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Analysis of determining factors in the academic performance of the students of the Faculty of Philosophy-Universidad Central del Ecuador

Análisis de factores determinantes en el rendimiento académico del estudiantado de la Facultad de Filosofía-Universidad Central del Ecuador

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Abstract

The purpose of this article is to analyze the personal, social and institutional determinants of student academic performance in teacher training courses at the Faculty of Philosophy of the Universidad Central del Ecuador. Academic performance is expressed in the grades obtained by students in different subjects. The research assumes an integral approach of descriptive-correlational level; with the participation of 2586 students enrolled in the Faculty, during the semester 2019-2020. The most outstanding results express that the personal factors present a higher mean than the social and institutional ones. In addition, these personal aspects as well as the social ones show statistically significant correlations with the grade point average and attendance. Also, the grade point average is directly proportional to student attendance. But it is noteworthy that the institutional factors do not show significant correlations with grades or attendance. The average student grade point average is 32.98/40 points, while the average attendance is 95.23%. Female students have higher grades and attendance than males. Seventy percent of the students have some difficulties in their studies, the most representative are of an economic nature and careers outside their vocation. Regarding the students' perception of the substantive university functions: the link with society is the highest rated with 77.5% positive evaluation, followed by teaching with 75.8% and finally research with 69.7%.

Keywords

Attendance, grades, institutional factors, personal factors, social factors, academic performance.

Resumen

El propósito de este artículo es analizar los factores personales, sociales e institucionales determinantes en el rendimiento académico estudiantil en las carreras de formación docente de la Facultad de Filosofía de la Universidad Central del Ecuador. El rendimiento académico se expresa en las calificaciones obtenidas en diferentes asignaturas por el alumnado. En la investigación se asume un enfoque integral de nivel descriptivo-correlacional; con la participaron de 2586 estudiantes matriculados en la Facultad, durante el semestre 2019-2020. Los resultados más destacados expresan que los factores personales presentan una media superior a los sociales e institucionales. Además, estos aspectos personales al igual que los sociales muestran correlaciones estadísticamente significativas con el promedio de calificaciones y asistencias. También, el promedio de calificaciones es directamente proporcional a las asistencias del estudiantado. Pero llama la atención que los factores institucionales no presentan correlaciones significativas con las calificaciones ni con las asistencias. El promedio de calificaciones estudiantiles es de 32.98/40 puntos; mientras que, el promedio de asistencias es 95.23%. Las estudiantes mujeres presentan calificaciones y asistencias superiores a los hombres. El 70% del estudiantado tienen algunas dificultades en sus estudios, las más representativas son de índole económica y de carreras ajenas a su vocación. Con respecto a la percepción del estudiantado sobre las funciones universitarias sustantivas: la vinculación con la sociedad es mejor puntuada con el 77.5% de valoración positiva; luego docencia con el 75.8% y finalmente investigación con el 69.7%.

Palabras clave

Asistencias, calificaciones, factores institucionales, factores personales, factores sociales, rendimiento académico.



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1. Introduction

Academic achievement at the higher level is an indicator of the effort of each student and his or her family environment, the institution and the state. State evaluation agencies observe the educational quality of the university through student performance measurements. Performance levels in education careers correspond to personal, social and institutional factors. This relationship between academic performance and its causal factors in university teacher training courses is the problem that will be elucidated in the study. The fundamental question to be answered is: What are the personal, social and institutional factors that have the greatest impact on academic performance in teacher training programs?

The objective of the article is to provide the academic community with the first empirical results on personal, social and institutional factors that have a greater impact on academic performance. The study is focused on the teacher training careers of the Faculty of Philosophy, Letters and Educational Sciences of the Universidad Central del Ecuador. The research project is executed in the period between the years 2019-2024, the results presented in this article correspond to the first stage of the research. The study involved the participation of nine careers of face-to-face modality: Initial Education, Basic Education, Educational Psychology-Psychopedagogy, Pedagogy of History and Social Sciences, Pedagogy of Language and Literature, Pedagogy of National and Foreign Languages-English, Pedagogy of Experimental Sciences Computer Science, Pedagogy of Experimental Sciences Mathematics and Physics, Pedagogy of Experimental Sciences Chemistry and Biology. For the field study, a questionnaire on personal, social and institutional factors related to academic performance was applied. An analysis of student grades and attendance recorded in the General University Information System (SIU) was also carried out.

The structure of the article contains the following sections: the introduction with a brief description of the problem to be investigated and the theoretical foundation. The methodology, which describes the procedures, techniques, population and sample. The results and discussion that reflect the most determinant explanations of the empirical study, compared with the state of the art published on the subject. Finally, the conclusions, which are the synthesis of the most significant findings of the study.

1.1 Academic performance and its factors

1.1.1 Academic Performance

In higher education, academic performance is related to the learning achieved by students in subjects, courses and professional training levels. Several factors intervene in the student learning process, which may favorably or unfavorably influence academic performance. The factors usually associated with academic performance are personal, social and institutional. Considering that, the student body presents unique qualities of: personality, predisposition to work, learning abilities, motivation to be successful in the academic environment, among others (Hernández, 2016, p. 1372). Commonly, academic performance is conceptualized as the learning achievement attained by students throughout their formative life. This assessment of learning is given with emphasis at the end of a cycle or level. According to Pérez and Gardey (2008), "academic performance is a measure of the student's capabilities, which expresses what he/she has learned throughout the formative process. It also implies the student's capacity to respond to educational stimuli" (p. 2).



