Barriers to Learning, Achievement, Institutional Identities and Professionalization

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Abstract
This study is part of the broader research program on University Quality Assessment. The aim was to go deep into the causes for delay in finishing studies in Argentina. This brings about a problem at the institutional and personal levels (disappointment, depression, frustration,…). In 1995 the Department of University Polices called for a contest to analyze the Causes for Dropout, and we won it. It had been preceded by another project (still in progress) dealing with graduates from different faculties. The combination of different factors (basic, personal, occupational, structural, institutional and psychosocial ones), concerning the 20 years of the UNCuyo and 6 Faculties/Study Courses (1987-2004; N 299 individuals) gradually showed which factors predicted different achievement levels, as well as the strongest underlying reasons of the individuals’ courses of action. The quantitative-qualitative method was applied. In this paper, we focus on a motivational factor: Fear of Failure; one of the predictive ones for delay along with others, as it showed differentiated profiles according to Academic Units and Courses of Studies (Disciplinary and institutional identities). The results are very relevant within a context in which delay in studies is quite evident. The intervention and support systems and Professionalization to improve University Quality and the students’ personal and professional achievement are necessary. Then, Performance, Identities and Professionalization comprise macroanalysis (national policies), mesoanalysis (questions differentiated as Academic Units), and microanalysis (individuals who are affected in their personal health and self-fulfillment due to the lack of non-disciplinary programs).

Keywords: Psychology - Barriers to Learning - Researches on Psychology of Education, Social, Health, Organizational Studies, Quality, University, Delay, Identities, Professionalization

I. Introduction

This work on university studies extension is not an isolated research. The issue of failure within an institution has always been the object of special concern, that is why, M. Aparicio has been working for over a decade along a continuous line which goes deeper into the subject of achievement from different theoretical and methodological angles (Aparicio, 2006 a and b, 2009 c, 2010, 2012 a, b and c, 2014 a and c, 2015 a, c and d).

More precisely, this study represents the extension of the Research Program on University1 Quality Assessment started in 1994, which included three projects along these lines: Success (graduation) and Failure (dropout) at the academic and socio-professional levels. Its development involved work with three subsamples: graduates, delayed students in relation to the established length, and dropouts. This work was carried out within the UNCuyo (National University of Cuyo) (1980 – 1995), with a later extension until 2004.

Within the framework of the improvement process of University Quality, the UNCuyo authorities considered it was very important to analyze the problem related to the delayed students in that institution who first enrolled in 1985 and reenrolled later in 2004, with the intention of continuous improvement2. Therefore, they decided to carry out this research, which is,

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1 All the research has been carried out in the CONICET (National Council of Scientific Research) and the National University of Cuyo.
2 The system allows yearly re-enrollment, and there is no limit for student as for number of years they take to graduate at University. Students could re-enroll every year until 2015, when the system changed: there are limits to continuing in each of the years and there is a pre-requisite subjects regime in some Faculties.
globally, of special interest since it goes through different socio-economic systems, curricula, admission and promotion systems, etc. Besides, it is, as far as we know, the first analysis with these characteristics at the national level in Argentina.

In this respect, at a more specific level, from a grass-root perspective anticipated by Aparicio along this line, the personal factors (objectives and subjectives) – as usual in the available literature – are recovered in the model, as well as the contextual factors, which helps elucidate their relevance in performance. This applies not only to the university but also to the labor and structural levels, regarded as conditioning factors of achievement; all this, plus an “undervalued” insertion of graduates into the labor market, under the present circumstances, could lead to an\footnote{1}{See Aparicio, 2005 a, 2007 a and b, 2009 (HDR, Francia Also Aparicio, 2014 a and c; Adelman, 2004; Pascarella & Terenzini, 2001, 2005).} of the period of study. This – according to previous studies – weakens the expectations about obtaining a university degree\footnote{1}.

Regarding the literature referring to other authors, we will just mention for the sake of brevity some founding fathers

2. Background: The Problem of the Politico-educational Agenda

We will not deal with the theoretical-methodological approach used in the Academic Achievement issue and its influencing factors.

