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\* Corresponding author. ISEG – Lisboa School of Economics and Management, Universidade de Lisboa, Rua Miguel Lupi nº 20 - Office 310, 1249-078 LISBOA, PORTUGAL. Email: [cssarrico@iseg.ulisboa.pt](mailto:cssarrico@iseg.ulisboa.pt)

## **Student satisfaction with Portuguese higher education institutions: the view of different types of students**

Cláudia S. Sarrico <sup>a, c \*</sup>, Maria J. Rosa <sup>b, c</sup>

*<sup>a</sup> ISEG – Lisboa School of Economics and Management, Universidade de Lisboa, Portugal; <sup>b</sup> University of Aveiro, Portugal; <sup>c</sup> CIPES – Centre for Research in Higher Education Policies, Portugal*

The purpose of this paper is to discuss student satisfaction with Portuguese higher education institutions and to analyse how it varies for different types of students. A survey instrument was used to collect data on students' perceptions and expectations regarding different aspects of service provision. Based on the gap model of satisfaction, satisfaction indices were calculated for all items considered and were checked for their statistical significance. Although, generically-speaking, students' perceptions and expectations are high, the satisfaction indices are all negative and statistically different from zero. Furthermore, significant differences of satisfaction regarding some aspects of service provision were found between different groups of students. This study may contribute to institutions improving the quality of services they provide. Furthermore, this study will contribute to improving the quality of higher education institutions through correcting mistakes and designing better processes, provided that the information collected through student satisfaction surveys has been treated adequately.

*Keywords: Student satisfaction; Portugal; Gap model*

## **Introduction**

One of the principles of quality management is ‘customer focus’, which implies that an organisation needs not only to identify its customers, but also to implement mechanisms that detect their needs and expectations, as well as their satisfaction (Grönroos, 2007; Zeithaml, Bitner, & Gremler, 2006). Customer surveys are a useful tool for assessing customers’ expectations and satisfaction.

In the case of higher education institutions, the following multiple ‘customers’, or stakeholders, can be identified: students, academic staff, non-academic staff, parents, alumni, employers, the Ministry responsible and society as a whole. All of them are important for the quality management of a university (Harvey & Green, 1993), and customers’ surveys should be undertaken periodically in order to detect their requirements, expectations and satisfaction regarding the institutions’ functions of teaching and learning, research and scholarship, and third mission. Students, in particular, are increasingly regarded as ‘customers’ (Cuthbert, 2010), albeit rather special ones, given their multifaceted role.

The perspective of the student as a ‘customer’ has been critically analysed (see for instance, Tight (2013)). Morley (2003), and more recently Cardoso (2012), point to the fact that students are meant to be active players in the learning process. However, their sense of entitlement to academic success, independent of their performance or level of responsibility, has a negative effect and is detrimental to the perception that a student is a customer (Vuori, 2013). Nonetheless, Morley (2003) acknowledges that the perception of students as ‘customers’ is quite common in higher education systems where students and their families share substantial education costs. Cardoso (2012) found that in the case of Portuguese students who pay tuition fees, in general, it is possible to argue that students’ perceptions of quality assessment translates, to some

extent, to them seeing themselves as clients or consumers. Furthermore, a study as to whether students in Finnish higher education consider themselves to be customers, by Vuori (2013), finds that while some students do not see themselves as customers, as they do not pay tuition fees, others nevertheless show either a preference for, or a perception of students as customers.

Regarding the teaching and learning function, higher education institutions have to live with two different perspectives of the service they deliver: one is operational – ‘teaching’, and is seen from an organisational perspective, and the other is ‘learning’ – the student’s perspective of the experience and results (Figure 1). In fact, the student is more than just a ‘customer’. The student is simultaneously an input, a co-deliverer of the service, a customer and even a service output, in the case of graduates. This makes their role in higher education highly complex.

Figure 1 – A double look on the teaching and learning function of higher education institutions (adapted to the university context from Johnston and Clark 2008, p. 14)

Furthermore, students do not represent a homogeneous group (Sarrico, Hogan, Dyson, & Athanassopoulos, 1997). There are traditional students, who come directly from secondary education and are studying full time, but there are also non-traditional students such as: workers, part-time students, older ones and sometimes those with an incomplete formal secondary education. Some students are able to study wherever they feel like it, and others have to stay at home for financial and/or family reasons, as well as the need to be employed. Then there are also foreign students. Finally, students are distributed by different subject areas and degrees, all of which represent very different profiles. Evidence shows that satisfaction with the experience of higher education will

depend on students' characteristics, among other factors (García-Aracil, 2009; Neumann & Rodwell, 2009).

