




Academic procrastination in the area of Physics in university students

Procrastinación académica en el área de Física en estudiantes universitarios

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In order to describe the academic procrastination in the Physics area of a university population in Cojedes Venezuela, the present study was carried out. For its preparation, there were students corresponding to the Telecommunications Engineering career of the National Polytechnic Experimental University of the Armed Forces Nucleus Cojedes, students of Physics I and Physics III subjects. The methodology used was a non-experimental design, with field research and descriptive level. The population was 43 students, with whom an observation guide was used in the first instance as an instrument. For interviews and questionnaires, a sample of eight students was taken, corresponding to 18.6% of the population. Among the most relevant results, it was found that more than 60% of the participants exhibited procrastinating behaviors. It was also observed that the majority prepared with little advance for the evaluations and stated that they felt comfortable this way, because "they work better under pressure". As a conclusion, it was possible to verify that there is a presence of academic procrastination in the majority of the population, although it is an active procrastination.

PALABRAS CLAVE

gestión del tiempo,
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académicas

Con el objetivo de describir la procrastinación académica en el área de Física, de una población universitaria en Cojedes Venezuela, se realizó el presente estudio. Para su elaboración, se contó con alumnos correspondientes a la carrera Ingeniería de Telecomunicaciones de la Universidad Nacional Experimental Politécnica de la Fuerza Armada Núcleo Cojedes, cursantes de las asignaturas Física I y Física III. La metodología empleada fue un diseño no experimental, con investigación de campo y nivel descriptivo. La población fue de 43 estudiantes, con los que se usó en primera instancia como instrumento, una guía de observación. Para entrevistas y cuestionarios, se tomó una muestra de ocho estudiantes, correspondientes al 18,6% de la población. Entre los resultados más relevantes, se encontró que más del 60% de los participantes presentaba conductas procrastinadoras. También se observó, que la mayoría se preparaban con poca antelación para las evaluaciones y manifestaban sentirse cómodos así, porque "trabajan mejor bajo presión". Como conclusión, se pudo verificar que

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1. INTRODUCTION

The term procrastination, until recently, was quite unknown; however, lately it has become known worldwide, especially in the last decade. Recently, more attention has been paid to it from the scientific point of view, in dimensions such as educational, psychological or clinical. When performing a review of the term in the twenty-third edition of the Dictionary of the Spanish Language of the Royal Academy (2014), it is observed that procrastinate comes from the Latin *procrastināre*: *pro* (in favor of) *crastināre* (relative to tomorrow) and of its meaning is mentioned: "defer, postpone."

However, the current use of the term has a slightly more complex meaning, for example Díaz-Morales (2019) when referring to procrastination, mentions that:

It consists of the general tendency to postpone the start and / or completion of planned tasks to be carried out in a certain time. Such a tendency to procrastination is usually accompanied by subjective discomfort and is not only a matter of low responsibility and time management, but it is also a real problem of self-regulation at the cognitive, affective and behavioral levels. (p. 44)

This definition is more adjusted to procrastination as a problem and phenomenon of study, especially from the educational and psychological point of view.

Another important aspect that is included in other definitions and that must be considered, is the fact of performing a task that is generally easier and faster, to replace the main one or the one to be performed. In this regard, Rodríguez (2013) mentions that it is "to stop doing what we really have to do and, instead, to do what we should not do, that is, to dedicate oneself to the secondary, to the irrelevant or to pass the time" (p. 12), these decisions are irrational and generally harmful in different aspects of daily life.

Similarly, there are other definitions that emphasize different aspects that can be studied and allow new dimensions to be obtained for nascent research. Thus, for example, Garzón and Gil (2017a) mention that "this behavior implies postponing the start of a task, completing it at the last moment, exceeding the time limits set for it, or even indefinitely avoiding its completion" (p. 2). The foregoing gives entry to an important aspect to define the definition, such as time limits or deadlines, since a person could delay the fact of starting a new career, learning to play a musical instrument, even reading a book; however, they are activities that do not have an established deadline and do not fall within the definition.

Regarding the prevalence of the phenomenon, there are numerous data, for example that 20% to 25% of the general population in America are chronic procrastinators (Díaz-Morales, 2019). Likewise, there are empirical studies where the phenomenon is associated with academic variables. As in the case of Tarazona et al. (2016) who determined that language, literature and communication students were affected to a high degree by procrastination in 71% or that it was also correlated with internet addiction (Galarza et al., 2017).