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In the same line, performance is expressed in the attainment of academic goals, achievements and purposes set for a subject, level or course. In higher education, academic performance represents the most transcendent result of training; it is a measure of institutional educational quality (Caballero, et al., 2007, p. 99).

With a more comprehensive vision, Navarro (2003) argues that academic performance is "a construct susceptible of adopting quantitative and qualitative values, through which there is an approximation to the evidence and dimension of the profile of skills, knowledge, attitudes and values developed by the student in the teaching-learning process" (p. 14). In the same sense, academic performance is conceptualized as the achievements of knowledge, skills and competencies that the student has developed. This learning achieved by students is verified through evaluation strategies whose results are expressed in grades (Solano, 2015, p. 27). Other authors approach academic performance from a different perspective, prioritizing the process rather than the product. Carretero (2009) in this line attests that "it is not so important the final product issued by the student as the process that leads him/her to give a certain answer" (p. 2).

There is a very intense debate on academic performance in its qualitative or quantitative approaches, but especially in the approach as process or product. That is to say, performance is the result of interdependent aspects in the whole formative process that is systematically evaluated as a product. According to the above, academic performance is the synthesis of a diversity of elements such as knowledge, skills, efforts, motivation, attitudes and aptitudes. This diversity of cognitive, procedural and attitudinal elements interact in the formative process of the student body in the permanent search to achieve significant learning. In line with what has been described, Garbanzo (2007) argues that:

The assessment of academic performance does not lead to anything other than the relationship between what is learned and what is achieved from the learning point of view, and is valued with a grade, the result of which is derived from the sum of the student's achievement grade in the different academic activities to which he/she was subjected in a given cycle (p. 46).

It is very common for performance to be expressed in subject or course grades, which imply passing or failing grades. In short, performance reflects the academic success or failure of the student body, but also of the institution. In this sense, Arribas (2014) states that "one of the main manifestations of academic performance is grades" (p. 2), but it is worth noting that the evaluation of performance has a high dose of subjectivism, and many times, grades do not express the comprehensiveness of knowledge and skills developed by the student body. However, "despite the limitations expressed, grades are the most evident indicators of academic performance" (Barreno et al., 2019, p. 44).

1.2 Determinants of academic performance

The primary factors related to student learning are personal, social and institutional factors that in some way influence academic performance. The main indicators of personal factors are self-perception of gender, ethnicity, disability, entrance exam scores, time dedicated to academic preparation, reasons for choosing a career, class attendance rates and study difficulties. Social factors include family environment, marital status, territorial origin, socioeconomic stratum, employment conditions and financing of studies. The institutional factors are characterized by infrastructure, teaching, research and linkage, institutional environment and learning assessment, since they are the most developed in the empirical research.



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1.2.1 Personal factors

Gender and academic performance. When analyzing gender as a performance factor, it is necessary to highlight that "gender equality has been expressed in resolutions and declarations of international organizations, as well as in treaties, agreements and governmental conventions, in forums and world conferences on education and culture" (Trejo et al., 2015, p. 52). However, inequalities still persist in the university in the 21st century, globally and locally. There are profitable careers that privilege the entry of men, while others of lower economic profitability, such as teacher training, are practically feminized. Studies that relate gender and performance have found diverse results. In some cases, they conclude that female students have better grades than their male peers; in other cases, the opposite is shown. Also, there are cases where gender does not present significant differences in academic performance, as stated by Centeno, et al., (2019) "The results are conclusive since no significant differences appeared in any of the variables studied. The overall performance of the graduates was completely similar between men and women" (p. 171).

Regarding ethnicity and academic performance. The university is a meeting place, where students from social groups coexist for professional training purposes that self-define themselves as ethnically different. According to Sánchez-Jabba (2011) "the difference in performance is not attributable to ethnic status (...) but to factors related to household characteristics (such as income and parents' educational level) and peer influence" (p. 192). In conditions of disability; the factors to be taken into account in the performance analysis are welfare conditions. For the World Health Organization (2018) it is "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (p. 5). Human beings to develop their educational activities, need to be in enjoyment of their essential faculties, in this group are the largest university population. Capacities and well-being could be the factor with the greatest impact on performance. On the other hand, according to data from the National Council for the Equality of Disabilities 2021, at present, 47082 people in Ecuador have officially registered their disability. Concomitant with the above, according to Vicente et al. (2016) disability is "any restriction or absence (due to an impairment) of the ability to perform an activity, in the manner or within the range considered normal for human beings" (p. 4). Despite their low percentage of the population, students with disabilities require institutional attention from a rights-based approach.

A large number of university students, despite their relative normality, have difficulties in their academic preparation on a regular basis. The difficulties are expressed in lack of motivation for certain subjects or study programs; also due to inadequate school-family environments or spaces, disorganization of autonomous schedules, weakness in the use of study techniques, among others. In this regard, Romero and Lavigne (2005) testify that:

The origin of these problems is generally extrinsic to the student, i.e., due to socio-educational and/or instructional factors (such as inadequate family educational guidelines, inappropriate instructional practices, truancy, achievement motivation deficits, disinterest, etc.) (...) may occur in conjunction with other intrinsic disorders (e.g., sensory impairment, mental retardation, severe emotional disorders, attention deficit disorder with or without hyperactivity, specific learning difficulties, poor school performance) (p. 18).