Quality management issues are becoming more pressing in Portugal, as greater regulatory pressure from the State is occurring and there is more competition between institutions for a decreasing market of potential students. Within the new quality assurance legal framework, institutions have to implement internal quality assurance systems, in accordance with European Standards and Guidelines (ESG) (ENQA, 2009). Interestingly, these standards imply the requirement that institutions assess students' satisfaction with their degrees (standard ESG 1.6 – Information Systems). Assessing students' expectations and satisfaction is thus crucial for quality management of higher education institutions, and it has to be part of management practices. It can contribute to attracting students with the desired profile, allowing them to have a satisfactory experience whilst studying at an institution, encouraging them to progress and complete their degrees and enabling them to obtain a diploma and to have a positive final opinion about the institution. All of these factors will favour students' predisposition to come back in the future, to market the institution amongst prospective applicants or to contribute to student recruitment. Student satisfaction surveys may also be an informative mechanism for institutional strategic development, allowing institutions to continuously improve their services and go beyond the status quo, thus promoting innovation.

In a comprehensive review of the literature, Marsh (1987) reports numerous experiences of assessment of teaching by students since the 1920s, especially in the USA. However, a lot of these exercises had little scientific support. In order to correct that failure, several instruments were eventually developed to measure perceived quality of teaching by students; two in particular are cited: the SEEQ Student Evaluation of

Educational Quality (Marsh, 1987) and the CEQ – Course Experience Questionnaire (Ramsden, 1991). These instruments, or adaptations of them, have been used by many higher education institutions in many different countries. Despite their known shortcomings (Yorke, 2009), they seem to be useful in complementing peer assessment of teaching with student assessment of teaching, and are increasingly recognised as being important for teaching and learning processes in higher education institutions.

The SEEQ is used to obtain feedback from students about teachers or course units, whereas the CEQ is used to obtain feedback from recent graduates about their degrees. Some institutions seem to accept these surveys as being sufficient in terms of sources of information and do not attempt to supplement them with other methods of assessing degrees by students and recent graduates. However, these surveys do not include questions relating to the pastoral, physical or social support of students in higher education. In an age where the student is considered a consumer of higher education, and taking into account the influence of consumer research, the total student experience is increasingly important, rather than that of just the course/degree. Student satisfaction is used as a proxy for quality (Green, Brannigan, Mazelon, & Giles, 1994, p. 101). As such, different satisfaction surveys have been developed, which aim to assess the entirety of the student experience in relation to degree study, notably by Noel-Levitz in the USA (see Elliott and Shin, 2002) and Harvey in the UK (Harvey, 2003), with the UK launching a nationwide ‘National Student Survey’ for all its courses/degrees (Richardson, 1994). The CEQ, which is widely used in the UK and Australia, was further extended to account for the non-classroom context (Griffin, Coates, Mcinnis, & James, 2003; Wilson, Lizzio, & Ramsden, 1997).

Wiers-Jenssen, Stensaker, and Grøgaard (2002) acknowledge the overlap of student assessment of teaching with student satisfaction surveys. However, even though

they recognise the quality of teaching as being a crucial determinant of student satisfaction, they admit that quality of service should not be underestimated when trying to improve student satisfaction.

In this light, this paper intends to discuss student satisfaction within Portuguese higher education institutions, using a satisfaction model based on a gap analysis approach (Green, et al., 1994, p. 103; A. Parasuraman, Zeithaml, & Berry, 1985, 1988), as well as analysing whether different segments of the student population have different levels of satisfaction. Ultimately, as long as the information collected through student satisfaction surveys has been treated adequately, it can be used to correct mistakes and design better processes, thus contributing to the improvement of quality in higher education institutions.