The presence of the phenomenon in the educational field is called academic procrastination, which, according to Steel and Klingsieck (2016), consists of “the act of postponing academic tasks or activities, unnecessarily, voluntarily and after a determined attempt to end the themselves, despite expecting / predicting and experiencing subjective discomfort as its cause” (p. 37). It is an unfinished construct, so the studies carried out on it are refining this definition, as shown by Barraza and Barraza (2018) when mentioning that it is “an empirical domain that is in the process of conceptual consolidation and, as such, it results in a methodological component, especially in its instrumental aspect, also in the process of consolidation” (p. 91).

The previously mentioned deadline had an important role in the study of the academic procrastination of the present work, since based on this, the behaviors that caused the postponements and executions were described on dates close to that limit, the behaviors after the delivery and also the effects it has on people, such as guilt, frustration, anxiety or shame (Neenan, 2008; García, 2009).

There are four models from which the study of procrastination has typically been approached, these are psychodynamic, motivational, behavioral and cognitive (Rothblum, 1990). In the present investigation, depending on the objectives set, emphasis was placed on the behavioral and motivational. The first, because the study of the behaviors that lead to the delivery and completion of academic activities on the deadline, is the starting point of the same, from where the initial data and the criteria established within the definition arise. Regarding the second approach, it was used because persistence in behaviors has a strong motivational character, this can be seen in two ways; as a problem, by constant procrastination or as a solution, because according to Cirino (2003) “the person keeps making the effort for long periods of time and insists on it until the goal is achieved” (p. 81).

In Venezuela, academic procrastination has been little investigated, there are some studies at the undergraduate level in the area of psychology such as that of González and Tovar (2015) and Coronado (2015) among others; At the master's level, Bermudez (2020) stands out, and Morales's thesis (2019) at doctoral level. However, in the main scientific journals in the educational and psychological area, as well as at the level of doctoral theses in the main universities, academic search engines, databases, repositories and digital libraries, the exhaustive review on the term yielded few results.

If the above is compared with other Latin American countries such as Peru, Colombia or Ecuador, a notable difference is observed in the amount of research and scientific articles generated; Well, in those mentioned, the issue has begun to be given greater importance in the last decade. In this sense, as a problem that concerns the educational part, there is a lack in the study of the phenomenon, where studies such as those previously mentioned, report that there is a significant presence of academic procrastination in Venezuela at the university level.

In the context chosen for this study, the phenomenon of academic procrastination in a specific area (Physics) is reviewed, which differs from other areas due to different circumstances, some of these typical of a discipline that requires the application of approaches to explain the reality, previous knowledge of mathematics and a certain level of abstraction to understand the exercises. Another circumstance inherent to the context is the importance of the subjects corresponding to this area within the study curriculum, since its failure implies not advancing to the next academic semester, which makes it different in importance from other subjects studied.

For the present study, the students of Physics I and Physics III (there was no enrollment in Physics II) of the Telecommunications Engineering career of the Cojedes Nucleus of the National Experimental Polytechnic University of the Armed Forces (UNEFA), the which presented a high number of failures each academic semester (above 50% in 2018 and 2019). Of course, the reasons for this are multifactorial, but one of these possible factors that was detected and provoked an intention to investigate, was the phenomenon of academic procrastination, since a high number of students permanently requested an extension for the delivery of assignments and these same in their majority, appeared in the group of failed.

Initially, by means of non-systematic observation, the phenomenon was reviewed trying to see the degree of its presence. Later, even without formalizing any investigation, an observation guide was used to review the delivery times of the different assigned tasks, noting delays in their delivery. The above was only an indication of the presence of academic procrastination, since the mere delay in delivery was not enough to ensure it. However, this first contact with the phenomenon gave rise to the present study, deciding to carry out a more formal investigation, adding that previously there were no studies at the university on the phenomenon in question. To carry out this research, various dimensions were taken into account, such as time management, task initiation and completion, functioning under pressure, preparation for exams, substitute activities, and discomfort from procrastinating.

As a background, two doctoral investigations were taken as a reference, which focus on academic procrastination, within different aspects that resemble the study carried out. In the first instance, the research by Natividad (2014) entitled "Analysis of procrastination in university students" carried out in Spain was used. Regarding this, the contribution was in the study of the time management dimension, which is one of the main ones in both works, as well as the use of techniques such as the interview.

In the same line of work, the research by Barreto (2015) was used, which is called "Relaxation in states of anxiety and procrastination in newcomers to the faculty of social sciences" carried out in Peru, from which the instrument used to record observations, similar to the one used in the present, in addition to the coincidence in the psychological dimensions regarding the phenomenon, such as discomfort from procrastination.

