Educational intervention on study habits in university students in Poza Rica, Veracruz, Mexico

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Abstract

The objective of the research was to determine the effect of study habits in university nursing students from Poza Rica, Ver., Mexico, after an educational intervention. Methodology. The study was quantitative, pre-experimental, prospective and longitudinal; with a sample of 10 students in the period January - November 2019, the type of sampling was non-probabilistic by convenience. SPSS 21.0 was used for descriptive and inferential statistics. The research was based on the General Health Law in its article 100. The results indicate a mean (239.40) of study habits of the post-test, significantly higher than that of the pre-test (174.20); the SD of the post-test (7.9) and of the pre-test (21.23). The t value according to the degrees of freedom is t (9) = 1.77. The significance of $p < .000$. With a confidence interval of 95%, the mean difference between the two classifications is 52.66 to 77.73. Thus, the null hypothesis

is rejected, and the alternate hypothesis is accepted since the p-value is < 0.05. The detection of deficient study habits in the pre-test is evident, with astonishing results contrary to what was detected in the post-test with good study habits, after the intervention. As a conclusion, for the educational institution, it is advisable to conduct research at the entrance of students to the faculty to detect study habits in a timely manner and thus implement interventions during the students' university life.

Key words: intervention, study, university students, nursing, habits.

Introduction

In the curriculum of the Bachelor's Degree in Nursing (Universidad Veracruzana, 2013), one of the objectives in the training of future nurses is to provide the student in training with the subjects that allow the development of theoretical, heuristic and axiological knowledge that support the know-how of the nursing profession in the different areas where it intervenes (community, care, family) in the solution of health problems that affect the healthy or sick person at different stages of their lives. Therefore, it is required to develop in students an intellectual discipline that facilitates self-learning at any time of their lives, which is why it is important to know and detect in a timely manner the habits used by the student to develop their learning tasks.

A habit is any act acquired by experience and performed regularly and automatically. It is also said to be a practice or custom that is frequently performed. Ancient philosophers said that habit is a "second nature"; that means that man's nature is enriched or impoverished, perfected or denigrated by habit Quizhpe, et al., 2016.