We will merely point out that this is a fundamental problem within the university policies agenda due to the figures that focus on failure. Over ten years ago, La Nación Newspaper, in its 01/19/01 issue, published an article entitled “Why so many people leave their studies. University students: only 19 graduates out of 100 enrolments.” This article states that vocational disorientation, the mistaken ideas on which students base their career choices, and their difficulties to adapt to an unknown and more demanding study environment contribute to increase the number of university dropouts. An unfavorable economic situation also helps: many must prioritize work over studies.

In Argentina, according to the official figures of the year 2000, only 19% of students at public universities graduate. Today, the figures of the UTN (National University of Technology), Mendoza District\footnote{2}{http://www.losandes.com.ar/notas/2013/6/10/indice-719650.asp Index UTN. Printed edition, June 10, 2013. It reads: “At the National University of Technology, Mendoza District, the graduation index is assessed using a different methodology, since they consider the relationship between the enrolments and graduations in the same year. According to the data submitted by the Academic Secretary, Mr. Juan Carlos de la Iglesia, this index has improved since 2003, when the relationship was 15.43%, with 674 enrolments against 104 graduations, the figures in 2012 is 33.62%, with 455 enrolments and 138 graduations. Although this is relative data, since those entering and those completing university are not the same students, there exists a significant evolution with a favorable figure, said Mr. de la Iglesia, as he added he was working to improve this index.”}, increase this figure to 33%; on the other hand the UNCuyo (National University of Cuyo) reports that 38% of students graduate, thus, surpassing the country average in certain courses of study\footnote{3}{http://www.losandes.com.ar/notas/2013/6/10/recibe-chicos-ingresan-uncuyo-719648.asp The 38% of the students entering the UNCuyo graduates, as a report drawn by this university shows. This percentage surpasses the country average of 27%. Medicine, Engineering, and Odontology provided a better index. Los Andes Newspaper, printed edition, on Monday June 10, 2013.}. For the Universities, the loss of students implies a waste of resources in a time of meager budgets. It should also be considered the duration of studies, for most students take half as much than the required time to complete their studies (Aparicio, 2005, 2007 a and b, 2008, 2009 a and b).

There exist plenty of figures and descriptive studies; however, research is inadequate in revealing the actual significance of some factors on which the educational system itself could work in order to reduce the figures of failure, which appear to lie not only in a change of curriculum, improvement of infrastructure or increase of hours, but on attitudes strengthening solidarity and values in order to cope with adversity. Among these factors, there are the motivational ones and those related to them. Other factors dealt with in core research by Aparicio and complementary ones can be seen at en Aparicio 1995-2015, ops cits.
3. Development Plan

The research was carried out in two instances: quantitative and qualitative. This work followed the quantitative approach. We just deal with the relationship between the Academic Performance Factor at University (UP) and the Motivational Factor, especially in the Fear of Failure as associated to negative performance/relative performance.

4. Objectives

4.1. General Objectives:

Analyzing the relationship between Academic Performance of students who take longer to complete their studies than the time determined by the curriculum in the system, and the core, sociocultural, psychosocial, pedagogical, institutional and structural variables of the causal model, with a view to detecting the causes and comprehension of this problem. Furthermore, it looks into the core sociocultural, psychosocial, pedagogical, institutional and structural variables of the causal model, with a view to detect the causes and comprehension of this problem.

Being aware of the sociocultural and psychosocial aspects often associated to delay in studies (descriptive and explanatory levels) in order to determine the high-risk population and prevent the situation.

4.2. Specific Objective:

Analyzing the relationship between the motivational factors and delay in studies.

5. Hypotheses

The hypotheses concerning each of the factors included in the model are not considered. Reference will only be made to the general hypothesis and the relative hypothesis concerning the factor being studied: the motivational factor and associated sub-factors.

5.1. General Hypothesis

Pedagogical-institutional and structural factors (labor market) as well as psychosocial ones have an impact on the achievement processes associated to academic performance; their interaction could determine selection in higher education and later in the market.

