STUDENTS’ REPRESENTATIONS OF EDUCATION QUALITY IN DIFFERENT SCHOOL LEVELS: AN EXPLORATORY STUDY WITH PORTUGUESE STUDENTS

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Abstract
Quality may be studied from different perspectives. Research shows that many variables may be envolved when the target is the educational system. One may analyse the motivation of students and teachers, the methodologies of teaching, the processes of evaluation, the resources available, the educational facilities, the course organization or the academic success.

Recent research results show a strong positive correlation between students’ academic success and the quality of education available to them. However, the way students perceive the quality indicators has been a less explored area.

We present the results of an academic longitudinal research project that aims to study the students’ representations of quality along the school system in order to contribute to an improvement of teaching and learning processes.

The sampling of this exploratory study focused on compulsory education, secondary education and higher education. In this paper the authors analyse data collected in three institutions of higher education in Portugal, through a questionnaire survey.

Keywords - Quality, education, academic success.

1 QUALITY OF EDUCATION: SYSTEM AND PROCEDURES
The quality of teaching in various institutions is shown in the first line of the priorities within education in all countries of the Organization for Economic Cooperation and Development (OECD) for at least two decades [1]. One of the conclusions of the OECD report [2], made in 1984, found, in Portugal, on this theme, a great difficulty in defining the concept of “quality education”. This concept of global nature considers the action of both the results and factors that most directly affect them and, moreover, stems from “their relativity, because it implies as a point of reference the objectives of the system”, of “his complexity, as it covers the results of a qualitative and quantitative” and, finally, of “its regulations, since it implies a comparison between what is and what should be”[2].

Even though the discussion on the quality of teaching and education is not new, the complexity and size as the education system acquired over the years, imposes an examination and the discussion of this concept, necessary for success in fighting school dropping. In a simplified form, the interest in education quality can be considered a natural movement to respond to educational reforms that occurred in the 1960s and 1970s in OECD countries. These reforms were driven, first, by expansion, also called quantitative growth, and by the extension to new sectors of the population [3]. Therefore, the educational institutions have been forced to use methods and tools to assess and ensure the quality of education.

The system’s approach not only introduces a new vocabulary in the school, as it requires it to review many of its practices, because the “system” is a central element of any philosophy of quality and has enormous potential in the explanation of the main problems that occur in educational context [4, 5, 6].

One way to develop systemic thinking is to analyze how the fundamental processes of an organization interact. In school, the processes are of multiple natures: budgeting, recruitment, hiring, and evaluation, among many others. Naturally, there is a tendency for each to focus on the process for
witch is directly involved, but the truth is that the change that one tries to operate on a particular aspect, yet that makes sense for the process in question, can not work or have the desired effect in the system as a whole [4, 7, 8, 9].

Regarding the interdependence between the elements, it exists in any system, but in the case of education, its degree may be considered particularly high. The education system is rarely examined in a systemic approach and this, as I said, acting on specific components alone rarely improves the system as a whole. This reality has been underestimated in the educational context, constantly insisting on the changes of behavior of students, teachers and parents, without questioning the overall system [8, 10, 11, 12]. Not having the awareness of education as a system, each of the individual cases is not examined in their relations with others. Assuming a systemic perspective regarding education means recognizing the different components and to focus on how they interact to form a whole. Improving a process is to manage all elements and not each individually.

In the case of education, the definition of the role of various actors, however, is not simple. The schools provide services to customers, which can be viewed as the students themselves, parents, taxpayers, businesses, other institutions of education or society in general [8, 13, 14]. For Langford and Cleary [15] the customers of education are the students. However, these authors continue to state that, although they receive many services that the institution offers, if the aim of education is to produce students with knowledge and skills that prepare them to enter into society, the community in general can not be left aside and must be considered their customer. Furthermore, if the student's education is the product of the university, the student is in a sense, the raw material that enters the system, on which operations are carried out that are supposed to add value to them[16, 17]. But for Tribus [18], the product of education is the learning of students and it results of the joint efforts of teachers and students, as co-responsible for their production. However, for the author [19], learning is the key process in school and education is its output.