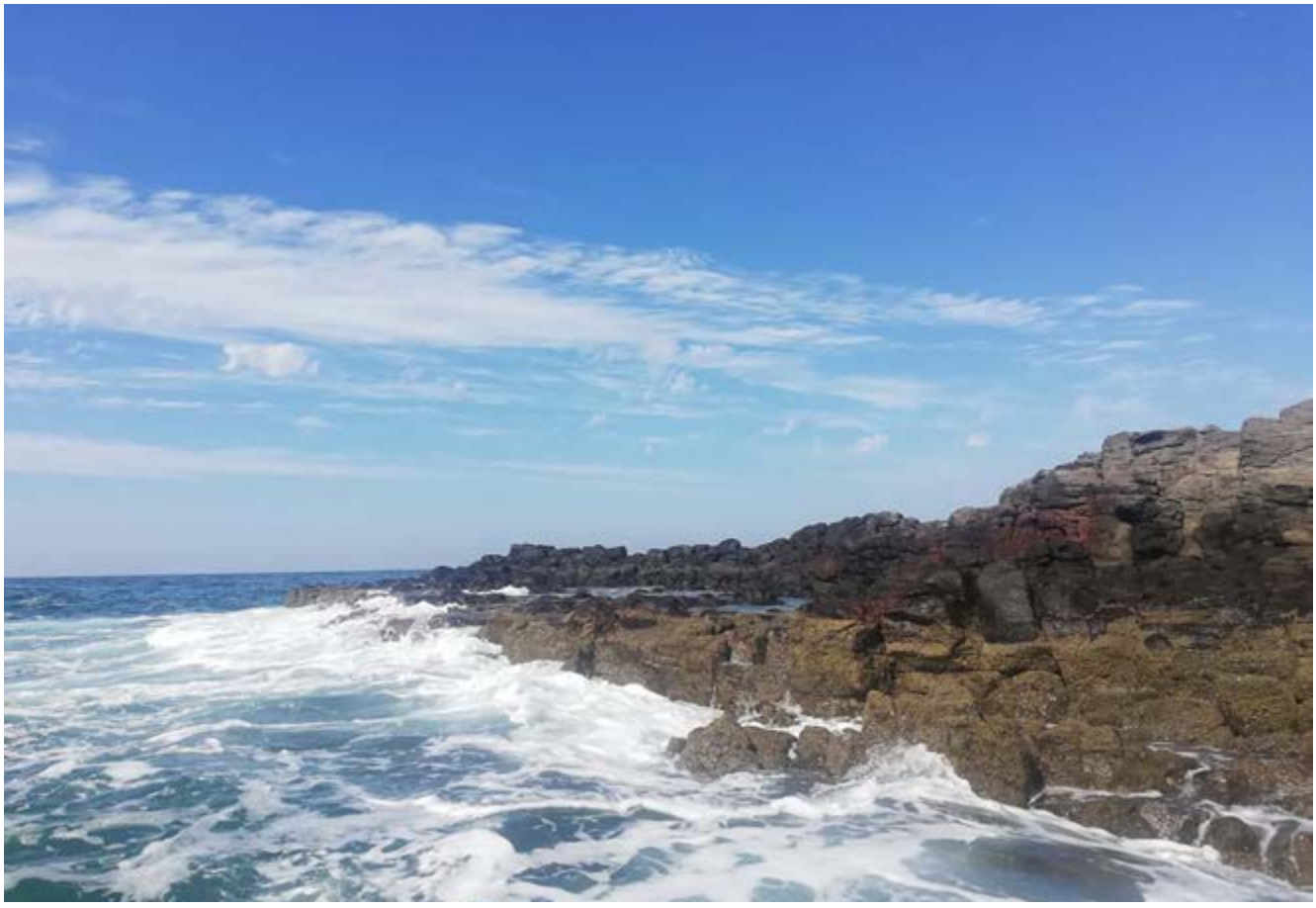
The importance of habits in the learner lies in the fact that they are necessary to develop effective study skills that translate into learning with greater speed and depth. It is about knowing where and how to get the important information and the ability to make intelligent use of it Bajwa, et al., 2011 in such a way that the student uses his or her capacity for analysis and synthesis of the accumulation of knowledge provided in the different subjects that make up the curriculum.

According to Cowey (2013), there are bad and good habits, some of the bad habits are leaving everything for later or blaming others. In the literature consulted it says that people who have these habits do these all the time. Good habits are punctuality, responsibility, order, cleanliness, among others.

Good habits will be the key to success in all areas of human life. Today you can apply them as a student, but tomorrow they will also serve you as a worker, professional, entrepreneur or parent. If you want to be successful, you can achieve it by filling yourself with good habits that will lead you towards that goal Castro, et al., 2009.

Personal organization (how, when and where to study) allows for a good quality of learning, which will only be achieved through the understanding of knowledge. For this, it is necessary to have study skills, that is to say, to use good study methods and techniques. Therefore, a quality learning process favors students, and therefore, quality professionals and competitiveness Vildoso Villegas, 2003.

The student and the nursing professional must base their responsibilities on the training and updating of educational and disciplinary competencies (knowledge, skills and attitudes) and be able to provide care with the greatest safety, quality and wellbeing in the different fields of nursing, teaching, practice and research (Universidad Veracruzana, 2013). Since nursing is a theoretical-practical profession, it is important that the student have good study habits so that he/she can develop the competencies required to all health professionals.