The research was theoretically framed in two entry theories. The first of these is the ancient behaviorist theory of Thorndike (1911) of stimulus response (Law of effect) associating it with the rewarded behavior, this law mentions the following:



Among the various responses issued to the same situation, those that are closely followed or accompanied by satisfaction for the animal will be more firmly connected with the situation if other things are the same, so that when the situation recurs, they will have a better chance of repeating themselves.

Responses accompanied or closely followed by discomfort for the animal will see their connections with that situation weakened if other things are the same, so that when the situation recurs, they will have less chance of happening. The greater the satisfaction or discomfort, the greater the strengthening or weakening of the bond. (p. 244)

The above implies that when a connection between stimulus and response is rewarded, it is reinforced and leads to learning and when it is punished, the connection weakens and ends up disappearing. The use of this theory is given by using the behavioral approach of academic procrastination.

Similarly, as a second entry theory, the academic procrastination model of Schraw et al. (2007), who mention among their points that “procrastination can lead to positive or negative consequences in the quality of life; however, students do not perceive the impact on the quality of their work, among other aspects” (p. 21). All this was perceived in the way in which the phenomenon is captured by students within their environment, in addition to the fact that the model takes into account adaptive aspects associated with studying under pressure.

The impact of the research can be elucidated in two specific and fully intended criteria, these were educational and psychological. The first of them, since the descriptions made in the present study are based on the delivery of assignments or tasks and on the preparation times for the evaluations, so the results obtained and the interpretations are based on the behavior of students mainly in the educational context and their time management in that area.

In addition, the presence of the phenomenon in teaching-learning situations involves didactics, which is a matter of importance at any educational level, especially the university, where the study could serve as a complement, for example, in research on dropout, which is one of the growing problems in Venezuela in higher education, with significant increases as of 2015 (Albarrán, 2019).

Regarding the psychological field, it should be noted that when certain procrastinating behaviors are identified, some of these are framed in this aspect, hence the presence of entry theories such as Thorndike's. In the same way, as the behavioral approach was chosen as the main one in the study, this is a matter of psychology, remembering that behaviors are being studied. In the end, the contribution in this sense could come from the hand of intervention programs, which allow treating the phenomenon and achieving results of educational interest, in dimensions such as academic performance, among others.

Based on the above, once the situation observed in a non-systematic way initially and later systematized has been put into context, in addition to presenting the possible impact of the research, the following questions are raised as questions: How is the time management of Physics

students at UNEFA Cojedes, in carrying out tasks and preparing for exams? What aspects allow ensuring the presence of academic procrastination in these students? How is the academic procrastination presented by them? To answer these questions, the following research objectives were raised: 1) Diagnosing time management in the delivery of tasks and preparation for exams, in Physics students of the telecommunications engineering career at UNEFA Cojedes. 2) Identify the aspects that allow the establishment of academic procrastination in Physics students from that university population in Cojedes, Venezuela. 3) Describe the academic procrastination in the area of Physics, of that university population in Cojedes, Venezuela.

2. METHOD AND MATERIALS

Regarding the methodology used in the research, it was a non-experimental design (ex post facto). In the research presented, initially a series of instruments were designed and applied to observe the behavior of the students, but this was not manipulated or controlled; rather, the information was collected and then analyzed. The situation presented regarding the delivery of the tasks was systematically observed and the preparation time for the evaluations was asked through an interview.

From the above, the research was developed to a descriptive level, with which a classification of the information is achieved, based on common characteristics or even by relating the observed elements, in order to obtain a description (Hurtado, 2015). The work presented can be taken to a more advanced level, such as explanatory or correlational, however, at this first moment, only a description of the facts is proposed, which highlights procrastinating situations in students, beyond seeking explanations.

As mentioned above, the research was carried out at the Universidad Nacional Experimental Politécnica de la Fuerza Armada Nacional (UNEFA) with students of the Telecommunications Engineering career, students of Physics I and Physics III subjects (24 and 19 respectively, for a total of 43). Each and every one of them were subjected to the systematic observation technique; In this sense, the population studied was the total, which meant that there was no sample for the application of the instrument, which was an observation guide.