The customer is number one, so, the student, and also the parents that, in many cases, are who pays the product, the potential employers and the wider community, which funds education and, as taxpayers, requires positive citizenship [12, 20, 21, 22, 23]. Thus, the suppliers are, in the opinion of Tribus [19], the educational institutions or teachers of previous school grades. The books and other materials are inputs of the learning process [11, 16, 19, 24, 25].

If the customer is the one that uses the output of a process and if the university is a network of processes, then the education's client depends on the regarded process. Thus, students, for example, are both customers and product. Teachers are also customers of some processes, mainly administrative, and suppliers of others, especially regarding their colleagues in more advanced degrees [5, 6, 8, 17, 26, 27, 28, 29, 30, 31].

The output of the education system is, as shown in Fig. 1, the basis of motivation and satisfaction of teachers and students, curriculum, teaching materials and teaching, the commitment of teachers, the methods of teaching and the evaluation of programs of curriculum units, the organization of the teaching and learning process, the profile and the course structure, infrastructure and resources of the university and, above all, the interaction between these factors.
The concept of education quality is not only associated to the quantitative aspects of an education system, having as reference the number of pupils and teachers, the number of schools and the budget size, but also to the qualitative aspects of that same system, concerning the adequacy of programs, the evaluation process, the degree of participation, the capacity of innovation, interaction with the surrounding community and the sharing of resources, the climate and level of satisfaction of various stakeholders in the process [17, 20, 21, 24, 25, 32, 33, 34, 35].

Moreover, this concept is also linked to the effectiveness and efficiency and relates to the need for expansion of education to more young people, to increase success rates, the adequacy of the process of teaching and learning, including curriculum, training of teachers, the upgrading of schools and the strengthening of skills of young people, because an effective teaching is characterized by the demand for quality at all levels [5, 6, 28, 36, 37].

Thus, the effective quality schools are highly related to the concept of development of students which results are measured as cognitive, academic and not academic, as the positive expectations, the attitudes to schooling and learning, sociability and ability to work in group, the initiative, the ability to make decisions and the acquisition of values related to the spirit of citizenship, freedom and respect for difference [38, 39].

The concept of quality in education focuses primarily on three parameters [40]: quality of human, financial and material resources that a department of education should have, quality of the educational process in which programs and methods express their full potential; and quality of academic performance, but also the related personal and social development of students. Other authors (eg, [1, 21, 33, 35, 41, 42]), analyzing the quality of schools or educational systems, focus primarily on the quality of resources, while others focus primarily on the quality of process and its outcome. However, both factors interpenetrate and is from the optimal of that combination that appears the value to the quality of schools [43].

A perspective, not unlike those which have been outlined so far, is presented by the global study and reflection carried out by the OECD [3]. This study reflects the concern with the need to improve the quality of teaching and focuses on five priority areas in the search for the quality of schools and school systems. Essentially, the underlying quality has equal opportunities, the need to modernize the educational facilities, the distribution of resources, educational guidance, training programs for staff education, evaluation of students, the tutoring and relationships education with the models of economic development and labor market. Thus, the concept of quality is perceived differently, as the role and function that develops, which makes it difficult for communication between different actors in education. For some, quality of education is identified with the concept of quality of curriculum and, for others, with the climate of discipline, order and success, among other reviews [3, 22, 25, 34, 42, 44].

Given these reasons, a broader research project was drawn up with the aim of verifying how the representation of students on the quality of education evolves in the transition-cycle studies, in particular, the transition from primary to secondary education and, together with the longitudinal form. The identification and measurement of variables is considered in this study for students from 1st grade of bachelor, in view of the future monitoring of the transition to the 2nd grade, by the application of a questionnaire of opinion. Special attention is paid to the variables related to the commitment of teachers, the teaching materials used and the degree of students’ satisfaction.