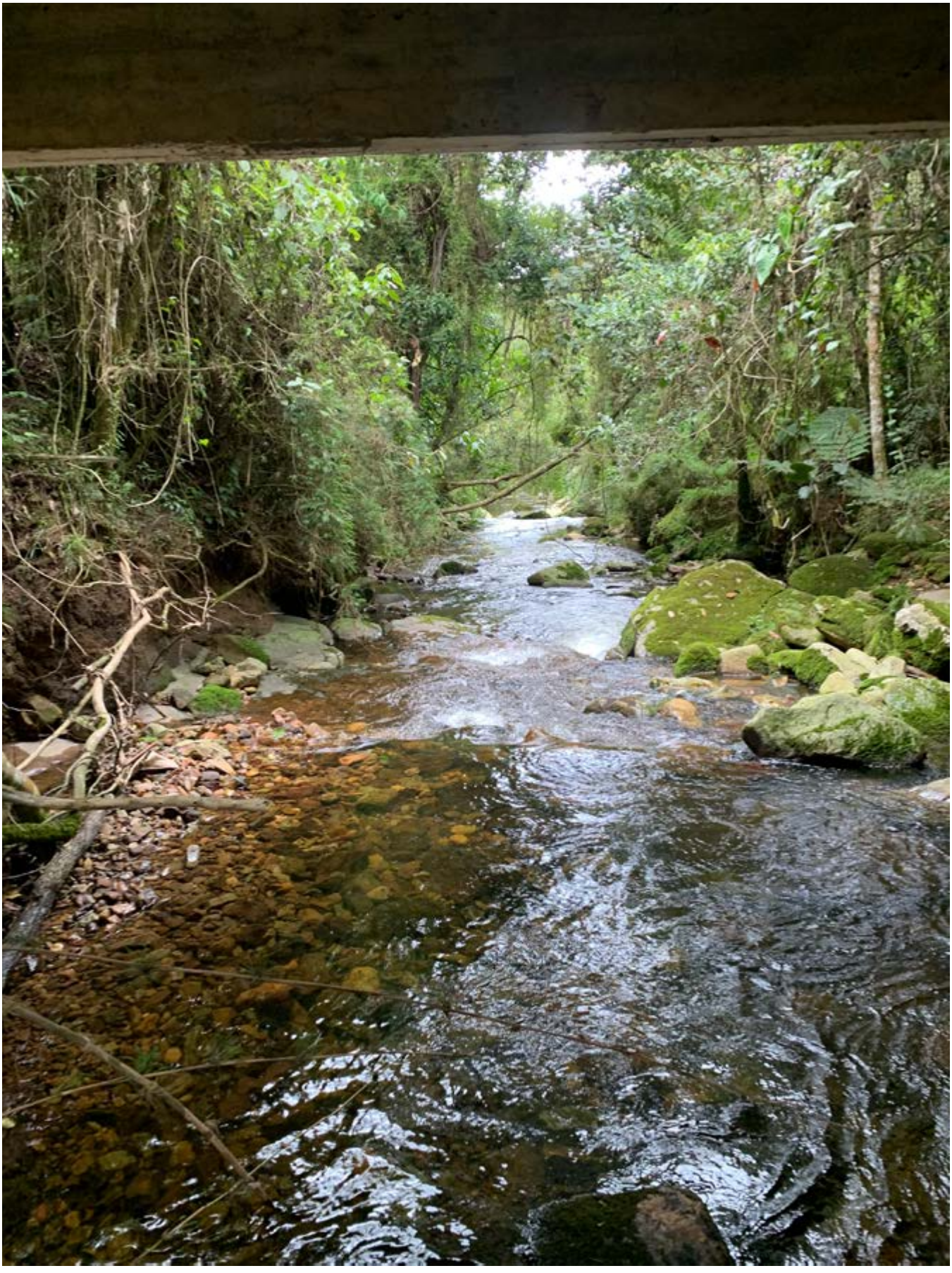
For the realization of the educational intervention of study habits in undergraduate nursing students, the following intervention question was established: What is the effect on study habits in nursing students in Poza Rica, Veracruz, Mexico, after the educational intervention, during the period January - November 2019?

To theoretically support this intervention, the nursing theory of Imogene M. King was used; it is an intermediate theory of goal attainment that develops through the method by systems. King developed this theory in response to the nature of nursing, emphasizing that systems have been employed to understand and respond to the changes and complexity of health systems organizations Marriner & Raile, 2011.

The main assumptions established in King's theory are Nursing, Person, Health and Environment. King defines the person as a social, conscious, rational, perceptive, controlling, intentional, action-oriented, time-oriented being who participates in decisions that influence their life and health, service to the community, and the right to accept or refuse health care.

Once the study habits questionnaire is applied, students recognize if they have deficient study habits, so they reach an agreement with the interventionist, objectives are set to be intervened, agreements are established, knowledge is transmitted and the achievement of the objectives is evaluated, that is to say that they should improve their study habits.