Although they do not manifest themselves as specific learning disabilities in university students, students commonly have different types of difficulties and deficiencies. These problems must be overcome to achieve success in their professional training. In a study on



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education with an inclusive approach in Ecuadorian universities, it is stated that "inclusion is not only a sign of equity, but also of the quality of education. Quality without equity and educational inclusion is elitism and discrimination" (Borja et al., 2019, p. 15). The university has taken important steps in policies, infrastructure and organization with an inclusive approach; however, there are still actions to be taken for the benefit of the student body.

In terms of career selection and academic performance, in Ecuador, access to technology and degree programs in public higher education is by passing an entrance exam. This exam is applied by the state through the National Secretariat of Higher Education, Science and Technology (SENESCYT), currently called Transformar. According to Aprender Online (2021) "numerical, logical and verbal skills and reasoning will be evaluated" (p. 2). In concatenation with the above, Rodríguez (2013) asserts that "vocational-professional interest has a favorable and significant influence on academic performance" (p. 172). That is to say, students differ in their academic performance in relation to the time they dedicate to their studies, reading, attendance, classroom participation, evaluations, and career of their interest. On the other hand, according to SENESCYT, education careers occupy the fifth place in enrollment priority at the national level, after administration-law, engineering, health and social sciences-journalism. This data reflects that education careers are not among those preferred by high school graduates. The tendency is to apply for traditional careers, mainly the most profitable professions from an economic perspective (SENESCYT, 2018, p. 20).

In reasons of university career selection, the choice of profession is a primary responsibility for high school graduates, their families and the state when deciding on a university career. In this process, the aim is to guide young people towards the career of their vocation, so that the new professional has an identity with the labor field and contributes to the improvement of the living conditions of nature and society. In contrast, a profession achieved by inadequate decisions produces frustration, unhappiness, and even personality maladjustments, which in the future may affect society as a whole (Figuroa, 1993, p. 5). The main factors that interact in the selection of a professional career are of a social and personal nature. In the social sphere, status, economic aspirations, employment, entrepreneurship, among others, take precedence. On the personal side, vocation, aptitude, interest and maturity are the main factors. On the topic Bravo and Vergara (2018) argue that the choice of a university career is a:

A decision that should not depend on the level of pressure exerted by the family, the social or economic environment should be understood as an aspect of each individual; it is also of great importance the knowledge of oneself to discover the vocation and, finally, the need to be informed about the offer of careers and job placement possibilities (p. 46).

However, it is frequent that, since an adequate process of professional orientation for Ecuadorian high school students is not institutionalized, the results will be chaotic. When choosing a career, decisions are still influenced by factors other than the applicant's interest and vocation, such as family, friends and lack of knowledge.

1.2.2 Social Factors

Family environment and performance. Despite the changes in the structure and roles of the home environment, the family remains the nucleus of society. According to Rodríguez et al. (2008) "the family continues to be one of the essential pillars of young university students" (p. 227), likewise, for Beneyto (2015) "the different forms of parental involvement in the education of children have a positive impact (...) on the achievement of academic success" (p. 79). While in Véliz's assertion (2016) "it is the climate or type of family dynamics that



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could come to influence student performance and not the manifestations of support on the part of the family" (p. 64). The family environment, especially if it develops in a stable environment, has a positive impact on the education of their sons and daughters throughout their education, up to the university level.

In terms of marital status and performance, students who enter university immediately after finishing high school generally begin their studies between the ages of 18 and 23. This age group still remains in a single marital status, as Hernández and Pástor (2011) attest that "for Spain as a whole, (...) 90% of students claim to be single without a steady partner" (p. 9). Single students, with some exceptions, do not yet have family support responsibilities or employment needs. Consequently, they are probably more committed to achieving a high level of performance that will lead to the achievement of the profession on time. According to Ferreyra (2007) "single students have fewer responsibilities and more time to devote to study" (p. 15). At the same time, however, single students are more likely to drop out, especially those who have not chosen the career of their choice. It also happens that young people in these conditions are more likely to get involved in social problems and lose interest in completing their university studies.

In terms of employment as a performance factor, university students enrolled in the face-to-face modality, develop their academic training in days of classes at the university facilities (Higher Education Council (CES), 2020, p. 15). There are two study days: morning and evening-night, with six hours of classes per day, an element that favors the employment option of its students. There are three contradictory findings regarding the positive or negative incidence of student employment on university academic performance. On the one hand, as attested by Carrillo and Ríos (2013), the "labor occupation reduces their available time for school and personal activities and negatively affects their academic performance" (p. 32). Contrary to the previous position, Guzmán (2004) states that employment strengthens "training, provides experiences and knowledge that complement what the student acquires at the university" (p. 764). A third constant position in the study conducted at the State University of Quevedo -Ecuador by Cervantes et al. (2019) concludes that "students who work do not present problems in their academic performance" (p. 165). From which, it can be inferred that employment interferes in the times of university studies, but it contributes with positive experiences that guide the future work occupation.

It is a very marked tendency, in the Latin American context, for university students to seek employment, especially in the last levels of studies. The occupation is more frequent in students of social sciences and humanities, but not in the areas of medicine and engineering. The jobs to which they have access are usually different from the area of studies they are pursuing. "Salaries are increasingly lower and generally serve to contribute to family expenses and finance career costs" (Guzmán, 2004, p. 149).

