

# Development of social science research from the perspective of Peruvian universities



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Compiler



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## Table of Contents

Table of Contents .....	1
Program to strengthen soft skills in university scholarship recipients in Peru .....	2
Research skills to be developed in students before starting the doctorate in Education.....	28
Child Neurodevelopment and the participation of parents in the educational process.....	50
Reading comprehension in school performance in the area of mathematics at the secondary level.....	65
Organizational culture and work motivation in the collaborators of the Strategic Crime Prevention Program of the Public Prosecutor's Office. ....	79
Relationship Marketing and Customer Acquisition at DBROT GRANDA, Lima, 2020 .....	90
Tutoring, a tool for socio-emotional support in the face of vulnerability by COVID 19 .....	108
Competency-based assessment of learning in non-university higher education.....	120
State Contracting Law and its regulations, in the development of civil engineering works .....	137
Strategic plan to improve the quality of care for adult university students .....	154
Neuroleadership a tool for educational management.....	170
4MAT model and its influence on English language learning, Jesús María .....	189

## **Program to strengthen soft skills in university scholarship recipients in Peru**

**Cintha Virginia Soto Hidalgo**

### **INTRODUCTION**

In the speech delivered on July 28th for the national holidays of 2019; the president of Peru, Martin Vizcarra offered more than 50,000 educational scholarships for undergraduate students, which would then be implemented in the next 2 years. An almost hopeful promise, since if true we would have the largest number of scholarship holders in the history of the country.

On the other hand, Peru is no longer an unknown country to the world. Globalization has brought us closer to the world and vice versa. The impact of the internet through social networks has invaded our minds and our world. A person who does not have an email, Facebook or Twitter account does not exist for a competitive working world that tries to remain at the forefront of market demands. Touchscreen and multi-functional cell phones, high-definition flat screen televisions and easy access to broadband internet everywhere, open the doors to a world of possibilities to develop a healthy quality of life and why not think about it, also longevity.

One of the efforts of the State that has been implemented in the country to improve educational reform is, for example, the definitive separation from the current educational system of those sentenced for terrorism, rape and drug trafficking within the framework of Law No. 29988; although the figures in the results of international evaluations have not been reduced, remaining low.

## **UNIVERSITY REALITY**

### **Case: TELESUP Private University**

TELESUP is a private university, whose licensing was denied in the year 2019 and that upon not demonstrating compliance with any of the basic conditions of quality professed by SUNEDU, began an orderly process of cessation of activities within a maximum period of two years. This term is likely to be extended due to the arrival of Covid-19; since, as an emergency measure, classes were suspended in several educational institutions, resulting in the absence of students in all universities in the country. It is this event that has created as a measure to recover economically, that several universities have requested SUNEDU to open a program of three study cycles for the year 2021.

The case of TELESUP University generated much controversy in the media, after the institution denounced SUNEDU for alleged abuse of authority. After that, SUNEDU continued to obtain complaints detailing bureaucratic barriers and contracts to authorized personnel to carry out audits of universities that did not have the necessary academic degrees to audit.

The most affected by the mismanagement of both parties were the students, most of whom live in the province and had a drastic change in their lives, since it affected their economy and had to travel to the capital city every weekend to receive classes, and in the last case, the expenses generated by the transfer to other universities whose curricula did not match that of eta university.

For those who stayed, it was essential to pay for internet service rental to carry out research work and to attend classes during the week using the university's virtual platform, in addition to classrooms that did not have the capacity to accommodate a large student body. This problem could have been solved with the arrival of the pandemic, since education at the national level was radically transformed to the virtual modality.



Why did the case of TELESUP University cause such a stir? This is because it is the university that offered an education with university value at low cost and that granted these affordable prices for people with low economic and cultural levels. It benefited many more people than any beneficiary of the scholarships granted by the State through PRONABEC.

According to PRONABEC, in 2018 A total of 107,563 comprehensive scholarships were awarded for undergraduate and postgraduate studies. Of these, 83% were obtained by young people with excellent academic performance from the regions of Junín, Cusco, Loreto, Huancavelica, Piura, Apurímac, Ayacucho, Puno and La Libertad, mainly. Many of the talents, in addition to Spanish, speak Quechua, Aymara, Awajún and Asháninka. Thus, of the 48 native languages of the country, registered by the Ministry of Culture, 33 are spoken by the scholarship recipients.

In the same year, PRONABEC awarded 3,285 scholarships to talented young people of limited economic resources for undergraduate studies at universities. Of these, 2,272 scholarships went to public universities and 1,013 to private universities. The undergraduate scholarships were awarded through the annual competitions of Beca 18, Beca Permanencia Académica and Beca Hijos de Docentes.

The new university law No. 30220, which is part of the current Political Constitution of Peru, considers the university as a community formed for entirely academic purposes and oriented towards scientific, technological and humanistic research (Chapter I, Art. 3). One of the functions that we are interested in highlighting in this opportunity is the one oriented to research (Art. 7). Among the principles that all universities share is the duty to contribute to and strengthen the critical and research spirit, the relevance and commitment to the development of the country, creativity and innovation, and the relevance of teaching and research to the social reality. Likewise, within the purposes contemplated in this law, it is worth highlighting that of carrying out and promoting scientific, technological and

humanistic research, intellectual and artistic creation, as well as projecting its actions and services to the community to promote its change and development (Art. 6).