Another theoretical foundation on which I base the present intervention was humanism, which came to replace the vision of the world with an abundant philosophical reflection as a true and integral human being. Humanism



incorporates from existentialism the following notions: the human being is elective, therefore, capable of choosing his/her own destiny; the human being is free to establish his/her own life goals and the human being is responsible for his/her own choices (Rogers, 2014).

Methodology

The research approach was quantitative, descriptive, pre-experimental, prospective and longitudinal: Descriptive because we analyzed whether the students had study habits before the intervention and whether these increased or decreased after the intervention, as well as the statistical analysis through frequencies, percentages and mean; pre-experimental because the effects of the study habits intervention were tested, in this case the researcher had an active role, the pre-test and post-test design was used in the same intervention group to see how the university students increased their study habits; prospective because through observation, information was recorded in a logbook as the study habits intervention sessions were carried out; and longitudinal because the intervention was carried out from January to November 2019 through 10 one-hour sessions.

The study population were students of the second semester of the bachelor's degree in Nursing, 51 students. The sample consisted of 10 students who were found to have poor study habits. They were chosen by non-probabilistic convenience sampling. Since a group was chosen from the population in which the choice of the elements does not depend on probability but on the characteristics of the research.

Newly enrolled students who were detected with poor study habits and students who wanted to participate in the intervention were included. Students who were not administratively

enrolled and those who could not attend the sessions on the established schedule and days were excluded. Students who did not attend all the sessions were eliminated.

This research was based on the regulations of the General Health Law in article 17, section II, Research with Minimal Risk, as well as on article 100 of the General Health Law and the Declaration of Helsinki. An intervention design was prepared where ethical considerations and who will finance the intervention are made known, and it was sent to the ethics committee of the faculty to be registered.

The intervention was carried out by a qualified person with a master's degree to avoid risks to the participants. The research was carried out with the consent of the people, who have a higher level of education. It was carried out in a university with prior authorization from the corresponding authorities.

The method of data collection was a survey. To evaluate the study habits of university students, the Study Habits Inventory (De-Gasperin, 2002) was used, which measures behaviors related to student activities. Its dimensions consist of 50 items which are: Independent Study (11 items), Reading Skills (10 items), Time Management (10 items), Concentration (5 items), Study Place (4 items) and Information Processing Skills (10 items).

The validation was carried out by Gasperín, using the component extraction method, and an orthogonal rotation (vavimax) was applied to the factorial solution using statistics 7. Cronbach's Alpha 0.896, which is qualified by scales: poor study habits from 50 - 200 points, regular study habits from 201 - 225 points, good habits from 226 - 250 points.

First, permission was requested from the Nursing Faculty of the Universidad Veracruzana to carry out the intervention, which was implemented on Mondays and Fridays from 14:00h to 16:00h, starting on October 14 and ending on November 18, 2019. The intervention was carried out in classroom 5 of the Nursing Faculty of the Universidad Veracruzana.

Four manuals were prepared for this intervention: one for the interventionist, in which the activities and topics to be implemented in each session are developed; another manual for the participant, in which he/she is informed about the sessions and what will be done in each of them, so that he/she can follow up step by step with the interventionist; another manual for the observer, which details his/her functions in each session: what to observe, what to write and what color to use to underline the relevant data of the intervention; and finally, the logistics manual, which describes the support to be given to the interventionist in order to carry out each session. In the first meeting with the group, the pre-test was applied with the aim of getting all the participants to sign the informed consent form and answer the questionnaires.

For the tabulation of the data on study habits, the first step was to foliate and code the instrument; a code template was prepared, and the data was entered in Excel 2010. For the statistical analysis, SPSS 21.0 (for Windows) was used. Descriptive statistics were used to obtain frequency, percentage and mean of the study variables such as: independent study, reading skills, time management, concentration, place of study, and information processing skills.

In order to test the hypothesis, inferential statistics were used, the alpha level was determined to be 5%; the Student's t-test was established for related samples, the study habits variable creates two measures (before and after) and the nursing educational intervention variable strengthens the study habits variable when the intervention was carried out with the university students; then the p-value = .000 was calculated, first it was verified that the pre-test and post-test numerical variable of study habits met the assumption of normality.

The Chapiro Wilk test was used since the sample consisted of 10 university students and subsequently the T-Student test was applied for related samples in a single group, taking the difference of means of the pre-test and post-test of study habits and the T-Student was applied for a single sample. For the presentation of the results of the study habits, the analysis was carried out using tables and graphs elaborated in Excel and Word programs.