In socioeconomic stratification and performance, social stratification is sociologically categorized as the segmentation of a social context into high, medium and low levels. With respect to access to social quality, which in reference to Sémblér (2006) is "educational achievement appears as a central factor in the conditions, standards of living and possibilities of social mobility presented by different social groups" (p. 59). Social quality implies the effective right to access and enjoyment of the welfare offered by the state, that is, a system of "opportunities and social rewards" (Gelles and Levine, 2000, p. 264). Access, permanence and professionalization in higher education is perhaps the most important indicator of social quality, especially for middle and lower class youth.

The student body of pedagogical careers belongs to the low and middle socioeconomic stratum. In this context, the student body shows limitations in having the necessary



resources for their studies. Economic restrictions have direct implications on individual well-being for the achievement of excellent performance. In this regard, a study conducted on the socioeconomic level and performance of students in the Peruvian education system developed by León and Collahua (2016) concludes that "socioeconomic level-both at the individual and school levels-is a key variable in explaining student performance" (p. 141). Meanwhile, in a research in Ecuador it is observed that "in the field of higher education the socioeconomic level of students does not generate a relevant incidence that has an impact on the academic performance of students" (Valladares et al., 2020, p. 6).

1.2.3 Institucional Factors

University infrastructure. Adequate physical, technological and connectivity infrastructural implementation are very necessary factors for the development of educational activities of students, teachers, administrators and authorities. However, the quality of educational infrastructure, especially technological equipment, is restricted and deficient in public higher education. The availability of these resources stimulates access to means of learning, welfare and comfort, which has a positive or negative impact on academic performance. Hence, the Autonomous University of Peru (2021) establishes that higher education institutions must "have spaces for research, as well as laboratories, libraries; spaces to develop culture and sports, considering auditoriums and multi-sports facilities" (p. 3).

In teaching, research and liaison functions. These functions should be developed from a dialectical and integrating perspective in professional training and research in their socio-educational context. In this regard, outreach "poses an internal interrelation, namely: it cannot be dissociated from teaching and research activities, just as the latter cannot be dissociated from the former" (Roble et al., 2007, p. 2). While, in a more critical view, in the Ecuadorian Higher Education System, "research, teaching and liaison are promoted as separate aspects (...) on which research or intervention projects are designed far from the field of studies" (Simbaña, 2017, p. 26). The three functions should articulately fulfill a determining role in the comprehensive training of the new professional. This comprehensive approach seeks to raise the educational quality, which is reflected in the substantive progress of the academic performance of the university student body.

Professional training in pedagogical careers revolves around pre-professional practice in its various forms. The current curricular designs of the careers include the knowledge integration project as an integrating methodology for teaching, research and liaison work. Hence, it is fully applicable to this analysis the statement that in the "practices they manage to adapt to different situations, problematic (...) in the educational center with which they relate, they learn to observe and apply methodological strategies in the classroom and most importantly, it creates a link with the school context" (Chenche-Jácome et al., 2017, p. 135). In this same logic of reflection, the "professional practice, plays a vital role in the improvement and success of students at the level of performance in the labor market" (Piña, 2016, p. 16). The pre-professional teaching practice is the space for an applicative exercise close to the reality of learning achievements in curricular-research training. The contact with the reality that allows the exercise of the practice, consolidates the vocation, interest and the curricular relevance offered by the career is evidenced.

The institutional environment. A factor of great incidence in university education and academic performance is the environment or climate that the institution fosters among the participants. The institutional environment generated in the educational process involves students, teachers, administrators and community context. An adequate climate for the student body is expressed in well-being, comfort, confidence, security and "participation in their own learning" (Tuc-Méndez, 2013, p. 63). In this area, the institutional culture,



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interpersonal relationships and teacher treatment form the substantial axes of the institutional environment.

Assessment of learning. Evaluating learning at the university implies investigating, knowing, interpreting and issuing value judgments on the learning achieved. The evaluation process makes it possible to verify the achievement of the objectives outlined in the career training curriculum in order to improve the aspects in which deficiencies have been observed (Pidone, 2005, p. 40). At the Universidad Central del Ecuador (UCE), learning assessment is a curricular component that has the particularity of being formative and summative, as well as individual and group. The scoring scale had a range of 0 to 40 points, later it was modified to a scale of 0 to 20 points. The evaluation period is six-monthly, considering a formative evaluation process, in addition to a summative evaluation that must be carried out individually and in groups. The evaluation is a factor of great incidence in the performance, since, with its application by means of specific techniques and instruments, a qualification is granted. The evaluation brings into play the pedagogical criteria of the teaching staff, the technical and instrumental quality, and the curricular and administrative institutional processes. In short, the evaluation provides results that relatively reflect the student's learning achievement, trying to be as objective as possible. Finally, for the UCE (2021).

The evaluation of student learning is a systemic, scientific, continuous, participatory and educational process of gathering information on the level of achievement of the learning outcomes foreseen in the micro-curricular planning, through the use of various activities, techniques and instruments planned by teachers and socialized with students prior to their application (p. 1).

