The adequacy between quality and success within the Moroccan university (Case of FSJES Souissi)

L’adéquation entre la qualité et la réussite au sein de l’université marocaine (Cas de la FSJES Souissi)

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Abstract: The issue of access to higher education and obtaining a university degree is a perilous field that is difficult to identify because the stakes of success are multiple. Perseverance in studies remains a complex and multidimensional task, as evidenced by the small number of students who manage to accomplish this mission. The aim of this article is to make an exhaustive longitudinal analysis of the path taken by undergraduate students to graduation, and to what extent the quality of this diploma can be judged, and subsequently the quality of the training as a whole. We used, for the purposes of this study, an unpublished database available at Mohamed V University in Rabat. This database contains the history of the grades obtained by three cohorts (2007, 2008, 2009) studying at the Faculty of Legal, Economic and Social Sciences Souissi.

Keywords: quality, academic success, indicators, cohort, graduates.


Mots clefs : Qualité, réussite universitaire, indicateurs, cohorte, diplômés.
Introduction

The proliferation and multiplication of debates around the problem of success in higher education aimed to make a careful analysis of the elements that impact access to the diploma, the pursuit and perseverance in studies. The current situation is that higher education around the world is facing a growing number of challenges that impede success and foster failure and disaffection (Labrosse, 2015) (Mesfin ibido, 2020) (Kuh, 2006) (Lamrani, 2022).

These difficulties are intrinsically linked to the massive demographic explosion of the student population as well as to a difficult transition (from high school to university). This lack of knowledge of the academic environment generates a problem of integration among new students, putting their success within public universities at risk (CSEFRS, 2018) (Bambana Sigit Widodo, 2016) (Kromydas, 2017).

In order to be able to evaluate the student’s performance and the functioning of universities, it will be necessary to use and create a certain number of indicators which reveal the intelligence quotient of students, and which show the existing relationship between the functioning of universities and the quality of degrees awarded (Mériade, 2015).

This article proposes a broader framework for reflection to better analyze the quality of university graduate students, based on the study of students' academic path from the first year until graduation.

For this purpose, we devoted our efforts to the research of a database that includes a pool of reliable information that can inform us about the students' career: validated semesters, diplomas, excellence, perseverance, grades. This database was created by the data available at the presidency of Mohamed V University in Rabat; it only concerns students of the Souissi Faculty of Legal, Economic and Social Sciences. We processed this database which contains the history of grades obtained by students from three cohorts (2007, 2008, 2009), using SQL (Structured Query Language) software.

The choice of this topic did not come about by chance, it is a logical continuation of our previous work on indicators of training effectiveness, which emanates from thorough consideration of the issues to the success in faculties, especially those of open access. With this article, we would like to contribute in enriching the debates around on this matter throughout concrete results which will allow us to question the measures to be taken in order to improve the functioning and performance within universities.

Our article will be divided into two parts. In the first part, we will deal with the theoretical guidelines of the indicators that will be used for the measurement of quality. We will then process towards creating new indicators in order to give a more global vision of the quality of the Moroccan university. The second part will be devoted to the empirical study we carried out on the academic course of the FSJES Souissi students.

1. Theoretical aspects of the quality of higher education
Measuring the quality of university education requires taking into account several factors and variables. In order to continue until graduation depends on the number of constraints that the students must overcome so as to successfully complete their university course (OECD, 2000) (UNESCO, 1998).

1.1. Indicators in formulas

Following our work on indicators in the higher education sector (Zouhri, Elouardirhi, Yousfi, 2016-2017), we quote in this part old indicators already dealt with in our previous work. We will then suggest new indicators that can measure the quality of higher education (Zouhri, Elouardirhi, Yousfi, 2017).

