.000

Source: own production.

Subsequently, we performed the factorial analysis calculating Cronbach’s Alpha for each of the dimensions proposed, except for the socio-demographic profile of the students.

In relation to the first of the dimensions, i.e., Students’ knowledge of the TAP, a value of 0.843 is obtained, which allows us to affirm that its reliability is very adequate (see Table 4).

**Table 4.** Cronbach’s alpha calculation of the first dimension.

Factor Analysis		
Cronbach’s alpha	Cronbach’s alpha based on standardized elements	N of items
0.843	0.854	12

Source: own production.

In relation to the second dimension, i.e., use and knowledge of students on academic tutoring, we obtained a value of 0.6, a result that confirms an adequate reliability (Table 5).

**Table 5.** Cronbach’s alpha calculation of the second dimension.

Factor Analysis		
Cronbach’s alpha	Cronbach’s alpha based on standardized elements	N of items
0.639	0.660	10

Source: own production.

The third dimension, as shown in Table 6, also provides adequate results, confirming its reliability.

**Table 6.** Cronbach's alpha calculation of the third dimension.

Factor Analysis		
Cronbach's alpha	Cronbach's alpha based on standardized elements	N of items
0.741	0.615	19

Source: own production.

Finally, the reliability analysis of the questionnaire is performed using all the items, obtaining a Cronbach's alpha of 0.817, which allows us to affirm that it has a very acceptable reliability (Table 7).

**Table 7.** Cronbach's alpha calculation of the fourth dimension.

Factor Analysis		
Cronbach's alpha	Cronbach's alpha based on standardized elements	N of items
0.817	0.813	41

Source: own production.

The correlation between elements indicates an average of 0.322, considered excellent and, therefore, that they should be preserved.

However, it was checked if the removal of any item could improve this consistency, but (as can be seen in Table 8) Cronbach's alpha would not suffer a significant modification, and therefore, the initial format is preserved.

**Table 8.** Consistency of elements.

	Corrected Total Element Correlation	Cronbach's Alpha If the Element Has Been Deleted		Corrected Total Element Correlation	Cronbach's Alpha If the Element Has Been Deleted
Q1	0.298	0.826	Q21	0.630	0.816
Q2	0.262	0.827	Q22	0.638	0.816
Q3	0.211	0.829	Q23	0.730	0.813
q3a	0.472	0.821	Q24	0.589	0.817
Q4	0.227	0.829	Q25	0.636	0.816
Q5	0.216	0.828	Q26	0.691	0.814
Q6	0.724	0.812	Q27	−1.142	0.836
Q7	−1.315	0.846	Q28	0.651	0.818
Q8	0.613	0.817	Q29	0.803	0.815
Q9	0.449	0.822	Q30	−1.135	0.834
Q10	0.632	0.817	Q31	−1.487	0.844
Q11	0.545	0.818	Q32	0.058	0.832
Q12	0.208	0.829	Q33	−1.042	0.835
Q13	0.105	0.831	Q34	−1.221	0.838
Q14	0.449	0.822	Q35	0.398	0.823
Q15	−0.575	0.843	Q36	0.687	0.813
Q16	−1.360	0.845	Q37	−1.561	0.839

**Table 8.** *Cont.*

	Corrected Total Element Correlation	Cronbach's Alpha If the Element Has Been Deleted		Corrected Total Element Correlation	Cronbach's Alpha If the Element Has Been Deleted
Q17	0.378	0.825	Q38	−6.667	0.839
Q18	0.584	0.818	Q39	0.496	0.820
Q19	−1.149	0.836	Q40	0.289	0.826
Q20	0.703	0.819	Q41	0.761	0.810

Source: own production.

(b) Ability to discriminate items

The results obtained ( $D = 0.48$ , considered excellent, which demonstrates we should preserve the design) indicate that the items are highly discriminatory.

**3. Results**

As a final result of this process, a questionnaire is constructed with a total of 50 items, distributed in four dimensions, whose response option is a Likert scale of four options. Their equivalence is 1 = no agreement, 2 = little agreement, 3 = quite agreement and 4 = totally agree. The following sections describe these items within the considered dimensions.

*3.1. Dimension 1: Socio-Demographic Profile of Students*

This section includes nine questions to obtain information regarding the age, sex, degree and academic level of the participating student.

We also included whether the student started university after passing their baccalaurate and the entrance test at the University (EVAU), after completing a higher cycle of professional training, passing the test of over 25 years, or through another type of access.

Information was also collected on whether the major the student was studying was their first choice of studies, if they had ever considered changing majors, as well as the reasons that had led them to choose this degree or for what reasons they would abandon them.

*3.2. Dimension 2: Pupils' Knowledge of TAP*

In this dimension, a total of 12 items were collected (Table 9).

**Table 9.** Items of dimension 2.

Issues	1	2	3	4
1. I know the PAT of my school				
2. I consider the information on the TAP to be adequate				
3. Attended tutoring or group sessions				
3.a. When I attended these group sessions I raised some questions, queries or doubts				
4. I have met individually with my course tutor				
5. I have met individually with the TAP coordinator				
6. The information provided through the TAP has been useful to me				
7. No information has been provided on the TAP				
8. The information given through the PAT is useful as academic support (doubts about tasks, exams, contents, evaluation criteria . . . ) in the subjects I study				
9. The information given through the TAP is useful for planning the course: time, subjects, practices, exams . . .				
10. The information provided through the PAT is useful for the development of my curriculum (choice of electives, academic itinerary, internships . . . )				

Own making.

### 3.3. Dimension 3: Students' Use and Knowledge of Academic Tutoring

This section has a total of 10 items that collect information, in a more specific way, on academic tutoring (Table 10).