5.2. Specific Hypothesis

H1/ More motivation and high expectations favor Academic Performance (UP), measured by the number of Years at university (2005-COHORT), pre-established Time for the completion of the course of study according to the corresponding curriculum (ANIPLAN), Not-Passed Subjects (MATPLAN-PASSED), number of Subjects in the corresponding curriculum (MATPLAN), Number of Below-Average (FAILURES), Passes Subjects (MATPLAN).

H1a/ Motivation for learning (MOTLE) has a positive impact on university performance.

H1b/ Motivation for reputation (MOTREP) has a positive impact on university performance.

H1c/ Fear of failure (FEOFA) paralyzes students and impairs university performance.

6. Guiding Questions

Theses questions guided our study although in this article we intend to show the influence of motivational factors and, specifically, the “fear to failure” factor in students’ performance; the last of the issues pointed out.

How significant are core and sociocultural variables for Academic Performance and extension in studies?
What psycho-pedagogical-cognitive characteristics have an effective impact on the students’ performance?

How significant are job-related factors for the students who worked and/or still work, if we consider that these factors are among the ones ranking first regarding dropout or delay in studies at university?

Are the factors inherent in labor insertion (subjective, like satisfaction, and objective) associated to delay in studies?

How relevant are psychosocial factors in terms of facilitating or obstructing factors of performance?

7. Methodology

We used a quantitative (descriptive and predictive levels) and qualitative methodology. Triangulation was later applied. In this work, we only refer to one of the factors included in the model, and to the correlational and predictive analysis related to it.

7.1. Population

Individuals in delay according to institutional records = 1,880; simple to 5% = 304; respondents N = 229. They are individuals who have been entering the National University of Cuyo since 1985, have not graduated, are still inside the system, and reenrolled in 2004. The effective sample consisted of all the students who could be located – central problem in monitoring studies – and with whom we could work individually in order to apply the techniques. It is a type of strategic population since – considering the changes made during the period covering studies at the educational, economic and political level – these individuals should meet the new demands of the productive system. The data gathering process was carried out in two stages (registers, data provided by the UNCuyo Statistics Department and an at-home survey / interview).

7.2. Techniques

We included a semi-structured survey with variables of different kinds, thus covering a wide pedagogical-institutional, structural, core and sociocultural range. We also included tests in order to measure Motivation/Expectation (Montero and Alonso Tapia), Attributional Style (Seligman, 1991), Coping (Frydenberg & Lewis, 1991) and Resilience (Hendersen & Milstein, 2003; Melillo & Suárez Ojeda, 2003). Finally, to measure Learning Styles (CHAEA), we used Montero and Alonso Tapia’s Questionnaire (1992).

We also produced sociocultural factors (Cultural Origin or CULTORI, Social Origin or SOCORI); factors related to the labor world: Satisfaction in the labor world (RESU), Objective Labor Achievement (ROO) and Subjective Labor Achievement (RESU). A combine index is essential in this framework: University Performance (UP). Another core quantitative variable was the Academic Performance factor, based on the equation which includes several indicators.

Finally, among the quantitative techniques we used the interview and open phrases included within a Final Section of the survey, and a lexicometric analysis was later carried out.

Let us now consider just the motivational factor which was measured through the MAPE test (Montero and Alonso Tapia, 1992). Let us consider for a moment the theoretical bases, which will help us understand the reasons for including this factor within the theoretical model and the results. The individuals may feel inclined towards an intrinsic or extrinsic goal when faced to learning related tasks (Pintrinch and Schrauben, 1992); i.e., first, they may focus on learning and development of their capacities, or on the other hand, focus on the execution and the image they show at performing such task.