### **A student satisfaction model**

Students are an input for higher education institutions and, as such, institutions have to know how to manage them, including having an understanding of what they expect from them – their expectations. Students usually judge the quality of service provided by institutions and their judgements tend to result from a comparison between their own requirements and that which they receive. On the other hand, student support is also fundamental for the success of institutions in the long run. It is important as a means of securing an alignment between students' expectations and teaching at institutions. Understanding and satisfying student needs is an objective that needs to be continuously pursued. Student satisfaction can be managed by influencing their expectations and/or their perceptions of the services they receive. The main goal of trying to understand students is to assure that the services provided by institutions are designed and delivered in such a way that students' expectations are met (Joseph & Joseph, 1997; Tan & Kek, 2004). This has obvious implications for the quality of an institution and consequently it

is an issue that must be dealt with professionally by an institution's internal quality assurance system.

### *Student Satisfaction*

This paper takes a gap approach to student satisfaction, considered to be the result of the students' assessment of the service they receive, based on the comparison of their perceptions of the service delivered versus their previous expectations (Johnston & Clark, 2008; A. Parasuraman, et al., 1985) (Figure 2). Should students' perception of their teaching and learning meet their expectations, then students will be satisfied; if not, they will be dissatisfied.

Figure 2 – Student satisfaction model (adapted to the university context from Johnston and Clark 2008, p. 110)

Expectations, as well as perceptions, are components of quality of service, from a student's perspective. It is fundamental that higher education institutions' leaders and managers understand students' expectations. Only by doing this, will they be able to design services that meet students' expectations and be able to develop marketing policies that are capable of influencing students' prior expectations and ensure that an institution can meet them.

Two gaps are considered in the proposed student satisfaction model. Gap 1 occurs when students' expectations are not fully met in the case of teaching and learning. Several reasons may explain this misalignment: teaching and learning methods may have been badly designed (for instance, they could have only been designed for traditional students); although, however well designed they are, it may well be that there



are insufficient resources to implement them (this may be the case when trying to implement student-centred teaching and learning, as defined under the Bologna process); it is also possible that students' expectations are inadequate, which gives relevance to the idea that it is important to ask students not only about their perceptions, but also about their expectations (it will be then up to institutions to influence those expectations, through marketing, making them more aligned to the desired student experience (Arambewela & Hall, 2006)).

Gap 2 occurs when there is a misalignment between teaching and learning processes and the students' perceptions of them. This can be the result of low-quality teaching and learning, or of students' inadequate perception of the service delivered. The occurrence of problems with service delivery is almost inevitable, as these involve people who often make mistakes: students, teachers and non-academic staff. This must also be seen as a motivation for continuously monitoring processes, in order to improve their quality. On the other hand, students perceive their educational experience in a personal, emotional and sometimes even irrational manner. Thus it is possible that the students' perceptions of the quality of processes (*perceived quality*) are not the same as the quality of the processes effectively being implemented (*operational quality*).

It is thus necessary to not only encourage students' feedback (using questionnaires or other more qualitative methods), but to also act on the information collected. This action should be used to correct failures, and also to manage expectations, which is particularly relevant in higher education institution, where there is significant asymmetry of information between students and academia, especially with regards to purely academic matters. There are some practices which may not be well perceived by students, but it is important to maintain them just the way they are, nonetheless. Quality may be 'good', but can be perceived to be 'bad', or, as (Lomas,

2007, p. 35) put it, students are provided ‘with what they need, rather than what they want’. As Blackmore (2009) states: ‘what students want is not the only criterion for judging teaching’. Academics are better equipped to decide what constitutes valued knowledge. Institutions need to explain that to students from the very beginning. The communication element is very important, even during the design of processes. Communicate a priori to manage expectations, making them realistic, and communicate a posteriori to let students know the consequences resulting from the information collected by the questionnaires. These are two very important elements for maintaining the level of confidence necessary to ensure that students continue to contribute to improving institutions’ quality.

Ideally, a match should occur between *operational quality* and *perceived quality*, but this is not always the case. That is why surveys which ask students about their expectations and perceptions are so useful. Expectations can be moulded and/or processes modified, depending on the circumstances.

### *Assessing Student Satisfaction*

Student satisfaction can be assessed using different qualitative approaches. Nevertheless, it is more common to use more structured ways of evaluation, namely questionnaires (Arena, Arnaboldi, & Azzone, 2010; Brochado, 2009; Elliott & Shin, 2002; Nadiri, Kandampully, & Hussain, 2009). Questionnaires can not only be put together based on factors of quality that have proved to be relevant in the literature, but also by each institution, based on factors which that institution identifies as being important after discussion with students (Saraiva, 2000).