2. Methodology

The study was developed under the quantitative approach, using a design characterized as non-experimental, descriptive and correlational. The quantitative characterization refers to the fact that the data were analyzed by means of descriptive inferential statistics. The treatment of variables was non-experimental, because they were approached in the university socio-educational context without manipulation. The inferential treatment was developed in the SPSS program. The following tests were applied: ANOVA, Student's t-test and Pearson's correlation to establish differences and non-causal statistical relationships between the variables studied. The population is 5537 students, enrolled during the September 2019 - February 2020 semester. The population corresponds to the on-site and current careers of the Faculty of Philosophy, Letters and Educational Sciences of the Universidad Central del Ecuador. For the field work, a questionnaire of 65 items was designed, mostly Likert type, which was validated by experts and its reliability was determined (Cronbach's alpha = 0.89). The application was carried out virtually, using Google questionnaire, and 2,586 subjects who gave their consent responded. The sample was incidental and covered 47% of the total population. Performance and attendance data were extracted from the SIIU computer program of the UCE.

3. Results and discussions

The distribution of the sample of students participating in the research, by career and gender, is shown in Table 1. The study included the nine on-campus careers in force in the 2019-2020 academic period. A relevant characteristic is that the percentage of student participation in eight careers is similar, ranging from 8.47% to 14% of the student body in



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the sample. With the exception of the Basic Education career, which only has 2.75%, which is explained by the fact that it is new, in the study period it started with the first semester..

Careers Faculty of Philosophy, Letters and Educational Sciences	Feminine		Masculine		Sample by careers	
	N	%	N	%	N	%
	205	8.01	157	6.12	362	14.13
1. Pedagogy of History and Science and Social Sciences	250	9.73	98	3.90	348	13.63
2. Language and Literature Pedagogy	339	13.10	7	0.30	346	13.40
3. Early Childhood Education	257	10.01	89	3.23	346	13.24
4. Psychopedagogy - Educational Psychology	217	8.40	92	3.50	309	11.90
5. Pedagogy of National and Foreign Languages-English.	122	4.72	184	7.12	306	11.84
6. Pedagogy of Experimental Sciences - Mathematics and Physics	202	7.81	69	2.70	271	10.51
7. Pedagogy of Experimental Sciences, Chemistry and Biology.	76	3.01	143	5.53	219	8.54
8. Pedagogy of Experimental Sciences Computer Science	61	2.40	10	0.41	71	2.81

Table 1. Sample of students by career and gender. Note: PINE= Pedagogy of national and foreign languages. PCE= Pedagogy of experimental sciences

The sample distribution by levels, of the nine semesters studied is: first with 14.15%; second 14.53%; third 15.18%; fourth 12.93%; fifth 11.65%; sixth 8.83%; seventh 7.6%; eighth 10.68% and ninth 4.46%. In addition, 48.5% of the students study in the morning, 39.3% in the evening and 12.2% in both days. Regarding the marital status of the student body: 92.6% of the students are single; 3.6% are married; 3.1% are in a common-law relationship; 0.6% are divorced and 0.1% are widowed. The student body, by marital status, does not present significant statistical differences in grades or attendance.

In the employment category, 11.3% work and study; 39.4% work occasionally and study; while 49.2% only study. When this variable was subjected to factorial statistical analysis, it was established that it does present significant differences in grades and attendance (ANOVA: $F=2.91$; $Sig.=0.008$). Thus, those who study and do not work have a higher grade point average of 33.54/40 points and an attendance of 96.18%. Those who study and occasionally work achieve an average of 32.58 and 94.69% attendance. While those who work and study at the same time obtain an average of 31.92 and attendance of 92.98%. Regarding territorial origin: 88% are from the province of Pichincha and only 12% are from other provinces, especially Imbabura, Cotopaxi, Carchi and Santo Domingo de los Tsáchilas. Regarding the students' place of residence, 40.6% live in the south of Quito; 29.5% in the north; 10.4% in the center; 14.3% in the valleys and 5% in other cantons. These variables do not present significant statistical differences with respect to grades and attendance.

Regarding family members with whom the students live: 55.1% live with their father and mother; 22.6% live only with their mother; 3.6% live with their father; 6.4% live with their partner; 3.8% live alone; and 8.5% live with other family members or persons. This variable does show significant differences with respect to grades and attendance (ANOVA: $F=2.91$; $Sig.=0.008$). Those who live only with their father have a higher score, 33.44/40 points, while those who live with both father and mother have the highest percentage of attendance, 95.67%, as shown in Table 2.



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Students living with :	Grade point average	Average attendance
Father and mother	33.14	95.67
Father only	33.45	95.23
Only with mother	32.75	94.97
With partner	33.33	94.43
Other relatives	32.30	94.16
Only	32.36	93.85
Other people	32.36	94.29

Table 2. Qualifications and attendances in relation to who lives

Regarding the ethnic group with which the students self-identify: 95.1% identify themselves as mestizos; 3.2% as indigenous; 0.7% as Afro-Ecuadorian; 0.5% as Montubios; and 0.5% as white. Ethnic condition does not present significant statistical differences with grades and attendance.

Regarding the type of educational institution by source of financing where they obtained their high school diploma: 79.7% graduated from public schools; 13.8% from private schools and 6.5% from public schools. Regarding students with special conditions, only 1.2% said they had some type of disability, of which only 0.3% had a CONADIS card. These variables do not show significant differences with respect to grades and attendance. Regarding socioeconomic strata, more than half of the population studied (55%) is located in the middle and upper-middle strata; 45% in the middle-low and low strata; no students are located in the high stratum, see Table 3. This situation is explained by the fact that the Universidad Central del Ecuador is a public institution of higher education, which is accessed by young people from popular sectors and education careers are considered unprofitable. The socioeconomic stratum does present significant statistical differences with respect to grades and attendance (ANOVA: $F=2.84$; $Sig.=0.036$). The medium-high stratum presents better rates of grades and attendance; on the contrary, the lowest scores are of students belonging to the low stratum.