2 METHOD

2.1. Participants

270 students have participated in this part of the study enrolled in the academic year of 2007/2008, in the 1st year of graduate courses in Nursing and Management, of which 121 (44.8%) at the University of Évora, 135 (50.0%) in the Polytechnic Institute of Beja and 14 (5.2%) at the Polytechnic Institute of Portalegre, all institutions of higher education in the Alentejo region (Portugal).

198 (73.3%) subjects that responded to the questionnaire were female. The average age of students was 24 years of age, ranging between 18 and 52 years. The majority of respondents identified themselves as regular students (80.2%) and 18.7% said that were student-workers.
With regard to academic success, 182 of the subjects had not failed any curricular unit, but for 77 of them this had happened in one curricular unit (28.5%), two curricular units (25.7%), three (16.2%), four (9.5%) or more curricular units. However, the vast majority (70.8%) had failed only once, especially since they were students enrolled in 1st grade for the course.

2.2 Instruments and Procedures
To examine the representations of students against the quality of education, there has been implemented a structured questionnaire, constructed for this purpose, based on literature review, considering the various studies [1, 17, 22, 34, 35, 40, 41, 42, 43]. The result were so different dimensions of quality analysis, such as motivation, the commitment of teachers of the course, the teaching materials, the methods of teaching, the methodologies for evaluation, the programs of curricular units, the organization of the teaching and learning, adequacy of infrastructure and resources of the Institution of Higher Education, the adequacy of the profile and structure of the course, the degree of satisfaction and academic success.

The questionnaire consists on 73 items, on an answer scale of five points: completely disagree, disagree, agree, agree completely, I do not know / Not applicable / I am undecided, seeking to know the representations of education quality that the students are subjected to. The instrument also includes some issues of socio-demographic characteristics, and some questions of free answer on the understanding of educational quality, the aspects to improve the institution of education, how to improve school results, the number and reasons given for failures and curricular units and the less preferred ones.

The final version was obtained by consensus among members of the research project, being then subjected to a panel of external experts (internal validation), which gave indications that would clarify the language and improve the construction of the items. Data collection occurred between the months of May and June 2008 and the questionnaire was applied directly by the team of researchers in the classroom, having previously obtained the necessary authorizations.

2.3 Design and Data Analysis
This study focused on the analysis of some of the 73 items of the questionnaire, having been processed by using descriptive and inferential techniques, through the SPSS software (version 16.0). To calculate the average, there were used the following weighting coefficients: 1 - completely disagree, 2 - disagree, 3 - Agree, 4 - I agree completely, being the expected average score of 2.5. The responses "Do not know / Not applicable / I am undecided" were coded with 98 and the non-responses / void as system missing (99).

In addition, the internal consistency of the variables were examined by Cronbach's alpha coefficient (\(\alpha\)), using the analysis of variance, with the aim of identifying the representations of students about quality in education and was used the method to Regression of the Trees (CART algorithm).

The results presented here were obtained regarding some of the variables under study, namely the commitment of teachers of the course, the teaching materials and the degree of satisfaction with the course.

3 RESULTS
The dimension of the Commitment of the Course's Teachers includes 9 items, with a reasonable level of internal consistency (\(\alpha = 0.651\)), which averages are obtained from the answers given by the students, in Table 1.
Table 1. Student’s answers regarding the Commitment of the Course’s Teachers

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally teachers are available to clear student’s doubts</td>
<td>3,26</td>
<td>0,577</td>
</tr>
<tr>
<td>Generally, the relations between students and teachers are adequate</td>
<td>3,05</td>
<td>0,534</td>
</tr>
<tr>
<td>Teachers are assiduous</td>
<td>3,05</td>
<td>0,562</td>
</tr>
<tr>
<td>Teachers, in general, are committed in teaching their classes</td>
<td>2,96</td>
<td>0,535</td>
</tr>
<tr>
<td>Teachers encourage students’ participation in class</td>
<td>2,90</td>
<td>0,618</td>
</tr>
<tr>
<td>Teachers are punctual</td>
<td>2,89</td>
<td>0,621</td>
</tr>
<tr>
<td>Teachers respect the hours to attend to the students</td>
<td>2,72</td>
<td>0,794</td>
</tr>
<tr>
<td>In general, teachers know the names of their students</td>
<td>2,44</td>
<td>0,742</td>
</tr>
<tr>
<td>In general, teachers establish relationships with teachers</td>
<td>2,28</td>
<td>0,723</td>
</tr>
</tbody>
</table>