Most of these questionnaires assess students’ expectations and perceptions of the services provided. Based on these measures, satisfaction indices can be computed for each factor of quality, based on the gap approach (by calculating the differences

between perception and expectation scores). Null indices correspond to satisfaction; negative indices correspond to dissatisfaction; and positive indices correspond to delight (the service exceeds expectations). It is very unlikely that organisations would design their services to exceed expectations, as this would incur even greater expectations the next time round. It is more likely that most organisations would design their services to simply meet expectations. Accordingly, we would expect gaps near, or below, zero (when the service is not delivered according to plan). In the case of the provision of not-for-profit services, such as in the case of most universities, negative gaps may be in fact expected, as a result of resources constraints (Johnston & Clark, 2008).

In fact studies show both positive and negative gaps (Chatzoglou, Chatzoudes, Vraimaki, & Diamantidis, 2013; Home, 2006; Tan & Kek, 2004). Either way, assessing these gaps provides richer information and offers a relevant diagnostic value, being always relevant to understanding better customers' expectations and perceptions and to see how they differ in the case of different users (A Parasuraman, Zeithaml, & Berry, 1994).

## **Data and methods**

For this paper we use data collected under the ANSEES (National Evaluation of Student Satisfaction within Higher Education Institutions) research project, whose main goal was to analyse Portuguese students' satisfaction, contributing to the awareness of this issue amongst higher education institutions and to assess its relevance for increasing the success rate of students concluding their degrees. It was the first study of its kind conducted in Portugal, during which all public universities and polytechnics participated, as well as some private institutions (Taylor et al., 2008).

Data was collected via a questionnaire that included five groups of questions: (1) students' demographic data; (2) students' choices and personal expectations; (3) degree

of importance (*expectation*) and satisfaction (*perception*), with a set of quality dimensions, including academic, academic support, personal development, and institutional processes and services; (4) finances and financial support; and (5) generic perceptions of their degrees and higher education institutions (a description of the instrument and its validation can be found in Machado et al. (2011)).

A random stratified sample was defined comprising students in their first and last years' of study, in different areas of study and from different institutions. It is worth mentioning that Portugal has quite a diversified higher education system, comprising both universities and polytechnics, both public and private. Thus, the sample included students from all existing 15 public universities and all existing 15 polytechnics, plus 18 out of the 40 existing private institutions. 11,613 students, enrolled in the first and last years' of study in the 2006/07 academic year answered the questionnaire, which corresponded to around 10% of the total number of Portuguese higher education students. The return rate was 77%. Table 1 presents the sample characterisation. It should be noted that a significant number of students are categorized as being in their second year of study, despite the fact that only first- and final-year students were targeted. To complete a degree, students must pass all component courses; second-year students thus represent those students that have previously failed first-year courses and are still attending them, despite being in their 2<sup>nd</sup> year of studies.

The data collected was statistically analysed by descriptive and inferential statistics. Paired sample t-tests were performed to identify the existence of statistically significant differences amongst students' expectations and perceptions. T-tests for independent samples and Oneway ANOVAs were performed to assess whether there were statistically significant differences in the satisfaction indices for different segments

of the student population, according to the sample characterisation. When ANOVA assumptions were not supported, a non-parametric Kruskal-Wallis test was performed.

Table 1. Sample characterisation

## Results

Student satisfaction with Portuguese higher education institutions was assessed based on the calculation of a satisfaction index, resulting from the difference between their perceptions and expectations in relation to a set of questions related to their academic experience. Table 2 presents the main results obtained, based on the mean score computed for each of the dimensions under analysis.

Table 2. Students' perceptions, expectation and satisfaction levels

Students' attributed expectation and perception levels of their academic experience are quite high (normally above 6, on a scale of 0 to 10) for all the variables under analysis, except for *sports' facilities* and *non-curricular activities*. It is interesting to note that the lower levels of expectation and perception appear for the variables related to services and processes offered by the institutions.