1 According to official data provided by the UNCuyo itself, this population consists of 1,880 students. Considering this list, a sample for finite universes was taken, with a reliability of 95%, or two sigmas (p=50 and q=50), and an allowed margin of error of 5%, which implies a sample of 304 units. Then, the sample was set through a proportional system to each of the strata, i.e., according to the relative presence of each Faculty over the universe. The effective sample (individuals making substitution, even when they were not located), makes a total of 229 individuals who are distributed as follows: Philosophy and Literature (Educational Sciences) 69, Political Sciences (Social Communication) 20; Law 67; Medicine 21; and Engineering (Civil, Industrial and Oil Engineering) 37.
Dweck and Elliot (1983) go deeper into this and, based on these two angles, they provide three different possible motivational patterns: Motivation for learning (MOTLE), Motivation for reputation (MOTRE), and fear of failure (FEFOFA)\(^1\). Orientation to a certain goal is quite determined by the idea the individual has about the concept of intelligence. The individuals with learning-oriented goals, and with a motivational pattern based on a high Motivation for learning, perceive intelligence as a catalog of skills which expands through effort. They think that a suitable reflection on their mistakes helps learning and improving, and they see uncertainty as a challenge to overcome. They are hardworking, show high performance and reject the lack of effort. They show a desire for learning and their expectations are based on the effort they are willing to make.

The extrinsic orientation, directed to execution, leads to two kinds of different motivational patterns: Motivation for reputation (competition, search for positive judgments) and Motivation for fear of failure. These two types of motivational patterns share some features; however, they differ in an approximation tendency, which is shown in the motivated individuals by excellence, and an avoiding tendency, present in the fear of failure of the motivated individuals.

The individual oriented to execution goals considers intelligence as something global and stable. They endeavor to project a positive image (Motivation for reputation) or avoid projecting a negative image of themselves (Motivation for fear of failure). They focus on the obtained product or result, on showing their competences to others. Mistakes are seen as failures or flaws; on the other hand, uncertainty is considered a threat for the assessment of competences they pursue. They look for flattering statements about their competences.

As regards the practice and evaluation procedures, the motivational patterns described have been studied by Montero and Alonso Tapia (1992), authors of the MAPE II Questionnaire. The score obtained by the individuals in each scale is assessed according to whether we talk about positive saturation (1 for affirmative answers and 0 negative ones), or negative saturation (1 for negative answers and 0 for affirmative ones).

On the basis of these criteria, a direct score of the individual is obtained in each of the 6 scales of the questionnaire. This score corresponds to 6 first-order factors; direct score that may be converted to percentile score, referring to the respective attached one. According to the direct score, a percentile score corresponds to each scale. Percentile score allows for a more accurate idea of the individuals' situation in each of the scales that reflect the 6 first-order factors.

Once the score of first-order factors are processed, the score of the second-order factors must be obtained. The three second-order factors are determined on the basis of the direct score obtained in the 6 first-order factors. The assessment is determined based on the following formulas (Roman numbers correspond to the second-order factors and the Arabic numbers correspond to the first-order factors): 

\[
F_{I} = F_{1} + F_{2} + (12 - F_{6}); \\
F_{II} = F_{3} + F_{5}; \\
F_{III} = F_{4}.
\]

The direct score of three second-order factors are thus obtained. This score may be converted to percentile score.

In order to interpret this, we need to make reference to Montero and Alonso Tapia (1992) for the first-order factors and to Dweck and Elliot (1983) for the motivational factors. We provide now a brief summary these factors.

**First-Order Factors**

*Scale 1* makes reference to *high performance and hard-working capacity*, to individuals who consider they take up large amounts of work simultaneously and usually work more that their co-workers.

*Scale 2* shows *intrinsic motivation*, to individuals who think work causes self-satisfaction and it represents challenges. Scale 3 refers to ambition, to individuals who wish to achieve prestige, to get higher ranks at work, and is in search of positive judgments regarding competences.

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\(^1\) In Spanish MOTAPRE, MOTLUCI, MIEFRACA, respectively.
Scale 4 refers to performance inhibiting anxiety, to the lack of confidence in the capacity to achieve success, to individuals with a tendency to experience depression after failures. It also refers to the avoidance of difficult situations or to a feeling of anxiety and blockage in view of them.

Scale 5 refers to performance facilitating anxiety, to the pressure existing in every test which leads to an improvement in performance. Pressure here helps work and performance.

Scale 6 refers to the lack of effort, to individuals who make frequent breaks while performing their tasks, do not finish them and usually apply the principle of minimum effort.

Second-Order Factors

According to Dweck and Elliot’s contributions, it should be clear that Factor I represents Motivation for learning, Factor II represents Motivation for reputation or competence, and finally, Factor III represents Fear of failure (called here FEOFA).