With respect to the other two techniques, they were interview and survey. Before applying the corresponding instruments, a sample was selected, for which the criterion indicated by Arias (2016) was followed "In descriptive research it is recommended to select between 10 and 20% of the accessible population" (p.87), under that criterion, four students were selected from each group, for which a stratified sampling was used, dividing the population into subsets whose elements had common characteristics (according to the delivery time of the task), this totaled a sample of eight, which represented 18.6% of the total population. Given the homogeneity of the group in terms of age, it was not taken into account as a factor for the selection of the sample.

On the application of the first instrument (observation guide), it was used to see the main characteristics of the students, in terms of the delivery time of the assignments, from there the data was taken to compare with the delivery deadline, which would serve in the first instance as part of the determination of academic procrastination, later complementing this information with the interviews.

In addition to this, as a second technique, semi-structured interviews with open responses were carried out, for which interview scripts were designed that consisted of 14 items, applying them three times during the academic semester to eight students per session, to total 24. Finally, for the survey technique, a 19-item questionnaire was designed with Likert-type scaling polyhotomic responses, with five categories of responses associated with frequency, which ranged from “Always” to “Never”.

The validity was done through three experts; a methodologist for what he could contribute in the writing of items, a psychologist to review terms associated with the phenomenon and a teacher in the area of physics, who knew the group and its behavior. Reliability was determined through Cronbach's Alpha coefficient because it was polycotomic responses, which yielded a result of 0.87, which translates into high reliability (Hernández et al., 2014). This questionnaire was applied to eight students at the end of the semester, in order to contrast the data obtained from the interviews, which were the greatest source of information.

Regarding the temporality of the instruments applied, it is presented in the following figure:

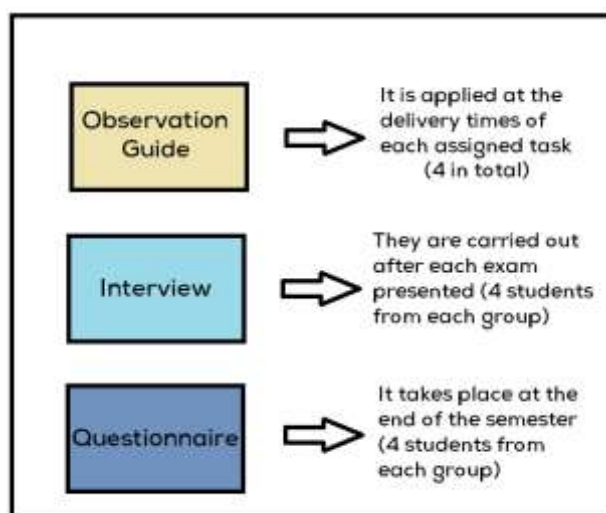


Figure 1. Moment of application of the instruments used in the investigation

Source: The author (2020)

The structure that was established to carry out the investigation was to separate its process into phases. What was done in each of the phases is described below:

Preparation and planning phase: In this first phase, the parameters that were going to be used to be able to make the diagnosis in an ideal way were established. For this, within the evaluation plan of the subjects (Physics I and Physics III) the activities that included exams, quizzes and readings throughout the period were defined. All this included a schedule for the delivery of the reports of the readings, throughout the 18 weeks that the academic semester lasted, which was provided in the first week.

In the same way, the dates for the written tests (three partial exams and three quices) were established, planning strategic interviews with students after the partial exams, to determine the time in which they had prepared for them. For all this, interview scripts were designed as instruments; In this sense, the questions were aimed at determining if the student was preparing in advance, in addition to the possible factors that impeded such preparation. In the same way, information on the time of completion of the tasks would be collected in the interviews, to complement what was obtained from the previous instrument.

Diagnostic and registration phase: In this phase, the instruments were administered. It began with the observation guide, where the delivery times of the assigned activities (readings) were kept, contrasting against the deadline established in the evaluation plan schedule, an instrument was used for each delivery of reports on assigned readings.

To verify and contrast the anticipation times with which the tasks were performed, as well as to record the preparation times for the exams and the factors that influenced them, interviews were conducted with four students per group after each exam presented, varying them for each measurement; There were eight interviews for each midterm exam, for a total of 24 throughout the semester. Finally, a questionnaire was applied with the aim of verifying and contrasting the data from the interviews, this was administered at the end of the academic semester to a sample of the population, which was also eight.

Review phase: Once the academic semester was over, all the information was compiled and tabulated, comparing the delivery dates with the results obtained, distinguishing the number of students who delivered late and those who did in advance the assignments. Then, we proceeded with the totalization of data. For the statistical analysis of the questionnaires, descriptive statistics were used. Finally, what was obtained from the interviews was thoroughly reviewed, looking for elements that could serve to complement the final description of academic procrastination.