Results

Society is requiring more prepared professionals, integrally formed that, when facing the work environment, are ready to respond to the needs that employers and society itself demand, that is why universities have great responsibility in the promotion of study habits and it is important to detect them in a timely manner.

In relation to the results obtained, regarding sociodemographic data of nursing students, it is observed that 80% of the sample were 19 years old and 20% were 18 years old; 70% were female and 30% were male; 100% were single; 90% economically depended on their parents and 10% on their siblings; 100% had no children; 90% did not work and 100% said they liked the program.

Table 1 shows results regarding the study habits of nursing students; in the pre-test, 100% of the students were found to have poor study habits in general, since there may be average results in the areas that make up the study habits, but in general they were rated as poor; in contrast to what was obtained in the post-test in which 100% of the participants in the intervention had good study habits, with no percentage of average study habits. As can be observed, study habits improved notably after the intervention, with an upward trend with an increase in the mean of 65.2 in the post-test results, placing students in the good study habits category, which is considered a significant advance after the educational intervention.

Table 2 shows the pre-test and post-test mean of the study habits by dimensions, where the following results are shown with regard to independent study, the pre-test showed a mean of 37.7 and a significant change in the post-test with 51.6; the reading ability had a mean of 35 in the pre-test and 47 in the post-test; while time management showed a mean of 36.5 in the pre-test and 48.8 in the post-test.8; it can be observed that with regard to concentration, the pre-test had a mean of 17.2 and the post-test 24.8; the study place dimension had a mean of 14.5 in the pre-test and 19.7 in the post-test; the ability to process information showed a mean of 33.30 in the pre-test and 46.7 in the post-test. In general, a significant difference was observed between the pre-test and post-test, in each of the dimensions that make up the study habits.

Therefore, in the pre-test and post-test results the dimension with the greatest increase was independent study, followed by place of study; time management remained the same and the one that decreased was information processing skills; in the final mean a decrease of 7.35 is observed between pre-test and post-test.

The results indicate that the mean of study habits of the post-test is 239.40, it is significantly higher than the mean of study habits of the pre-test which was 174.20, the SD of the post-test 7.9 and SD of the pre-test 21.23. The t value according to the degrees of freedom is $t_{(9)} = 1.77$. The significance of $p < .000$. With a confidence interval of 95% the mean difference between the two classifications is 52.66 to 77.73. Thus, the null hypothesis is rejected and the alternate hypothesis is accepted since the p-value is < 0.05.

Regarding the relationship of the results with the immediate, medium and final goals, it can be concluded that the students, after the

educational intervention, know the importance of improving their study habits, they improved their study habits and use educational strategies that help them maintain good study habits, so the results obtained are what the researcher expected, that the students have good study habits after the educational intervention.

Currently, talking about study habits helps clarify the problems presented in students when evaluating academic performance, failure rate or dropout Acevedo, et al., 2015; Arán & Ortega, 2012; Camacho, et al., 2014; Escurra, et al., 2015; Montes, 2012, all of which refer that the concentration dimension is one of the most important for the achievement of objectives and the basis for success. Despite that importance, researchers such as Arán and Ortega detect it with a mean -0.87, Camacho, Camacho and Meneses 0.25, Acevedo, Torres and Tirado 48.6% and Escurra, Romero, Moreno, Ahumada, Juárez and Ramos 36%, Montes obtained results similar to those detected in the present research, he found a mean of 17.2, being a tendency of inadequate concentration habits, which may be a factor affecting academic performance.

In some studies, it is commented that teachers take for granted that students entering university know how to properly use study techniques and strategies, it is at high-school level where they give more emphasis. However, when students are asked to do concept maps, mind maps, or summaries, they have problems to do them, affecting the development of the activities required by the university Acevedo, et al., 2015.

The research of Enriquez (2013) is related to the present one because both were quasi-experimental, with pre-test and post-test of a single group and the intervention was carried out. In the results obtained, it can be observed that there was a significant increase in study habits before the intervention and after the intervention. The results of Enriquez in the pre-test had a mean of 442.24 and a mean of 526.39 in the post-test, with an increase of 84.15, while in the present investigation the pre-test showed a mean of 174.20 and a mean of 239.40 the post-test, with an increase in the mean of 65.2.