In reference to the students' monthly expenses: 46.5% have less than 100 dollars; 38% have between 101 and 250 dollars; 15.5% have at least 251 dollars. These data reflect the economic limitations for their studies, for good food, housing and health care. This variable shows significant differences with respect to grades (ANOVA: $F=4.39$; $Sig.=0.002$), but not with attendance. The financing of student expenses comes mainly from their parents. In the School of Philosophy-UCE, students make great efforts to study and graduate. This variable does show significant statistical differences with respect to grades and attendance (ANOVA: $F=8.93$; $Sig.=0.000$), as can be seen in Table 3.



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Socioeconomic stratum	%	PC	PA	Monthly expenses in dollars	%	PC	PA	Financing studies	of %	PC	PA
High	0	-	-	More than 1000	0.2	34.8	96.0	Parents (father and mother)	45.9	33.1	95.6
Medium High	2.7	33.9	95.8	De 501 a 1000	2.0	34.2	95.3	Only for my mother	18.2	32.9	95.3
Medium	52.3	33.0	95.2	De 251 a 500	13.3	32.9	94.6	Only by my father	13.3	33.3	95.8
Low	37.5	32.9	95.5	De 101 a 250	38.0	33.2	95.4	Self-financing	14.7	32.1	93.4
Low	7.5	32.1	94.0	Less than 100	46.5	32.7	95.2	Others	7.8	33.3	95.2

Table 3. Socioeconomic status of the student body: socioeconomic stratum; expenses and financing. Note: PC=Grade Point Average, PA=Average Attendance Average

3.1 Entry score for education careers

In the SENESCYT evaluation, the scores for access to university education careers are distributed as follows: 11.4% entered with less than 800 points; 74.3% obtained a score between 800 and 899 points; only 14.3% achieved more than 900 points, as shown in Figure 1.

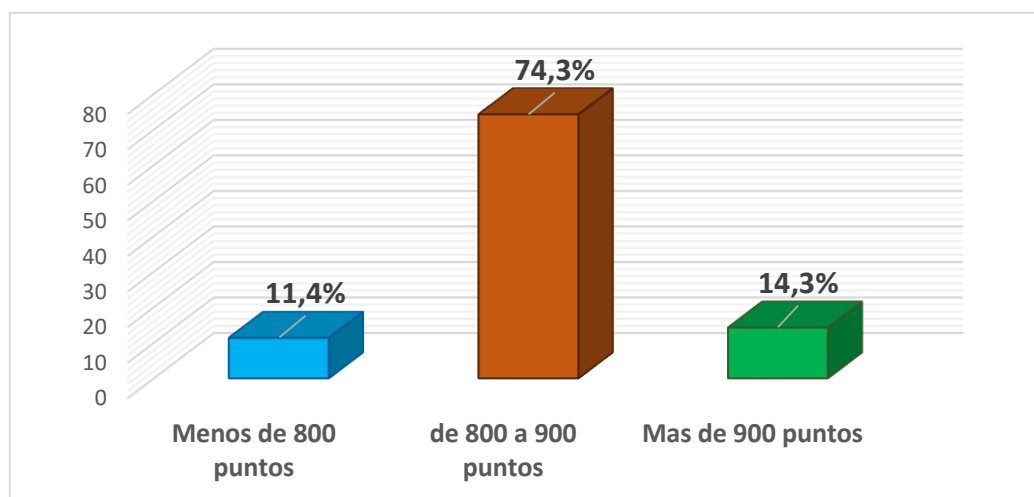


Figure 1. Entry scores for education careers

Of the scores obtained by the student body for university entrance, the average corresponds to 848.06/1000 points.

3.2 Career selection

Choosing a university career is of great responsibility for high school graduates, who, in the midst of uncertainty, their unfamiliarity with higher education and the bewildering world of work, have to decide on one profession or another. The University of Palermo (2017) points out that:

The time to choose a career is a time of great uncertainty, parents, teachers, friends and family ask: What are you going to study? and that question feels like an interrogation that puts you between a rock and a hard place (...).



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Choosing a career can be much more than deciding what you are going to study. Choosing a career with a deep knowledge of your personality, your tastes, your interests, your environment and your reality is to choose a life project related to you. For that, it is necessary that you know yourself, discover who you are and what you like. It is not enough to look for information about careers or to take a test that tells you what to study (page 1).

The students express that the reasons for choosing a career are: vocation 49.8%; academic and social prestige, suggestions from friends, economic profitability and family imposition 16.8%. It is noteworthy that 33.4% do it for other reasons, which is surely explained by the SENESCYT's university entrance system. This selection process forces many high school graduates to choose careers other than their professional interests. This variable does not show significant differences in grades or attendance. In the application options: 41.6% placed their current career as their first option, 53.7% placed their current career between the second and fifth option. Consequently, more than half of the students of the Faculty do not pursue their career with total vocation, a worrying situation for professional practice. The reasons for career choice do not show significant differences with respect to grades and attendance, as shown in Table 4.