1.1.1. Success rate in BA degrees (TRg)

It is the ratio between the total number of a cohort of graduates and the overall number of the same cohort expressed as a percentage, and given by the following formula:

\[ TR_g = \frac{\sum_{j=n}^{j=n+k} D_{g,j}}{N_E_g} \]  

(1.1)

With

\[ N_E_g = \sum_{j=n}^{j=n+k} D_{g,j} + \sum_{j=1}^{j=n+k} A_{g,j} \]  

(1.2)

where,

\( D_{g,j} \): Number of graduates in the cohort \( g \) after \( j \) semesters

\( A_{g,j} \): Number of students (in the cohort \( g \)) dropping out after \( j \) semesters

\( g \): Cohort of students

\( n \): Number of regular study semesters

\( k \): Number of authorized repetition

1.1.2. Partial rate of student success (TPRg):\

This is the ratio of the number of graduates in \( t \) years of study (\( t\geq N \)) and the total of graduates of the cohort expressed as a percentage (with \( N \) is the regular number of university years). (MESRSFC, 2015).

For \( t = N=3 \),
For $t=N+1=4$,

$$TPR_g^4 = \frac{\sum_{j=n}^{j=N+1} D_{g,j} - D_{g,N}}{\sum_{j=n}^{j=n+k} D_{g,j}}$$  (1.4)

In general, for $t>N$,

$$TPR_g^t = \frac{\sum_{j=n}^{j=N+(t-N)} D_{g,j} - \sum_{j=n}^{j=N+(t-(N+1))} D_{g,j}}{\sum_{j=n}^{j=n+k} D_{g,j}}$$  (1.5)

1.1.3. Number of mentions in a cohort (NMeg)

This is the number of semesters validated by all graduates of a cohort with a score $\geq 12/20$, it is noted NMeg.

From this number, we can calculate a coefficient that will be called the quality coefficient.

1.1.4. Overall quality coefficient (CQg)

It is the ratio of the number of semesters validated by all graduates of a cohort with a score $\geq 12/20$, and the total number of semesters validated by graduates of the same cohort expressed as a percentage.

It is given by the following formula:

$$CQ_g = \frac{\sum_{j=n}^{j=n+k} S'_j}{\sum_{j=n}^{j=n+k} S_j} = \frac{NMeg}{\sum_{j=n}^{j=n+k} S_j}$$  (1.6)

With

$S'_j$: is the number of semesters validated by graduates in semester $j$ with a grade $\geq 12/20$

$S_j$: is the number of semesters validated by graduates in semester $j$.

Thus, and as for the success rate, we can obtain the partial quality coefficient, which gives this:

$$CQ_g^3 = \frac{S'_n}{NMeg}$$  (1.7)
\[ CQ_g^4 = \sum_{j=n}^{j=n+1} S'_j - S'_n \frac{NMeg}{1} \]  
\[ CQ_g^t = \sum_{j=n}^{j=n+(t-3)} S'_j - \sum_{j=n}^{j=n+(t-4)} S'_j \frac{NMeg}{1} \]  

1.1.5. Number of graduates with at least one mention \((NDMeg)\)

This is the number of graduates who have validated at least one semester with a grade \(\geq 12/20\).

Based on the above, we suggest a new unit for measuring quality.

Overall quality measurement unit.

1.1.6. Overall quality measurement unit \((UQg)\)

The idea is to construct a scale from the ratio between the number of mentions and the number of graduates of a cohort \(g\), which in the ideal case (i.e., all students in the cohort obtain their diplomas with \(n\) mentions; \(n\) is the number of semesters to be validated in order to obtain a diploma).

This is from where we define an overall unit as a means to measure the quality of any education program.

This unit is measured as follows: from 0 (no mention) to 6 (ideal case).

\[ UQ_g = \frac{NMeg}{\sum_{j=n}^{j=n+k} D_{g,j}} \]  

2. Analysis of the quality of university education at the FSJES Souissi students

2.1 Sample and working methodology

Nowadays, we are witnessing a series of profound pedagogical transformations introduced within an unstable and unknown environment with a heterogeneous and increasingly demanding student population. In this frightening context, we can only imagine the situation of open access faculties which find themselves unable to cope with both the complexity of the university field and their obsolete modes of operation.