Although these seem to be very positive results for Portuguese higher education institutions, as students seem to perceive their experience quite positively, the emergent picture is not as favourable when results are computed based on a gap analysis. The results of the paired samples t-tests allow us to conclude that significant statistical differences exist between the mean scores of expectation and perception levels for all

the variables under analysis, which means that students' expectations about these aspects of the quality of their academic experience is significantly higher than the perception of the quality of service actually received (the satisfaction indices computed are all negative). It seems that, although Portuguese students present, in general, good levels of perceptions, these are still below their expectations, as expected for a not-for-profit service.

When comparing the satisfaction indices computed for different groups of students, using t-tests and ANOVAs (1 factor) for independent samples, some interesting findings can be detected:

- For twenty-three out of the forty-five satisfaction indices, statistical significant differences are identified amongst students belonging to public universities, public polytechnics and private institutions. When examining the mean scores of satisfaction indices, no generic pattern can be identified as to which students tend to be more satisfied, although, in the vast majority of cases (for twenty indices), the differences are between students from public universities and the remaining ones: in some cases public university students are the most satisfied: mainly in relation to processes and services; in other cases they are the least satisfied: mainly on account of academic issues.
- Statistical significant differences also emerge between students from different scientific areas for all the indices under consideration, except *out-of-class interaction with teaching staff*. Again, it is not possible to identify a single pattern which reflects which type of students are more, or less, satisfied. Nevertheless, when looking at the mean score of the satisfaction indices for the different groups, students from Arts and Humanities tend to have lower satisfaction indices, whilst students from Sciences, Mathematics and

Informatics, and Engineering, Manufacturing Industry and Building tend to be more satisfied.

- Male students are generally more satisfied than their female colleagues, except for the satisfaction indices of: *teaching quality, knowledge obtained through the curricular units, curricular units' relevance, having/ developing better leadership skills and sports facilities*, for which no statistically significant differences were detected;
- Students attending their first year are more satisfied than students enrolled in their last year of studies, for all the satisfaction indices;
- When comparing satisfaction indices for students who are in their first option, in relation to the degree/institution pair they applied for, with the other students, fourteen out of forty five satisfaction indices can be identified where there are statistically significant differences. In these cases, students attending their first-option degree are always the most satisfied;
- For twelve out of the forty five satisfaction indices, statistical significance differences have been identified between students living at home and students living away from home. In these cases, students living away from home are less satisfied, except with *curricular units' syllabus quality*, for which students living at home are the less satisfied;
- Students who consider that they have sufficient financial support are generically more satisfied than students who consider they lack financial support, except for the satisfaction indices *teaching quality, knowledge obtained through the curricular units and curricular units' relevance*, for which no statistically significant differences were detected.

The following results are also of interest, although it should be born in mind that groups of considerably different size are being compared (see Table 1).

- Working students and full-time students only present statistically significant differences for eight out of the forty five satisfaction indices. In these cases, working students are the most satisfied, except with regards to *class size*;
- When comparing satisfaction indices for PALOP (Official Portuguese-Speaking African Countries) and non-PALOP students, statistical significant differences were identified for nineteen out of the forty five indices. In all cases, non-PALOP students are less satisfied;
- Students participating in exchange programmes are in general as satisfied as students that do not participate in such programmes, except with regards to *curricular units' syllabus quality, teaching room conditions, food services – bars and institution*, for which statistically significant differences were identified and in these cases, students that participate in exchange programmes were the most satisfied.

Four factors were identified as having the most influence on student satisfaction indices: scientific area, gender, the fact of being in their first or last year of study, and the way they feel about their financial situation (sufficient or insufficient). Institutions would be advised to pay more attention to female students and students with insufficient financial means, as these are less satisfied with their experience. Additionally, it is important that student feedback is acted upon as students progress at their institution, as it seems that as they advance in their degree studies, they become less satisfied with their experience. Furthermore, institutions may need to pay attention to potentially different needs for different scientific areas, as students' satisfaction differs



substantially according to the area. Special attention should be given to Arts and Humanities, as students from these areas are generally less satisfied than others. Obviously, special attention should not be given to these groups, to the detriment of the others.