As for the results by dimensions; before the intervention and after the intervention, Escurra's research shows that the dimensions that increased the most were independent study, reading skills followed by place of study and concentration; however, time management did not differ in Enriquez's research, while in the present research there is a slight increase and the dimension that decreased in Enriquez was information processing skills; in the present research, it increased considerably.

Enriquez (2013) applied the Wilcoxon test to test the hypothesis obtaining a significance of ($p< 0.05$), which makes it different from the present investigation since the Student's t-test for related samples was applied and a significance of ($p< 0.000$) was obtained; however, the significance levels obtained in both tests make these investigations similar because in both the null hypothesis is rejected and the alternate hypothesis is accepted.

Study habits and techniques serve us to model our learning and improve it, they favor attention and concentration. Study habits are therefore a set of activities that people put into practice when studying (Escurra, Romero, Moreno, Ahumada, Juárez, & Ramos, 2015; Picasso, Villanelo, & Bedoya, 2015; Laguna & Alcántara, 2014). Regarding reading skills, independent study and concentration improved. The aforementioned authors present in their research a high percentage, similar to what was found in this research after the intervention.

The research by Montes (2012), unlike the present research, showed a decrease between the pre-test and post-test, which may be due to

the country and the type of institution where the research was conducted, as the author refers that they do not accept that students with low educational performance remain enrolled; the distance between the application of the pre-test and the post-test was five years, and that no intervention was performed, only university students were measured at their entrance and upon graduation, while in the present research an increase in study habits was observed after the intervention.

For all the above, study habits are an important tool to improve skills and abilities for good academic development, favoring concentration, learning and good school performance, decreasing failure rate and school dropout.

The results of the educational intervention on study habits show a clear difference between the pre-test and the post-test in terms of the independent study dimension, with an increase in the mean of 13.9, as well as reading skills with a difference in the mean of 12.8, time management with a mean of 12.3 and information processing skills with a mean of 13.4. The dimensions of concentration and place of study show an increase in the mean but in a smaller proportion.

Regarding study habits in general in the pre-test, students showed poor study habits, which improved favorably after the intervention, so it had an upward trend with an increase in the mean of 65.2 in the post-test results, placing the university students in good study habits, considering a significant advance after the educational intervention.

Regarding the results of the nursing educational intervention on study habits in university students, applying Student's t-test, a significance level of ($p<.000$) is obtained, so the null hypothesis is rejected and the alternative hypothesis "there is an effect on the study habits of university students after the educational intervention" is approved. With which it is observed that an increase in study habits was achieved in a significant way.

Regarding the relationship of the results with the immediate, medium and final goals, it can be concluded that the students, after the educational intervention, know the importance of improving their study habits, improved their study habits and use educational strategies that help them maintain good study habits. The results obtained are what the researcher expected: that the university students show good study habits after the educational intervention.

Conclusions

According to the results obtained, it is recommended that school authorities apply the study habits questionnaire to new university students in order to make a diagnosis and initiate educational intervention in a timely manner, during their school stay, apply the questionnaire in the middle of the career to see if the intervention favored them or to intervene again and at the end to see the state of the soon-to-be graduate, this will help them know if the active formation of the university student is being favored.

There should be a link among related areas to create projects regarding study habits, if possible, a pedagogue may help carry out the intervention, thus increasing the knowledge of the university student in this area. We should rely on tutoring to follow up on the students with poor study habits, this is with the purpose of favoring the student and decrease the rate of failure or dropout, and also help to increase their grades.

One of the techniques that worked with the students was to make an analysis of their Strengths, Weaknesses, Opportunities, and Threats (SWOT); it was also suggested that a weekly schedule be drawn up with the distribution of school activities, classes,

homework, meals, rest and fun to reduce downtime.

Students were provided with study techniques and methods, which helped them make the most of the classes, and they were also advised to have a place to study that was exclusive, clean, tidy, free of noise, well ventilated, illuminated, and that they try to rest or take breaks to achieve significant learning.

It is also suggested to carry out more research on this topic, since at the national level there are no intervention studies that are very favorable for university students by providing them with the necessary tools for school performance.

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