To be able to evaluate the product of these faculties, we used the academic background of three cohorts (2007, 2008, 2009) who studied at the Souissi Faculty of Legal, Economic and Social Sciences. In the present study, we analyzed the bachelor's degree course (success rate, number of mentions, number of graduates...) for each cohort using Structured Query Language (SQL) software. The main idea is to provide a global vision about success within open access faculties.

2.2 Bachelor's degree course between evolution and degradation of the success rate
In an essentially descriptive perspective, we will present for each of the cohorts the percentage of success expressed by the years of study devoted to obtaining of the diploma:

<table>
<thead>
<tr>
<th>Table 1: Bachelor's degree success rate in 3 years and more</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Total number of students</td>
</tr>
<tr>
<td>Total number of graduates</td>
</tr>
<tr>
<td>Success in 3 years</td>
</tr>
<tr>
<td>Success in 4 years</td>
</tr>
<tr>
<td>Success in 5 years</td>
</tr>
<tr>
<td>Success in 6 years</td>
</tr>
<tr>
<td>Success in 7 years</td>
</tr>
<tr>
<td>Success in 8 years</td>
</tr>
<tr>
<td>Overall success rate</td>
</tr>
</tbody>
</table>

The 2007 cohort is made up of 2021 students enrolled for the first time in S1, the number of graduates of this cohort is equal to 609 graduates including 42.20% of the students who obtained their license in only three years. 38.58% needed an additional year to get their bachelor's degree, while 13.13% of them needed two additional years to complete their university course. The percentage of students who graduated after six years is low, it stands at 4.10%, while the success rate of those who spent seven years in the faculty is 1.31%

With the succession of years of failure, the success rate tends gradually towards 0%, which is the case for students who have completed eight years at the faculty with a success rate of 0.65%.

With regard to the 2008 cohort, we observe that the time devoted to obtaining a diploma is spread over a maximum period of seven years (unlike the 2007 cohort); the number of students in this cohort is equal to 1417, from which, only 564 succeeded in obtaining their licence. This difference is due to the lack of data from recent years in the database.

The share of graduates who obtained their bachelor's degree in three years is equal to 48.40%. 34.75% needed an additional year to obtain their university degree, while 10.46% needed two more years to be able to validate all the modules, 4.78% needed six years of study, while 1.59% of students spent seven years at FSJES Souissi in order to receive their bachelor's degree.

The 2009 cohort shows a slight increase compared to the previous cohort: among 1355 students, 595 students obtained their bachelor's degrees.
In total, the overall success rate has gradually increased over the years, as shown by the indicator of the overall success of each cohort: 30.13% for the 2007 cohort; 39.8% for the 2008 cohort; and 43.91% for the 2009 cohort.

2.3 Number of mentions and partial quality coefficient for each cohort
It is still important for us to present the number of mentions obtained by each cohort; these data remain an indicator that makes it possible to evaluate the quality of students in the open access faculty:

<table>
<thead>
<tr>
<th>Number of: semesters validated / mentions</th>
<th>Relative to the number of validated semesters</th>
<th>Relative to the number of mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>7806</td>
<td>1424</td>
<td></td>
</tr>
<tr>
<td>2007 in 3 years</td>
<td>8,97 %</td>
<td>49,16 %</td>
</tr>
<tr>
<td>in 4 years</td>
<td>3,41 %</td>
<td>18,68 %</td>
</tr>
<tr>
<td>in 5 years</td>
<td>2,46 %</td>
<td>13,48 %</td>
</tr>
<tr>
<td>in 6 years</td>
<td>1,42 %</td>
<td>7,79 %</td>
</tr>
<tr>
<td>in 7 years</td>
<td>0,61 %</td>
<td>3,37 %</td>
</tr>
<tr>
<td>in 8 years</td>
<td>1,37 %</td>
<td>7,51 %</td>
</tr>
<tr>
<td>7292</td>
<td>1155</td>
<td></td>
</tr>
<tr>
<td>2008 in 3 years</td>
<td>9,53 %</td>
<td>60,17 %</td>
</tr>
<tr>
<td>in 4 years</td>
<td>2,34 %</td>
<td>14,8 %</td>
</tr>
<tr>
<td>in 5 years</td>
<td>2,15 %</td>
<td>13,59 %</td>
</tr>
<tr>
<td>in 6 years</td>
<td>0,74 %</td>
<td>4,67 %</td>
</tr>
<tr>
<td>in 7 years</td>
<td>1,07 %</td>
<td>6,75 %</td>
</tr>
<tr>
<td>7650</td>
<td>1165</td>
<td></td>
</tr>
<tr>
<td>2009 in 3 years</td>
<td>8,56 %</td>
<td>56,22 %</td>
</tr>
<tr>
<td>in 4 years</td>
<td>1,56 %</td>
<td>10,21 %</td>
</tr>
<tr>
<td>in 5 years</td>
<td>2,13 %</td>
<td>13,99 %</td>
</tr>
<tr>
<td>in 6 years</td>
<td>2,98 %</td>
<td>19,57 %</td>
</tr>
</tbody>
</table>

The overall number of mentions obtained by the three cohorts (2007, 2008 and 2009) is equal to: 1424, 1155 and 1165 respectively. This figure is unevenly distributed among students according to the length spent for obtaining their licenses. This is not the case for the 2009 cohort whose highest percentage of mentions is that of students who obtained their bachelor's degree between 3 and 6 years (8.56% and 2.98%).
In summary, we conclude that the number of mentions is strongly correlated with the duration taken to obtain the bachelor's degree. Across the three cohorts studied, the highest proportion of mentions is attributed to students who obtained their degree in three years. They represent 49.16% for the 2007 cohort, 60.17% for the 2008 cohort, and 56% for the 2009 cohort, relative to the total number of mentions awarded. This proportion gradually decreases over the years, with the notable exception of the 2009 cohort, where the percentage of mentions after six years reaches 19.57%, ranking second after the proportion achieved in three years.

We observe that the number of mentions is strongly related to the years devoted to obtaining the license (in the three cohorts, the highest share of mentions is that of students who obtained the license in only 3 years).

The mention, beyond the satisfaction it provides, is very useful to students since it opens the doors for admission in masters that correspond to their basic education. We do not have a database that can shed light on the profile of students admitted to the Master but taking into account the number of mentions required in the preselection for the Master, we can conclude that most of the students who access the Master are students who obtain their bachelor's degree between 3 years and 4 years.

To be able to confirm these results, we constructed a Table that contains only the number of graduates with at least one mention:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of graduates with at least one grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of graduates with at least one grade</td>
</tr>
<tr>
<td>2007</td>
<td>in 3 years: 68.62% in 4 years: 21.81% in 5 years: 3.43% in 6 years: 2.94% in 7 years: 2.20% in 8 years: 0.98%</td>
</tr>
<tr>
<td></td>
<td>in 3 years: 78.32% in 4 years: 13% in 5 years: 4.04% in 6 years: 1.73% in 7 years: 2.89%</td>
</tr>
<tr>
<td>2009</td>
<td>in 3 years: 80% in 4 years: 7.46% in 5 years: 5.07% in 6 years: 7.46%</td>
</tr>
</tbody>
</table>

Table 3: Number of graduates with at least one grade
According to this table, we can see that among 408 of the graduates in the 2007 cohort, 68.62% of the students who obtained their license in 3 years had at least one mention, quite clearly outpacing the other graduates whose number of years of success in bachelor's degree exceeds 3 years. Similarly, to the 2007 cohort, graduates of the 2008 and 2009 cohorts with at least one mention are equal to 346 and 335 respectively. Among these graduates, 78.32% of the students in the 2008 cohort and 80% of the students in the 2009 cohort graduated within 3 years.