### **Concluding remarks**

In Portugal there is no national systematic practice for collecting higher education students' feedback. The ANSEES project was the first study to be conducted to analyse student satisfaction within Portuguese higher education institutions on a large scale, and consequently its results were of considerable interest at a national level. However data collection is just the first step, as the action taken on feedback received is much more important. Thus it is now very relevant that institutions should act on the feedback they received from this study and that they should use it to improve their quality of service. This can be done by benchmarking themselves against the other institutions that participated in the study, as a means of discovering best practices, which should then be implemented internally. Furthermore institutions can use their own results as an integral part of their internal quality management systems, thus assuring that their offer is designed, communicated and delivered in such a way that fully meets students' expectations. Likewise, they can also use the results to manage students' expectations and make them more reasonable with respect to what they have to offer. The results can also be used as part of a concerted effort to confront the 'student entitlement' problem, which is derived from students' role as a customer.

The results obtained from the gap analysis, take into account different types of students, and make it clear that institutions satisfy different groups to a different degree. Limited resources may prevent the possibility of satisfying one group more than others, without leaving the others unsatisfied. However, by using the information provided,

institutions should try to be flexible in treating different groups in different ways, according to their different needs, as students are not a homogeneous group. Differences of expectations, perceptions and consequently satisfaction indices, are significant between different types of students. Institutions would do well to manage expectations based on the feedback provided, and should alter their service design and marketing practices, as well as their service perceptions, and work on improving service delivery and communicating subsequent results to students, in order to combat questionnaire fatigue and cynicism amongst students.

Asymmetry of information may contribute to a more positive picture than that which institutions truly deserve. It seems that the most satisfied students tend to be male, who are studying for their first option of degree/institution pair, live at home, have sufficient financial means, and are first-year students. As students progress, they become older and wiser, and those in their last year show less satisfaction. Those who seem to be less satisfied, are lacking financial means, are female, live away from home and are studying Arts and Humanities. These findings also show that satisfaction may not just be dependent on an institution's performance, but may also be dependent on factors beyond the control of an institution, such as financial means and distance from the student's home. An awareness of these factors may help institutions to offer, or source, support for students with such characteristics. In this respect, it is interesting to note that student satisfaction may be conceptualised in a broader manner than that shown in Figure 2. Students seem to be more satisfied with higher education institutions and study programmes when they have favourable conditions, which means that student satisfaction may not be dissociated from satisfaction with life in general

Unfortunately, the instrument used is different to those used in published studies and thus direct comparisons cannot be made. However, we can broadly compare our

results with those of García-Aracil (2009), which covers eleven European countries. Even though our results are based on current students, whereas hers' are based on European graduates, they broadly concur (García-Aracil, 2009). Similar to our study, she reports that women are noticeably less satisfied with their studies than their male counterparts. The higher the educational level of parents is, the higher are graduate's scores for satisfaction with their studies. We do not have data on students' family backgrounds, but this is expected to correlate well with students studying for their first option of degree/institution pair and with those that have sufficient financial means, for which results are similar. Graduates who attended a university were more satisfied than those who had studied at another type of higher education institution. Indeed, studying at a university, rather than a polytechnic, correlates well with studying for the first option of degree/institution pair. In García-Aracil's study, she found that Humanities graduates tended to be more satisfied and yet the opposite is the case in our study. However, her study shows that the influence of study field is very country-specific.

Furthermore, as this was the first national study of this kind, there is no possibility of assessing evolution trends. It would be interesting to repeat the study in the coming years, in order to understand whether institutions had, in fact, acted upon the feedback received.

The privileged life of a supplier-side market is over for Portuguese higher education institutions. Due to demographics, applicants for higher education are more and more in a position to choose which institution they wish to attend, which makes it more pressing for institutions to act on student feedback. Serenko (2011) questions the appropriateness of the student-as-customer metaphor being the sole rationale for assessing the quality of teaching. However, he goes on to find that in the context of his analysis, the level of student satisfaction was lower than that in other service industries,

which should surely be a reason for action. The existence of negative gaps between perceptions and expectations should constitute the motivation to act, even if in all likelihood, positive gaps are less of an achievable goal but more a moving target, which motivates action.

Additionally, as in many other European and non-European countries, the regulatory pressure regarding the assessment of quality and the accreditation of degrees and/or institutions is relentless, leading to student satisfaction issues being an important component of quality management toolkits for institutions.