As shown by the analysis of the previous table, the item which received greater agreement, on average, by the students, was the availability of teachers for questions, followed by the adequacy of the relationship that teachers establish with them. The diligence and commitment of teachers emerged soon after, leaving the last places to establish personal relationships with teachers and the knowledge of students by name. Interesting to see how you stand in opposing the appropriateness of the relationship teacher / student relationships and the teachers / students, suggests that for students reporting a relationship is not appropriate for the establishment of personal relationships between teachers and learners.

We also calculated the correlation of coefficients item to item, which in total statistics indicates the degree of importance of individual items within this dimension of analysis. These results are in Table 2.

Table 2. Correlation obtained in the total of items for the dimension of the Commitment of the Course’s Teachers

<table>
<thead>
<tr>
<th>Items</th>
<th>Square of the coefficient of multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers, in general, are committed to the teaching of classes</td>
<td>0,251</td>
</tr>
<tr>
<td>Teachers encourage students’ participation in class</td>
<td>0,225</td>
</tr>
<tr>
<td>In general, relations between teachers and students are appropriate</td>
<td>0,214</td>
</tr>
<tr>
<td>Teachers are assiduous</td>
<td>0,180</td>
</tr>
<tr>
<td>In general, teachers know the names of their students</td>
<td>0,179</td>
</tr>
<tr>
<td>In general, students establish personal relationships with teachers</td>
<td>0,152</td>
</tr>
<tr>
<td>In general, teachers are available to clarify doubts of students</td>
<td>0,114</td>
</tr>
<tr>
<td>Teachers are punctual</td>
<td>0,102</td>
</tr>
<tr>
<td>Teachers respect the hours to attend to the students</td>
<td>0,058</td>
</tr>
</tbody>
</table>

The analysis of these results shows that the commitment to the teaching of classes by the teachers, the encouragement they give to the participation of students and the educational adequacy of the items are of greater importance in the analysis of this dimension.
Now taking into account the variable of teaching materials, also related in some way with teacher performance, it results in a set of 5 items with a value of 0.622 to. In terms of view, the degree of agreement of the students was, on average, what is presented in Table 3.

Table 3. Answers of students regarding *Teaching materials*

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The support material provided by teachers are updated</td>
<td>3.07</td>
<td>0.523</td>
</tr>
<tr>
<td>The support materials available are relevant</td>
<td>3.00</td>
<td>0.589</td>
</tr>
<tr>
<td>The support material provided by teachers are well organized</td>
<td>2.94</td>
<td>0.528</td>
</tr>
<tr>
<td>The support materials are available on time</td>
<td>2.92</td>
<td>0.577</td>
</tr>
<tr>
<td>The support material provided by teachers are sufficient to achieve the learning objectives</td>
<td>2.63</td>
<td>0.710</td>
</tr>
</tbody>
</table>

The highest average of agreement on this variable was the updating of materials provided by teachers, as well as its relevance. With lower average were items related to the quantity of such material and its availability on time.

The analysis of the multiple correlation coefficients, changes a bit, as shown in Table 4. The update of materials is the most valued, and its availability on time, appear less important as then its relevance and quantity.

Table 4. Correlation in the total of items for *Teaching materials* dimension

<table>
<thead>
<tr>
<th>Items</th>
<th>Square of the coefficient of multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The support material provided by teachers are updated</td>
<td>0.301</td>
</tr>
<tr>
<td>The support materials are available on time</td>
<td>0.267</td>
</tr>
<tr>
<td>The support material provided by teachers are well organized</td>
<td>0.174</td>
</tr>
<tr>
<td>The support material provided by teachers are sufficient to achieve the objectives of learning</td>
<td>0.088</td>
</tr>
<tr>
<td>The support materials available are relevant</td>
<td>0.073</td>
</tr>
</tbody>
</table>

The variable degree of satisfaction regarding the course includes 3 items, with $\alpha = 0.715$ and the results obtained in the questionnaire in terms of average correlation, are showed on Table 5.