**Table 10.** Items of dimension 3.

Issues	1	2	3	4
1. I know my teachers' in-person tutoring schedule				
2. I only use virtual tutoring with my teachers				
3. I use face-to-face tutoring to consult my doubts				
4. I don't go to tutoring with teachers because they don't help me solve my doubts				
5. In tutoring, I ask questions related to performing work for the subjects				
6. Mentoring asked questions related to the conduct of examinations				
7. I use tutoring only when I have to review my grades				
8. In tutoring with teachers my doubts have been resolved				
9. My teachers invite the use of tutoring to consult doubts				
10. My teachers, if necessary, make their schedules more flexible so that they can attend the tutoring sessions.				

Own making.

### 3.4. Dimension 4: Attitude/Student Satisfaction towards Tutoring

A total of 19 items are grouped under this dimension (Table 11).

**Table 11.** Items of dimension 4.

Issues	1	2	3	4
1. Going to tutoring helps me to optimize the study time				
2. I believe mentoring can help improve my academic background				
3. Going to tutoring with teachers helps me solve personal issues				
4. Mentoring with teachers helps me make decisions in the design of my academic-professional itinerary				
5. Having to talk to teachers in a face-to-face tutoring makes me embarrassed				
6. Mentoring with teachers helps me improve personal treatment with them				
7. In tutoring with teachers my doubts have been resolved				
8. The direct treatment with the teacher in face-to-face tutoring intimidates me				
9- Going to tutoring is going to bother teachers				
10. Mentoring solves more concepts than in class				
11. I can't express myself well when I go to tutoring				
12. I get nervous when I go to tutoring				
13. Mentoring stimulates my study habit				
14. Attending tutoring with teachers helps you catch up on the subject				
15. Mentoring with teachers could be discontinued				
16. Attending tutoring displeases me				
17. In the decision to attend tutoring, the teacher plays a key role				
18. If I have doubts about any issue, I attend tutoring, regardless of who the teacher is				
19. Mentoring is a fundamental support in the teaching-learning process				

Own making.

#### 4. Discussion and Conclusions

Tutorial action is the backbone of the educational process, requiring preparation, organization and evaluation (Martínez-Clares 2017). Therefore, it is necessary to have tools that favor their planning and development.

The instrument that has been created and validated is a questionnaire with four dimensions.

The first dimension contains issues about the socio-demographic profile of students, which is considered to be of interest since school dropout (and high numbers of this among university students) is a widespread concern and can be prevented by incorporating actions in this line within the PAT or tutoring, especially if the reasons, as voiced by students, are known (Da Re et al. 2015; Álvarez and Suárez 2016).

In the second dimension, one of the issues identified as deficits of tutorial action in the university is that there is little knowledge and/or dissemination of this type of action (Álvarez 2013). We consider that these items can provide data on the notion that our students have of the PAT, as well as aspects that should or can be improved as well as incorporated.

The third dimension highlights that among teachers, there is little commitment to assume the role of tutor and little recognition of tutorial work and that, in most cases, there is no availability of schedules, adequate spaces, etc. (Álvarez and Álvarez 2015) or that these are unknown to the students (Martínez et al. 2016; Aguaded and Monescillo 2013). In addition, many students only use tutoring in specific moments (before and after exams/evaluation or the delivery of papers, for example) (Gil et al. 2013) and personal face-to-face tutoring is considered the most useful by students; however, it is the least used (Martínez et al. 2016). Thus, we consider that obtaining information on these issues helps to understand them, as well as how students make use of academic tutoring, in this way promoting their improvement.

The fourth dimension has more items to consider with regards to the obtaining of information. There are many and varied actions that have been undertaken to guide and mentor students throughout their university studies, although sometimes, these are only moderately useful to students (Gargallo et al. 2019) as they do not cover their needs or expectations (Torrecilla et al. 2013).

Among the deficiencies associated with tutoring is that it is confused with a space for emotional relief; thus, it is important that students know that the role of tutoring is the space to ask for support, but their tutor is not an expert in psychology. And, therefore, know what they can expect from the tutor. As some authors have pointed out (Álvarez and Álvarez 2015; Martínez et al. 2016), tutoring can be approached in different ways; however, regardless of the content or the person responsible for carrying it out, it is important to establish a good relationship between tutor and student (Grey and Osborne 2018; Yale 2017).

The deficits also include a lack of interest on the part of the students, although some authors (Martínez et al. 2016; García-Antelo 2010; Pérez Cusó 2013) have claimed that this may be due to the fact that they do not feel prepared, feel uncomfortable or do not dare to face an in-person session with the tutors, information that we can contrast in some of the items.

In conclusion, with the application of this instrument, we can collect information on the use, knowledge and satisfaction that university students have about tutoring, which will be useful in centers/faculties for the improvement of the support system, guidance and tutoring to their students, as well as teachers and tutors, to promote tutorial action among students.

Likewise, we consider that the improvement of the tutorial action will have a positive impact on the teaching-learning process, achieving more optimal results and even avoiding academic abandonment, especially among new access students.

In addition, the development of orientation actions more adjusted to the demands of students complies with the principle of attention to diversity, promoting a more individu-

alized teaching-learning process, thereby favoring the integral development of students, both in academic matters and personally or professionally.

It should not be forgotten that, in general, students consider that tutoring, fundamentally, helps them with their subject and its evaluation. They are not sufficiently aware of the importance of tutoring beyond subject-specific technical advice and limit it to the resolution of class doubts, and therefore, they do not spend the necessary time on it. For these reasons, we consider it necessary to encourage the participation of students and to enhance communication with tutors. In this sense, the use of tools such as the one presented in this paper is fundamental to investigate the knowledge and satisfaction of students in relation to the guidance and support they receive throughout their university education.

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