As regards the latter, in terms of inhibiting anxiety for fear of failure, the author defines it as a lack of confidence in one’s own capacity to achieve success, blockage in the face of obstacles, and avoidance of these obstacles. Our histogram, by means of Jarque-Bera test, shows the normality of the variable. The probability of the test accepts the HO of normality (p>0.05).

The high values (close to 12) represent individuals unable to deal with obstacles or problems, who are afraid to fail and this fact leaves them motionless. The low values (close to 0) show the opposite situation; individuals who can deal with difficulties and experience no inhibiting motivation of performance.

Let us now analyze the results.

8. Results

8.1. Bivariate Analysis

It is not our purpose nor would it be possible to analyze the relationships between the multiple independent variables (model conditions) and the dependent variable (effect: Academic University Performance – UP).

We should say that core, occupational, pedagogical, cognitive and psychosocial variables (Motivation, Attributional Style, Resilience, Coping Strategies) were included in this model. Among the latter, we briefly provide the results for Motivation: Motivation for Learning, for Competences and Reputation, and Fear of Failure (measured through MAPE) in relation with UP (University Performance).

Summary Table 1: Motivation (MOTLE, MOTREP and FEOFA) vs. UP (Pearson's Correlation)

<table>
<thead>
<tr>
<th></th>
<th>Regression Coefficient</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTLE vs. UP</td>
<td>0.000137</td>
<td>0.9076</td>
</tr>
<tr>
<td>MOTREP vs. UP</td>
<td>0.000201</td>
<td>0.8852</td>
</tr>
<tr>
<td>FEOFA vs. UP</td>
<td>-0.002507</td>
<td>0.2408</td>
</tr>
</tbody>
</table>

1 Most of our students remain on the left side, that is, they are not afraid to fail. The results represent a certain consistency, considering that these individuals will not leave university due to fear of failure, despite the difficulties they go through. In other words, “relative” failure has not prevented them from keeping on studying.

2 In Spanish RU.
This table summarized the findings. As regards Motivation for Learning (MOTLE) vs. University Performance (UP), our findings show that Motivation for Learning has not accounted for a dependent variable, University Performance (UP). Regression in a lineal model (close to 1) does not help verification.

As regards Motivation for Competence and Reputation (MOTREP) vs. UP, it can be seen that it does not account for UP. Regression in a lineal model (close to 1) does not help verification. As regards Inhibiting Motivation for Fear of Failure (FEOFA) vs. UP, regression in a lineal model shows that Fear of Failure inhibits students.

In other words, MOTREP and MOTLE show probabilities with quite high values and indicates a lack of lineal association with UP, whereas FEOFA indicates a certain association, although somewhat low.

As a summary, the following Table shows, now from the point of view of correlation, that neither Motivation for Learning nor Motivation for Reputation account for University Performance. This is because it refers to under motivated individuals in both aspects. On the contrary, Fear of Failure inhibits students and reduces their probabilities for success in studies.

Table 2: Pearson’s Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>UP</th>
<th>LOG(UP)</th>
<th>MOTLE</th>
<th>MOTREP</th>
<th>FEOFA</th>
<th>RESIOPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP</td>
<td>1.0000</td>
<td>0.9866</td>
<td>0.0077</td>
<td>0.0096</td>
<td>-0.0779</td>
<td>0.1709</td>
</tr>
<tr>
<td>LOG(UP)</td>
<td>0.9866</td>
<td>1.0000</td>
<td>0.0134</td>
<td>0.0158</td>
<td>-0.0835</td>
<td>0.1932</td>
</tr>
<tr>
<td>MOTLE</td>
<td>0.0077</td>
<td>0.0134</td>
<td>1.0000</td>
<td>0.4405</td>
<td>-0.0970</td>
<td>0.1121</td>
</tr>
<tr>
<td>MOTREP</td>
<td>0.0096</td>
<td>0.0158</td>
<td>0.4405</td>
<td>1.0000</td>
<td>-0.0486</td>
<td>0.1229</td>
</tr>
<tr>
<td>FEOFA</td>
<td>-0.0779</td>
<td>-0.0835</td>
<td>-0.0970</td>
<td>-0.0486</td>
<td>1.0000</td>
<td>-0.0377</td>
</tr>
<tr>
<td>RESIOPP</td>
<td>0.1709</td>
<td>0.1932</td>
<td>0.1121</td>
<td>0.1229</td>
<td>-0.0377</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