Reasons for Career Choice	Percentage	PC	PA	SENESCYT Application	Percentage	PC	PA
By vocation	49.8	33.16	95.34	First choice	41.6	33.03	95.49
Academic and social prestige	4.1	32.76	95.13	Second choice	25.6	32.89	95.20
Suggestions from friends	6.2	32.84	94.98	Third option	14.1	32.71	94.59
For economic profitability	3.8	32.42	95.39	Fourth option	5.3	33.15	95.31
For family imposition	2.7	32.41	95.52	Fifth choice	8.7	33.18	95.05
Other reasons	33.4	32.87	95.08	None	4.7	33.24	95.24

Table 4. Career selection. Note: PC=Grade Point Average, PA=Average Attendance

3.3 Qualifications and attendance per race

Faculty and career grade point averages were calculated, as shown in Table 5. The faculty grade point average is 32.98/40 points. Attendance is 95.23%, which represents a high percentage of presence in the classes. In the analysis by student's career, significant statistical differences are observed in grades and attendance (ANOVA: $F=71.51$; $Sig.=0.000$). The highest grades and attendance are found in the Early Childhood Education career (35.67 and 97.40 respectively). While, Pedagogy of Experimental Sciences Mathematics and Physics (30.09 and 94.76) together with Pedagogy of Experimental Sciences Computer Science (30.57 and 92.50), present the lowest averages of grades and attendance respectively. The average grade point average of the students of the Faculty is far from excellence. Considering that the university legal regulations on learning evaluation regulate the approval of subjects with scores of 28/40 to 40/40 points. The average grade point average of the Faculty is closer to the minimum standard, therefore, it is necessary to promote strategies to significantly improve the learning results.



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Careers Faculty of Philosophy, Letters and Educational Sciences	Scores over 40 points	100% attendance
Basic Education	33.58	96.80
Initial Education	35.67	97.40
Pedagogy of History and the CCSS	33.28	95.03
Language and Literature Pedagogy	33.70	94.19
Pedagogy of Experimental Sciences Chemistry and Biology	33.07	95.74
Pedagogy of Experimental Sciences Informatics	30.57	92.50
Pedagogy of Experimental Sciences Mathematics and Physics	30.09	94.76
Pedagogy of National and Foreign Languages-English	33.33	95.59
Psychopedagogy-Educational Psychology	32.83	95.43
Total average	32.98	95.23

Table 5. Grade point averages and attendance. Note: PINE= Pedagogy of national and foreign languages. PCE= Pedagogy of experimental sciences

3.4 Grades and attendance by gender

Analyzing the difference in means through the Student's t-test for grades and attendance by gender, there are significant statistical differences in the two variables. Female students have higher grades and attendance than male students, as shown in Table 6. There is coincidence with the research carried out at the Universidad Empresarial de Argentina, which states that "significant statistical differences can be observed that allow us to affirm that the academic performance of women is higher than that of men after the first three years of studies" (Echavarri, Godoy and Olaz, 2007, p. 324).

Gender	Grades		Attendance	
	Average	T Sig.(bilateral)	Average	T Sig.(bilateral)
Feminine	33.63	.000	95.63	.000
Masculine	31.66		93.99	

Table 6. Grade point averages and attendance. Note: T=Student's t-test, Sig, =Significance

3.5 Difficulties in studies

The statistical results show that 70% of the people investigated have difficulties in their studies. The most representative options are: economic limitations and the chosen career without a vocation. Thirty percent say they do not have any difficulties in their studies. Difficulties in studies express significant differences with respect to grades and attendance (ANOVA: $F=6.53$; $Sig.=0.000$), as shown in Table 7. The finding on vocation is related to a study carried out at the University of Barranquilla by Contreras, Caballero, Palacio and Pérez (2008), where it is established that:

approximately 45% of the students did not have an adequate professional and vocational orientation, (...) in general they do not feel motivated by the academic activities in the classroom, so they are not very participative, they feel little "connected" with their classes, and this generates greater non-attendance (p. 121).



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Not having chosen a career by vocation decreases motivation and increases frustration to study and obtain an adequate academic performance. It also produces desertion and career change. As stated in a study conducted at the University of Milagro by Barreno (2011) "It should be noted that there is a high rate of dropout and repetition, career changes in most universities" (p. 101).

Study difficulties	Frecuencia	Porcentaje	PC	PA
Family difficulties	134	5.2	32.60	93.72
Social insecurity	90	3.5	33.85	96.41
Career is not their vocation	318	12.3	32.76	95.17
Economic limitations	613	23.7	32.88	95.07
No time to study	106	4.1	31.94	93.41
Maternity or paternity	142	5.5	33.10	93.81
Health problems	48	1.9	30.98	90.85
Gender violence	6	0.2	34.68	96.11
Other	266	10.3	32.43	94.92
None	777	30.0	33.61	96.29
Lost System	86	3.3	-	-
Total	2586	100.0	-	-

Table 7. Main difficulties in studies. Note: PC=Grade Point Average, PA=Average Attendance Average

3.6 Teaching, research and networking

The Organic Law of Higher Education (LOES) in its Art. 117 states that "All universities and polytechnic schools are teaching and research institutions (...) Their substantive functions are: teaching, research and links with society" (National Assembly, 2020, p. 68). This regulation establishes that the university must plan and develop strategies and actions oriented to academic teaching work. Also, to the production of knowledge and to share science, technology, art and culture with the social context. In order to gather the criteria of the faculty's student body, we asked about the perception of the substantive functions with the following rating scale: excellent, good, regular and deficient. The results are shown in Table 8, where the link with society is the highest rated with 77.5% positive evaluation, followed by teaching with 75.8%, and finally research with 69.7%. The percentages are the result of the sum of the values of excellent and good.