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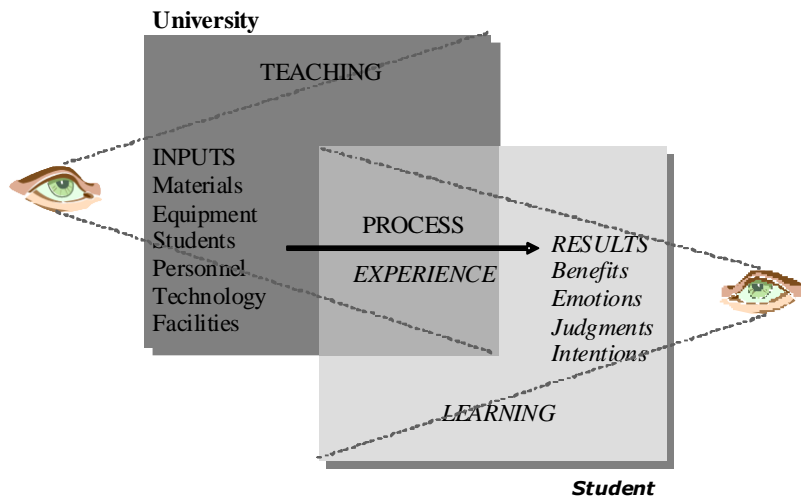


Figure 1 – A double look on the teaching and learning function of higher education institutions (adapted to the university context from Johnston and Clark 2008, p. 14)

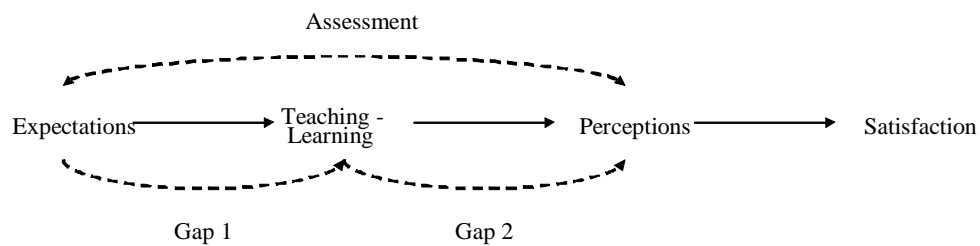


Figure 2 – Student satisfaction model (adapted to the university context from Johnston and Clark 2008, p. 110)

Table 1. Sample characterisation

		<b>N.º of Students</b>	<b>% of Students</b>
<b>Gender</b>	<i>Male</i>	4,706	40.5
	<i>Female</i>	6,756	58.2
	<i>No answer</i>	151	1.3
<b>Type of HEI</b>	<i>Public University</i>	6,232	53.7
	<i>Public Polytechnic</i>	3,783	32.6
	<i>Private Institution</i>	1,598	13.8
<b>Year of Studies</b>	<i>1st year</i>	6,534	56.3
	<i>2nd year</i>	5,072	43.7
	<i>No answer</i>	7	0.1
<b>Working vs. Full-time</b>	<i>Working</i>	2,360	20.3
	<i>Full-time</i>	9,138	78.7
	<i>No answer</i>	115	1.0
<b>Residence</b>	<i>Living at home</i>	5,163	44.5
	<i>Living away from home</i>	6,310	54.3
	<i>No answer</i>	140	1.2
<b>PALOP vs. Non-PALOP*</b>	<i>PALOP</i>	273	2.4
	<i>Non-PALOP</i>	11,118	95.7
	<i>No answer</i>	222	1.9
<b>Exchange Programmes</b>	<i>Exchange Programme</i>	113	1.0
	<i>No-exchange Programme</i>	11,323	97.5
	<i>No answer</i>	177	1.5
<b>Choice of Degree</b>	<i>1st option</i>	6,789	58.5
	<i>Other</i>	3,533	30.4
	<i>No answer</i>	1,291	11.1
<b>Attitude Towards Financial Support</b>	<i>Insufficient</i>	3,847	33.1
	<i>Sufficient</i>	6,768	58.3
	<i>No answer</i>	998	8.6
<b>Scientific areas</b>	<i>Education</i>	691	6.0
	<i>Arts and Humanities</i>	1,423	12.3
	<i>Social Sciences, Commerce and Law</i>	3,656	31.5
	<i>Sciences, Mathematics and Informatics</i>	846	7.3
	<i>Engineering, Manufacturing Industry and Building</i>	3,109	26.8
	<i>Agriculture</i>	126	1.1
	<i>Health and Social Protection</i>	1,442	12.4
	<i>Services</i>	320	2.8

\* Note: PALOP - Official Portuguese-Speaking African Countries.