Table 5. Student’s answers regarding the *Degree of Satisfaction*

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The course satisfies me as a whole</td>
<td>3.07</td>
<td>0.627</td>
</tr>
<tr>
<td>The higher education institution satisfies me as a whole</td>
<td>2.96</td>
<td>0.648</td>
</tr>
<tr>
<td>The academic success that I’ve reached satisfies me globally</td>
<td>2.58</td>
<td>0.763</td>
</tr>
</tbody>
</table>
It seems that the students surveyed are satisfied with their course and also, although to a lesser extent, with the higher education institution. The satisfaction with their income is the item that reaches the lower average in this variable.

There is a coincidence, in this case, between the degree of importance assigned to the items and the view expressed by the students. Note that there is a difference in the value found for school achievement (Table 6).

Table 6. Correlation obtained in the total of items for the dimension of the *Degree of Satisfaction*

<table>
<thead>
<tr>
<th>Items</th>
<th>Square of the coefficient of multiple correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The course satisfies me as a whole</td>
<td>0.482</td>
</tr>
<tr>
<td>The higher education institution satisfies me as a whole</td>
<td>0.482</td>
</tr>
<tr>
<td>The academic success that I’ve reached satisfies me globally</td>
<td>0.137</td>
</tr>
</tbody>
</table>

We can see that the academic performance of students does not seem to interfere so directly and correlated with the view that students have of the course and attending school. Apparently, students have positive representations of the course and of their school, showing to be not so happy with the income achieved.

Analyzing the intersection between the variables of the commitment of teachers and teaching materials and the degree of satisfaction among respondents, we see (Table 7) that the commitment of the teachers explains 37.0% of cases and quality of teaching materials used explained 28.3% of responses, which confirms the importance of teacher performance in the subjects’ perception of quality.

Table 7. Relationship between the variables of the questionnaire and the degree of satisfaction of the students regarding the course they’re attending

<table>
<thead>
<tr>
<th>Items</th>
<th>Importance</th>
<th>Normalized importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment of teachers of the course</td>
<td>0.053</td>
<td>37.0</td>
</tr>
<tr>
<td>Teaching materials</td>
<td>0.041</td>
<td>28.3</td>
</tr>
</tbody>
</table>

4 CONCLUSIONS

The schools in its role to create, transmit and disseminate knowledge, are increasing assuming themselves as organizations responsible for the education of citizens throughout life. Thus, the concern with the quantitative growth and expansion has lead, increasingly, the attention to the quality of education.

Studies based on the size of the quality of education have, in fact, acquired increasing importance in educational research programs, particularly in the last decade. The results of these studies provide
evidence of a strong positive correlation between academic success of students and quality of education given to them [45]. There is evidence that the relationship between quality education and academic success of students varies according to decisive factors, with emphasis on the performance and competence of teachers [46, 47, 48, 49, 50, 51, 52, 53].

In this study, it was found that students from the three institutions of education that were analyzed, in general, have positive representations regarding the quality of education provided to them. The respondents are satisfied with the course and the institution of higher education and less with their academic success, which is explained by the number of failures that they have already obtained. Indeed, the students questioned in the study were enrolled in the 1st grade of the courses and 28.5% had failed at least one curricular unit. In fact, they don't seem to point the reasons for this failure at the institution or at the characteristics of the course they are in.

Similarly, it can be concluded that the degree of satisfaction of students is explained in 37% of cases by the commitment of teachers and 28.3% of cases by the teaching materials used, while the attitudes that their teachers show, for example, its willingness to clarify any questions of the students and the relations established between them.

References