Description phase: In this phase, it should be noted that we proceeded to describe in detail each of the situations reflected in the different instruments used in the second phase and revised in the third, detailing in the most detailed way possible and taking into account counts the previously established dimensions. The same was done with the input theories for each of the behaviors and situations related to the procrastination of the students, both in the delivery of the reports of the readings, as well as in the management they made of time, at the time to present the evaluations.

3. RESULTS

The results of the observation guide used to record the delivery of the tasks (reports of the readings), were classified as: Delivered in advance, delivered by the deadline, request for extension (they expressed any reason for not delivering on the established date) and Undelivered. The percentages of reports delivered by reading, of the students of Physics I and Physics III are reflected in tables 1 and 2 respectively (Physics II did not have enrollment):

Table 1.

Percentage of reports delivered for readings made, with respect to the deadline. Physics I.

REPORTS DELIVERED	L1	L2	L3	L4
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Delivered in advance.	12.5%	8.3%	12.5%	0%
Delivered on the deadline.	75%	75%	70.8%	66.6%
Extension request	4.2%	8.3%	0%	16.7%
Not delivered.	8.3%	8.3%	16.7%	16.7%

Note. L1, L2, L3 and L4 correspond to each reading done during the semester.

It was considered as delivered in advance, even one day before the deadline.

Source: The author (2020)

Table 2.

Percentage of reports delivered for readings made, with respect to the deadline. Physics III.

REPORTS DELIVERED	L1	L2	L3	L4
Delivered in advance.	10.5%	5.3%	5.3%	0%
Delivered on the deadline.	68.4%	73.7%	78.9%	57.9%
Extension request	15.8%	10.5%	0%	10.5%
Not delivered.	5.3%	10.5%	15.8%	31.6%

Note. L1, L2, L3 and L4 correspond to each reading done during the semester.

It was considered as delivered in advance, even one day before the deadline.

Source: The author (2020)

On the findings obtained for these first two tables, it is observed in the first instance, that students are managed according to the deadline, beyond the possible advances that they can make in the tasks. These results by themselves did not show high academic procrastination values, except for the 15.8% who requested an extension.

The behaviors shown were in agreement with the model of Schraw et al. (2007) in one of its five aspects, which mentions that they leave academic activities to the last minute, because they assume that it is adaptive and efficient, in addition to considering it part of a flexible repertoire of cognitive coping strategies. Regarding the percentage increase in the time of the reports not delivered, later in the interviews it was obtained that it was due to the fact that some students towards the end of the period, already felt that they were going to fail the subject and stopped turning in the assignments.

In the same vein, during the semi-structured interviews carried out with the students, interesting data were collected regarding the days in advance to perform the tasks and the preparation times for the exams, in addition to the reasons for that time, among others. Some results (the most significant) of the answers from the 24 interviews carried out throughout the academic semester are shown in tables 3, 4 and 5, clarifying that the questions were open and the answers were tabulated.

Table 3.

How many days in advance did you complete the task?

Answers	Five or more days	Three days	Two days	One day	Same day	I did not do it
Frequency	3	3	7	6	2	3
Percentage (%)	12.5	12.5	29.1	25.0	8.3	12.5

Note. The information was tabulated from the interviews.

Source: The author (2020)

The inclusion of this question in the research was key to be able to contrast against what was obtained through the observation guide. It was observed that 62.4% carried out the task two or less days in advance of the deadline (a number reasonably close to this date), which could increase if it is considered that those who did not carry it out, expressed the intention to do it but they made excuses; even, the group of three days before that was not included in the account, could also be part of the figures, taking the percentages above 80%.

By themselves, these results now show signs of academic procrastination, but the interesting thing is that when compared with what was previously obtained with the observation guide, it is noted that a significant number of procrastinators do deliver the task on time, although they make it to the brink of the deadline. All of this could include this last group within what Chu and Choi (2005) call active procrastinators, which are those who prefer to work under pressure and make deliberate decisions to postpone things. The authors also refer that the latter share characteristics with non-procrastinators, in terms of perception of self-efficacy and coping styles.

Table 4.

How many days in advance did you study for the submitted assessment (exam)?

Answers	Seven days	Five days	Three days	Two days	One day	Same day
Frequency	2	1	6	8	6	1
Percentage (%)	8.3	4.2	25.0	33.3	25.0	4.2

Note. The information was tabulated from the interviews.