Table 2. Students' perceptions, expectation and satisfaction levels

<b>Dimension</b>	<b>Variables</b>	<b>N</b>	<b>Perception</b>	<b>Expectation</b>	<b>Satisfaction Indices</b>	<b>p-value</b>
<b>Academic Issues</b>	Teaching quality	10,698	7.08	8.17	-1.10	0.000
	Curricular units' syllabus quality	10,622	6.84	7.82	-0.97	0.000
	Knowledge obtained through the curricular units	10,639	7.04	7.96	-0.92	0.000
	Curricular units' relevance	10,579	6.81	7.40	-0.59	0.000
	Academic counselling quality	10,555	6.04	6.63	-0.59	0.000
	Optional curricular units' offer	10,515	5.26	5.90	-0.64	0.000
	Out-of-class interaction with teaching staff	10,595	6.29	6.51	-0.22	0.000
	Knowledge evaluation	10,614	6.63	7.23	-0.60	0.000
<b>Academic Support</b>	Lecture rooms' conditions	10,662	6.06	7.13	-1.08	0.000
	Laboratories' conditions	10,020	5.81	6.75	-0.94	0.000
	Facilities' conditions	10,578	6.16	6.99	-0.82	0.000
	Class size	10,596	6.16	6.99	-0.83	0.000
	Library resources	10,604	6.63	7.71	-1.07	0.000
	I/T resources	10,615	6.61	7.74	-1.13	0.000
<b>Personal Development</b>	Meets my personal expectations	10,670	7.08	8.08	-1.00	0.000
	Meets my intellectual expectations	10,657	7.14	8.06	-0.92	0.000
	Have more knowledge	10,624	7.55	8.47	-0.92	0.000
	Have better capacities/possibilities of interpersonal relationships	10,619	7.12	7.58	-0.47	0.000
	Have/develop better communication skills	10,609	7.17	7.74	-0.57	0.000
	Have/develop better leadership skills	10,610	6.58	7.10	-0.51	0.000
	Obtain better working capacities	10,641	7.47	8.42	-0.94	0.000
<b>Processes and Services</b>	Actions/materials for institutional information/publicity	10,607	5.92	6.62	-0.69	0.000
	New students' guidance	10,590	5.68	6.92	-1.25	0.000
	Enrolment process easiness	10,558	5.98	6.83	-0.86	0.000
	Financial support services	10,409	5.28	6.73	-1.45	0.000
	Students' associations and groups	10,448	5.51	6.17	-0.66	0.000
	Healthcare services for students	10,373	5.07	6.45	-1.39	0.000
	Students' residences	10,133	5.31	6.31	-1.00	0.000
	Non-academic staff attitude towards students	10,523	6.20	6.96	-0.76	0.000
	Cultural programmes	10,458	5.55	6.52	-0.96	0.000
	Food services – canteen	10,525	5.54	7.17	-1.63	0.000
	Food services – bar	10,553	5.96	7.23	-1.27	0.000
	Bookstore	10,445	5.70	6.91	-1.20	0.000
	Institution's Internet site	10,547	6.47	7.47	-1.00	0.000
	Study places	10,551	6.01	7.58	-1.57	0.000
	Leisure places	10,466	5.45	6.72	-1.27	0.000
	Sports' facilities	10,345	4.61	6.00	-1.39	0.000
	Non-curricular activities	10,449	4.95	6.01	-1.06	0.000
	Students' services kindness	10,584	5.72	7.11	-1.39	0.000

	Support for students with special needs	10,185	5.54	7.52	-1.97	0.000
	Students' union	10,497	5.54	6.65	-1.12	0.000
<b>Degree and Institution</b>	Degree studied	10,681	7.32	8.66	-1.35	0.000
	Institution attended	10,652	6.64	7.76	-1.13	0.000
	Employability of the degree studied	10,557	6.61	8.13	-1.52	0.000
	Social prestige of the degree studied	10,625	6.61	7.40	-0.79	0.000