8.2. Multivariate Analysis

Before starting with this multivariate analysis, let us say that the bivariate analysis, even though it plays a specific role, is particularly incomplete as regards Social Sciences, since social facts are complex. Therefore, as a last resort, we have carried out a multivariate analysis for it gets us closer to the actual situation being studied: the causes of performance of delayed students.

The Academic Performance Model (UP)

After presenting the Bivariate Analysis and the regression successive estimates, the most suitable model to account for University Performance and provide the best functional form is the following: Briefly: the variables accounting for Academic University Performance (UP) are RESIBON (Resilience regarding Bonds), RESIOPP (Resilience regarding Opportunities), COPINA (Lack of Coping Strategies), COPIST (Strategy and Effort), PSGOOD Positive Personalization), AGE (Age) and WORKACH (Work Achievement). This means that the motivational factor is not predictive in the framework of the multivariate model on delay in studies. Other factors, especially psychosocial ones, besides Age and Work Positioning, account for part of the phenomenon.

1 In Spanish (RU=UP) are RESIVINC (RESIBON), RESIOPOR (RESIOPP), COPINA (COPINA), COPIES (COPIST), PSGOOD (PSGOOD), AGE (AGE) and ROO ( WORKACH).

As it has been pointed out, this study extends the investigations conducted by Aparicio (1995-2015), and was carried out with different university populations: graduates from two national universities, UNIuyo dropouts, and individuals who take longer to graduate than the time determined by the curriculum in the system and re-enroll in university courses. All the studies cover more than two decades and have been made at different stages. The problem of retention was agreed to be developed because of its relation to achievement, addressing the factors/dimensions that could – as it has been pointed out by the experts – influence on permanence at university.

Fourth level populations (postgraduate: doctoral students/doctors) in the last ten years as well as in the local tertiary level (Teacher Training institutions) were addressed since they could be somewhat affected by difficulties determined by certain reasons and/or historical and structural circumstances. Finally, university professors working within the scientific system will also be considered (doing different research work: full time CONICET or other organisms researchers, university professors conducting research work within the Teacher-Research Programme sponsored by the National Ministry of Education since 1995).

Aparicio has been working on the issue of Achievement/Failure from the educational point of view, complementing it with the viewpoint of Social, Work, and Organizational Psychology.

The objective is to acknowledge what factors may be positive or negative within each organizational institution so as to produce knowledge-based data, transferring them to the political-managerial decision-makers (specially related to Education and Employment) allowing the change of the practices that generate difficulties and contribute to failure.

10. Conclusion/Discussion

We are particularly interested in this issue since we consider Education as an essential factor in personal and societal development. Admission to university without retention or graduation could be taken as personal and community failure and results in increased costs for the state, the organizations and the individuals. The organizations in the labour world also demand trained staff, professionalization of the training institutions and/or individuals, and commitment from all the parties involved.

Our studies have shown that those individuals who do not finish their studies are placed in a more vulnerable situation than the graduates. Such situation could improve by implementing support programs to help students overcome motivational and emotional difficulties and thus graduate. Although a degree does not ensure a higher and/or better positioning in the professional world (as it happened during the last century), it improves the individual possibilities of achievement and the organizational quality prospects.

Finally, whether or not our investigations corroborate the findings done of other developed countries, it is important to highlight that the systemic perspective and the studies carried out over long periods of time are essential to allow the comparison of inter-institutional, inter-disciplinary, inter-country achievement profiles which have as background different macro-societal frames (economical, political, cultural, social). In relation to this, Aparicio 2015 c and d) points out the need to develop a more integrative perspective of analysis which combines quantitative factors (measurable) and qualitative factors (“senses” that underlie the actions) and which, when merging, change the direction of the results on Quality, as when it is measured by figures, whether it is in organizations or in countries.

References