Source: The author (2020)

Regarding the evaluations presented, if the same parameter is taken two days in advance, to examine the preparation for the delayed evaluations (which could even be increased), curiously, the same percentage of 62.4% of students appears within that range (the sum of each stratum in the two cases, gives 15), which means that under this criterion, the students of this population show similar procrastination in exams as in homework.

These numbers seem to contradict some responses of the students in the interviews, where they mention that the tasks take away study time for the exams, which would make the number of this last aspect less, but this does not happen. In the same way, in what was obtained in the contrast with the previous question, it is noted that the similarity of the percentages between activities was already reported by Onwuegbuzie (2004) although with lower values, since it obtained 41.7% of procrastination for the written tasks and 39.3% for exams.

Table 5.

What activities do you do at the time you should prepare for the exams?

Answers	Browse the internet	Rest or sleep	Chat on the phone	Watch TV - Movies on PC	Leaving home	Other
Frequency	4	5	6	3	4	2
Percentage (%)	16.7	20.8	25.0	12.5	16.7	8.3

Note. The information was tabulated from the interviews.

Source: The author (2020)

Authors such as Steel (2011), consider that "procrastination itself is found in the decision of what to do and not in the postponement itself" (p. 21); In this sense, making that decision is

made between what should be done and some other activity. For the correct description of the phenomenon, this type of alternative activity must be considered. In this sense, in the previous table, it is observed that technology is a preponderant factor chosen as a substitute task for the main one or as a distraction, with more than 54%. Some studies confirm the relationship between technology and procrastination, such as Castro and Mahamud (2017) who reported "that there is a positive and significant relationship between academic procrastination and internet addiction ($r = 0.322$; $p < 0.05$)" (p. 194) although in the case studied, addiction data was not handled.

Table 6.

If you prepare three days or less in advance, why do you do it that way?

Answers	I don't have time before	Transfer Burnout - Tiredness	I function better under pressure	I don't understand the subject	Other
Frequency	3	4	12	3	2
Percentage (%)	14.29	19.05	50	14.29	9.52

Note. The information was tabulated from the interviews.

Source: The author (2020)

This question was also a contrast with what was obtained in the first instrument. In the analysis of the first two tables, it was mentioned as a possible explanation of what was obtained, that one of the five aspects of the model of Schraw et al. (2007) mentioned that students leave academic activities to the last minute, because they assume that it is adaptive and efficient, in this table the aforementioned is ratified, observing that half of them perceive that they work better under pressure.

To have the above perception, it must be said that the students must have obtained satisfactory results with these behaviors, since they feel that their functioning is better. This could be due to positively reinforced behaviors, as previously stated in Thorndike's law of effect, since if the student procrastinated, but in the same way felt that he obtained a result according to his expectations, said satisfaction reinforces that behavior.

Finally, relevant results of the last instrument (questionnaire) are shown, which had 19 polyhomic items with Likert-type scaling, which was applied at the end of the academic semester, also to eight students. It should be mentioned that this instrument is secondary within the present study, as it seeks to contrast and complement what was obtained from the interviews carried out, which were the ones that provided most of the information for the description of the phenomenon. The results of the instrument in question are presented in the following tables:

Table 7.

After completing an evaluation of the subject, do you feel that you could or should prepare yourself better?

Alternatives	Always	Almost always	Sometimes	Almost never	Never
Frequency	6	1	1	0	0
Percentage (%)	75.0	12.5	12.5	0.0	0.0

Source: The author (2020)

In different definitions of academic procrastination, there is talk about the postponement of tasks; however, Gil et al. (2020) mention that this “is a necessary component, but not enough to define procrastination. This delay is considered procrastination when it is associated with discomfort or negative consequences for the individuals who practice it” (p. 184). The results of the table show that 75% students feel that they were better able to prepare for the exams; In other words, something was not right at the time of preparation, which makes it possible to mention that the delay for this type of evaluation generated a certain discomfort behavior that is associated with the phenomenon studied.

Table 8.

Do you spend the free time you have during your stay at the university in activities other than studying?

Alternatives	Always	Almost always	Sometimes	Almost never	Never
Frequency	1	3	4	0	0
Percentage (%)	12.5	37.5	50.0	0.0	0.0

Source: The author (2020)

Regarding this last table, it is convenient to clarify that this variable is very particular to this population, because the study schedules of this career are not presented in blocks of a single shift, but that most of the day, students spend it in the university, having free spaces of six hours and even more. This reduces their stay at home to study normally, a situation that occurs even on Saturdays.