This confirms once again that the performance of students is linked to the number of years devoted to graduation. High-performing students are those who do not exceed 3 years or 4 years to obtain their degrees.

**2.4 Overall quality coefficient**

<table>
<thead>
<tr>
<th>Table 4: Overall Quality Coefficient</th>
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</thead>
<tbody>
<tr>
<td>2007 Cohort</td>
</tr>
<tr>
<td>2008 Cohort</td>
</tr>
<tr>
<td>2009 Cohort</td>
</tr>
</tbody>
</table>

Overall, the overall quality coefficient shows that the quality of university education remains insufficient for the three cohorts, unlike the success rate which shows an increase over the years of study. We can note that this coefficient and between 0 and 100; in other words, the closer this indicator is to 100, the more the education seems perfect in terms of quality, and vice versa.

Analysing the proportion of semesters validated with a mention provides an interesting insight into the situation. For the 2007 cohort, it is noted that only 18% of semesters were validated with a mention. This percentage, although relatively low, experienced a slight decrease for the 2008 and 2009 cohorts, settling at 15%.

These figures highlight a relative stability but also a consistent weakness in terms of the quality of graduates within these three cohorts. Despite the increase in the number of mentions, the proportion of mentions in relation to the total number of validated semesters does not indicate a significant improvement in quality. This underscores a potential challenge in enhancing the overall quality of graduates. Therefore, it would be beneficial to further analyse and understand the factors contributing to this trend and consider strategies for improvement.

**2.5 Unity of overall measurement**

<table>
<thead>
<tr>
<th>Table 3: Overall Unit of Measure of Quality</th>
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</thead>
<tbody>
<tr>
<td>2007 Cohort</td>
</tr>
<tr>
<td>2008 Cohort</td>
</tr>
<tr>
<td>2009 Cohort</td>
</tr>
</tbody>
</table>
This indicator gives us a broader overview of the quality of university education. Indeed, it is the number of mentions, on average, obtained by each graduate.

The result in the table above shows that each graduate (of the three cohorts) had about 2 mentions, which remains a number close to the average (3 mentions for each graduate) and far from the ideal (6 mentions for each graduate).

This gap reveals room for improvement in the quality of education provided. Achieving the ideal of six mentions per graduate would likely require targeted efforts to enhance the quality of teaching, as well as more effective learning strategies and increased support for students. Further analysis could help identify specific areas in need of improvement and develop appropriate strategies to enhance student performance and, consequently, the overall quality of graduates.

**Conclusion**

Success in higher education remains a tricky issue that requires a major mobilization of human and material efforts. The hypothesis defended in this article is that the student is not the only one responsible for his poor results, but the entire pedagogical sphere bears a share.

The number of late students and the high drop-out rate at the Faculty of Legal, Economic and Social Sciences (FSJES) Souissi allowed us to give an overview of the situation in open access faculties and the growing number of difficulties that must be tackled.

The main conclusions drawn from this article which had as its objective, as mentioned before, the use of an unpublished database that contains the grades obtained by three cohorts (2007, 2008, 2009) studying at the Faculty of Legal, Economic and Social Sciences (FSJES) Souissi, are as follows:

- As the number of years spent on graduation increases, student performance declines.
- Successful students are those who need only three consecutive years to obtain their bachelor's degree and to obtain at least one or more mentions in their university curriculum.
- Adding an extra year may be tolerable, as most students find integration difficulties in the first year.
- The success rate does not necessarily imply the quality of university education.

Our objective is mainly descriptive; it aims only to describe the situation of open access faculties. Our role is to provide new statistics likely to clarify the debates on the extent of this problem, as well as to introduce new indicators which would give a clearer vision on the quality within open access universities. In the next article, we will try to demonstrate how to remedy these weaknesses by adopting restrictive institutional measures allowing the revaluation of teaching missions and curbing all forms of indifference and irresponsibility, whether by students or by responsible.

**References**