Rating	Teaching	Investigation	Vinculación
	Percentage	Percentage	Percentage
Excellent	13.0	11.6	19.8
Good	62.8	58.1	57.7
Fair	21.8	26.1	19.3
Fair	2.3	4.2	3.2
Total (2586)	100.0	100.0	100.0

Table 8. Substantive functions of the university

Institutional management must strengthen the integration of university functions in order to implement quality professional training for the faculty's students. Coinciding with what Franco (2017) states, in the sense that:



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The articulation of the substantive functions (...) allows educational practices to converge and thus propitiate a portfolio of significant experiences in the classroom; research and linkage provide useful inputs for the training process and this in turn generates results in a professional profile whose basic competencies are focused on being able to face problems with relevance, faithful to their conscience, tolerant, supportive, willing to work as a team and builders of innovative proposals (p. 8).

3.7 Correlation analysis: personal, social and institutional factors with grades and attendance.

Garbanzo's (2007) theoretical contributions describe "academic achievement as a multidimensional and multicausal variable" (p. 47). It is the result of the interaction of a set of dimensions and factors grouped into personal, social and institutional, which are directly correlated. This is precisely what the correlational statistics analyzed show. In the empirical study, the personal, social and institutional factors or determinants were analyzed with the measurement scales excellent (4 points), good (3 points), fair (2 points) and poor (1 point). The first factor contains the dimensions of gender self-perception, ethnic self-perception, disability conditions, entrance exam scores, time dedicated to academic preparation, reasons for choosing a career, attendance rates at classes, and difficulties in studying, among others. The statistical mean is 3.11/4, obtaining the highest rating among the three factors. In second place, the social factors family environment, marital status, territorial origin, socioeconomic stratum, employment conditions, financing of studies, among others, represent a mean of 2.96/4. The institutional factors infrastructure; teaching, research and networking; institutional environment and learning evaluation have the lowest evaluation with an average of 2.79/4. However, none of the factors is classified as excellent in the perception of the student body.

In the inferential analysis of the personal, social and institutional factors with grades and attendance, Pearson's r correlation statistic was applied, as shown in Table 9. The personal factors, as well as the social factors, present low positive correlations with the grade point average and also with the percentage of attendance, as shown in Table 9. There are also low and moderate positive correlations between personal, social and institutional factors. Similarly, there are statistically significant moderate positive correlations between grade point average and average attendance. It is noteworthy that the institutional factors do not show correlations with grades or attendance.

		Personal Determinants	Social Determinants	Institutional Determinants	Average Qualifications
Social Determinants	Pearson's Correlation	.277**	1		
Institutional Determinants	Pearson's Correlation	.502**	.265**	1	
Grade Point Average	Pearson's Correlation	.167**	.174**	.015	1
Average attendance	Pearson's correlation	.059**	.113**	.026	.629**
	N	2586	2586	2586	2586

Table 9. Correlational analysis



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4. Conclusions

A single conceptualization of academic achievement is practically impossible; there are many controversies among educators and researchers in this regard. It can be established that academic performance is the result of the learning achieved by the students in an educational process, product of their effort, of the faculty and of the university's management. Academic performance is shown in a grade or grade, generally quantitative, obtained from the evaluation of different academic activities.

Pearson's r correlation between the variables allows inferring that there are low positive correlations between personal and social factors with academic performance and attendance. This finding coincides with the analysis of means on the evaluation of personal and social factors. It is novel that institutional factors do not have a strong relationship with students' grade point averages and attendance.

Class attendance shows a moderate relationship directly proportional to the students' grade point average. That is, the higher the percentage of attendance, the higher the grades. Meanwhile, if attendance is low, so are grades. These findings are in agreement with Rodríguez and Herrera (2009) who point out that the approval of the subject is significantly related to the students' attendance to the theoretical and practical classes.

The dimensions of student sex, career, employment, study difficulties, socioeconomic status, monthly expenses, financing of studies and with whom he/she lives, show significant statistical differences in academic performance and attendance. Meanwhile, in the dimensions of marital status, ethnic group, type of educational institution, territorial origin, student residence, application options and reasons for choosing a career, no significant statistical differences were found in terms of performance and attendance.

The average grade point average of the students of the Faculty in the academic period investigated is 32.98/40 points. According to the Evaluation Instructions of the Central University of Ecuador, it is relatively low, because it is closer to the minimum standard for promotion (28/40) than to the 40/40 excellence score.

A significant percentage of students express not having a vocation for the career they are studying. This situation is worrisome, since it could have a negative impact on their academic and professional performance in the future. The lack of identity with the profession has adverse consequences for the graduate teachers themselves, but also for the educational community.

The students of the School of Philosophy value positively the substantive functions in the following way: teaching management with 75.8%, research with 69.7% and liaison with 77.5%. 5%; highlighting the linkage with society with the highest positive percentage; however, greater institutional effort is required to approach academic excellence, in the sense that Franco (2017) states, that the integration of teaching, research and linkage generate educational practices that converge and promote meaningful experiences in the classroom to strengthen knowledge, skills and the practice of values consistent with social welfare and care of nature.



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