In this sense, the use of time in the university facilities could be positive for a better academic performance, since they could manage their time there between leisure, socialization or sports spaces and still, be able to dedicate time to study. However, the results show that 50% tend to carry out activities other than studying at this time and the remaining 50% only sometimes prepare or carry out tasks in those spaces, within the university campus.

The importance of this finding, beyond the particularities of the study population, is that no antecedents were obtained in the treatment of this variable in other investigations, which could create a precedent that serves as a comparison with another population with similar characteristics and whose behavior has gone unnoticed by other researchers.

4. DISCUSSION OF RESULTS

In principle, it was observed that even though the students had a homework delivery schedule from the first week, on average less than 10% delivered them in advance and although approximately 70% on average, they always delivered it to time, they did it on the deadline. The tasks were assigned the first week of class and the first delivery corresponded to the fourth, so the time to carry them out was quite long and no prior knowledge or knowledge of the course taken in the period was required. Even the case of a Physics I student was presented, who in the second week handed in the first three tasks.

Authors such as Tuckman (2002) suggest, as a measure to combat procrastination, a longer time to perform tasks; however, the results of the present study suggest that it is not a relevant factor,

as Naturil et al. (2018) in Spain, in their study they obtained procrastination percentages higher than 80%, despite having ample time to prepare the tasks.

Of the students who did not submit the reports; Two things can be alleged, that they did not intend to do it or that they took so long, that in the end they did not deliver it. If it is the former, it cannot be classified as academic procrastination, since by not showing intentions to carry it out, they do not fall within the definition of the phenomenon. In the case of the latter, if they would be part of the statistics of those who present the behavior, since they delayed the delivery so much that in the end, they did not deliver it; the latter case would be part of the so-called passive procrastinators (Chu and Choi, 2005).

One aspect to take into account is that Physics III students (more advanced course) presented greater procrastinating behaviors, since in percentage they delivered fewer times in advance, stopped delivering more times and requested more extensions than those of Physics I. This coincides with what was found by Somers (2008) who mentioned that the phenomenon is accentuated in the last years of the career, before obtaining a university degree. In contrast, an empirical study carried out by Rodríguez and Clariana (2017) showed that procrastination does not depend on the academic year in which the student is enrolled.

With respect to the written evidence presented; in the interviews carried out, it was obtained that a percentage greater than 60% prepare for these a maximum of two days before and many times the day before, with which the preparation times are not adequate for the length and complex of the contents so the topics accumulate and it becomes difficult to study them. However, after presenting the evaluations, the students feel that they were able to obtain better results, a situation of disagreement mentioned previously.

Despite the above, empirical studies such as that of Domínguez and Campos (2017), reported that the fact that the student complies on time (or not), with the tasks entrusted or is organized to meet the academic demands of the subjects, does not depend on the satisfaction experienced with their way of studying. However, in the interview process, several of them stated that when faced with the same situation, they repeat the behaviors again, leading to a kind of "vicious circle" that can lead to greater procrastination (Garzón and Gil, 2017b).

It was also noted in the results that the use of technology for activities other than academic, takes time from the student who often puts chatting, browsing, checking social networks, watching television or movies before the act of studying; This coincides with that reported by Condori and Mamani (2016), who suggest that "students with high levels of procrastination spend most of their free time browsing social networks, chats, and other places in cyberspace that offer activities pleasant" (p. 277). Previous empirical studies, such as that of Matalinares et al. (2017), obtained, for example, through a correlational analysis, a significant and positive result in the relationship of the variables of procrastination and addiction to social networks, the latter situation associated with technology, although it is not possible to speak of addiction for the study population, as there is no research in this regard in it.}

Another outstanding aspect, although not new given the previous background checks, is the response of the students who mention that they do better or feel better studying under pressure



than when the exam is not close; because in the latter case, they do not concentrate or do not feel the courage to prepare. This procrastinating behavior is presented by more than half of those consulted, which is in accordance with the model of Schraw et al. (2007) as mentioned in the results section.

Regarding the previously mentioned model, there is another of its aspects that is also related to the behavior of students referred to studying under pressure and is the one that mentions that, although it can lead to positive or negative consequences in the quality of life; students report that it has almost no impact on the quality of their work. This would explain why they adopt this behavior, since they would optimize the times without significantly affecting their grades. However, empirical studies such as that of Gil et al. (2020) mention in their results, that according to the descriptive statistics obtained by them regarding the students' motives for procrastinating, that “the desire to feel the pressure that time is running out and take on the challenge of performing the task in the last moment is something that does not motivate students to procrastinate” (p. 192).

With regard to time management, it is also observed that although the student spends approximately between six and nine hours a day in the university facilities, the time in which he does not have classes (which is often more than half), invest little in study, as shown by the positive trend obtained, towards activities other than studying. In interviews, students mention that they leave to study when they get home, but then they are prone to factors such as fatigue, technology as an extracurricular factor or going out to have fun.

The aforementioned was a very particular finding of the present research, as an element of time management (within the university) that was not present in other jobs and is present due to the complicated schedules that are handled in the career specific study (Telecommunications Engineering) for the work population, which force the student to spend many hours in the university facilities, wasting the free spaces that could be productive for academic preparation and homework. On the other hand, we must not lose sight of the fact that the results obtained are focused on a specific area (Physics), a moderating variable that makes the study particular and whose type is influencing the effects measured, among other causes because that area is perceived as difficult by students, as mentioned in the interviews.

With the results obtained in this booklet, it is intended to open the door to a series of investigations in this same way, until obtaining explanations of why it occurs, achieving its correlation, for example, with academic performance or with school dropout, where there are clear indications which is an important factor (Garzón and Gil 2017b). Also, it is intended to deepen in future studies in variables such as the weekly time invested in the subject and the study time within the university facilities, which can also contribute significantly to new findings, in the field of academic procrastination.

Regarding the scope of the study, it must be said that academic procrastination is multidimensional and important variables such as sex, academic year and teacher influence were left out of the research, among other significant variables that limit the results obtained. This work is a beginning in the study of procrastination in the institution and as already seen, there is very little about it, even in the country. Likewise, regarding the questionnaire, its use was a complement



to the information, since most of what was obtained came from the interviews carried out, so it was not applied to the entire population but to the selected sample.

Referring to the usefulness of the results, it must be remembered that academic procrastination is an unfinished construct and there are still many discrepancies in its definition, so different contributions help to strengthen this panorama. For example, the finding that long times to perform tasks do not significantly decrease procrastination, gives rise to studies on the ideal time, in which the student feels less affected by the phenomenon. In the same way, on the management of time within the university facilities when it is long, which is an unprecedented variable that can contribute to some extent to the conceptual and empirical development, regarding academic procrastination.

Likewise, in the future it is intended to carry out an in-depth qualitative study, where the researcher exposes his worldview of the phenomenon in the context and probable models may arise, which allow understanding and interpreting that reality in a less generalized and therefore more useful way for members of the university community of the study.

5. CONCLUSIONS

At the end of the study, it can be mentioned that the deadline is an important factor considered by the students, since despite having assigned all the tasks in the first week of classes and that they did not require previous knowledge, nor of the completed in the investigation period; More than 70% on average of the students made the deliveries on that date. The above, when confronted with an interview and a questionnaire, determined that the majority carried them out two days or less before the limit; In this sense, more than half of the cases related the delay to situations associated with technology.

In order to determine the academic procrastination of the tasks, a key element beyond the deadline for delivery is the time in advance with which it is carried out, because as mentioned, many of those who deliver it at the limit, the performed even the day before. This time was obtained through an interview, which could lead us to think of a bias regarding what was reported by the students; However, qualified scales such as the Academic Procrastination Scale (EPA), endorsed in several Latin American countries, would have the same bias since it obtains this information, from the following dichotomous statement "Generally I prepare in advance for the exams" whose result of likewise, it is exposed to the bias represented by the student's response. A similar situation occurs for the Tuckman scale, which achieves this information with the dichotomous statement "When I have a deadline, I wait until the last minute".

It was possible to verify that there is a presence of academic procrastination in the majority of the population, although in many cases it falls within the classification of what is known as active procrastination, which arises as a link for specific research regarding this type of procrastination. The results obtained are specific for the research area (Physics), being this moderator in terms of the study phenomenon. Different results could be obtained with other areas such as electronics, where there is greater instrumental management and their contents are more practical, also in subjects called by the students in the interviews as "the theoretical", which are those that do not require calculation and which they referred to as "filler".

One of the most reported circumstances in the interviews about procrastinating behavior was that students perceive that they function better "under pressure." The results regarding the deadline and its complement through the interview effectively showed that their behavior is in accordance with that perception, which would be an interesting variable to measure for future research in the same population.

In the same way, it was observed that the time dedicated to studying during free time within the university facilities was an unprecedented variable within the field of academic procrastination, which was one of the most important contributions of the work, which It can be explored, since no studies related to the variable were found.

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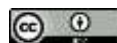
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