Gebera & Zea (2020) state that the organizational culture in Peruvian universities is limited. In their research applied to career and general studies teachers, they highlight the hierarchical difference that exists in career teachers compared to the clan-oriented culture that predominates in general studies teachers. They propose that it is necessary for teachers not to have this type of difference, since it could benefit the university by providing innovation and autonomy.

Mercado (2019) through an observational and cross-sectional study about the attitudes of Peruvian university students, oriented towards research, resolves that attitudes are positive in the affective, cognitive and behavioral dimensions.

Orihuela, Mohamed & Alejo (2019) state, in the study elaborated to determine the perception that exists between the relationship between human talent management and organizational commitment of teachers from five faculties of the same university.

Today, there are 8 basic conditions (CBC), which universities must have to be licensed according to SUNEDU:

- 1) Academic objectives, degrees, diplomas and curricula
- 2) Educational offer compatible with planning instruments
- 3) Adequate infrastructure and equipment
- 4) Lines of research
- 5) Qualified, full-time teachers
- 6) Complementary educational services
- 7) Mechanisms for mediation and labor market insertion

## 8) Transparency of universities

The estimated duration of this licensing period will be renewed according to the continuity given by the institutions in maintaining the conditions described above, divided into periods of 6, 8 and 10 years. In 2019, SUNEDU reported 74 licensed universities, of which (34) were Public and (40) private. With respect to the time granted only (5) received a licensing for 10 years, (6) for 8 years and (63) for 6 years.

Tables No. 1, 2 and 3 show how the Peruvian university has evolved and a brief account of the university reforms according to each reform imposed by the government in office.

The history of university laws in Peru during the 20th century shows a marked anti-democratic and vertical principle, imposed from the Parliament or the Presidency of the Republic, which led the university to a permanent internal crisis and educational maladjustment.

Table 1 shows a list of universities that are awaiting licensure and those that have been denied licensure by SUNEDU.

All universities that are denied an institutional license by SUNEDU have a period of 2 years (until the 2020-I cycle) to cease activities. These study centers that do not comply with the CBC are automatically prevented from conducting admission processes and enrolling new students.

Access to quality education means a formal and secure job, which results in reduced rates of crime, infant mortality or chronic malnutrition.

ICTs have been integrated into different fields and sectors such as biology, robotics, education, public and private administration. In the latter, it should be noted that the benefits are in productivity, since it makes communication with the customer more effective (chat), providing great value to the management of orders and promotion of products (e-commerce).

Foreign universities offer scholarships with such a level of education that national universities cannot compete. In other words, the most expensive Peruvian universities do not belong to the first positions in the university rankings organized every year by QS Latin American University Rankings, much less in the world rankings.

For this reason, a Peruvian student on a scholarship, once he has completed his university studies, does not want to return to practice his profession in our country. They prefer to continue their lives abroad. The question then arises: What is the Peruvian government doing to encourage these young talents, who have already graduated as professionals, to return and apply their knowledge for the development of the country? The answer is "nothing". Not to mention all those Peruvians who studied in a foreign university and because they are not on the list of universities that SUNEDU supports and recognizes, they cannot practice their specialty in our country.

Oviedo, Hernandez & Barboza (2017) compare Beca 18 scholarship students and non-scholarship students discovering the positive effect the scholarship has as part of the motivation they need to keep their grades high.

Suarez, Revuelta & Rivero (2020) present a research study focused on the value of having developed digital competencies for high-performing students in Peru. Although Peru is part of the list of developing countries, the figures for education and health are low, but even lower are those for science and technology. The Bicentennial Plan to 2021, announces that it will be finished updating this year and next, but what is the Bicentennial Plan, an ideological stereotype?

How difficult is it for them to adapt to the use of technological tools to support their teaching? How can we attest to the quality of this service? Are students using the Internet to develop their assignments receiving the information they need to learn? ,

How can the classroom teacher be sure that the student is learning, that he/she is not plagiarizing when developing his/her exams and that the assignments are entirely developed by the student?

In this regard, Jiménez & Tavera (2018) express through their research, the degree of influence that academic and technological factors have, for students applying for a scholarship.

Another factor is the development of the students' personality, which will help them to be more self-confident and to complete their studies satisfactorily.

The use of technological tools should not be left aside; although it is necessary to emphasize that globalization has not only altered our language; extinguishing the use of words that once meant something and that today have been replaced by words that have no context and are simply empty. This program aims to break with beliefs that are learned at home and are wrong about money; such as, for example, that money changes people for the worse, that if you have a lot of money then you will be a victim of muggers and that young people should not have money because they will waste it, etc.

Vargas, Villarespe & Naranjo, state that the family's perception is a very important factor for the scholarship student, since it will provide the necessary support to maintain the necessary grade point average in order not to lose the scholarship.

This is where the importance of this program lies, since it will show the student that the first thing he has to learn to manage is his life and that technology is necessary to know how to use and apply it, but it is not as important as integrity. (See Table 4).

Vasiljeva, M.; Ivleva, M.; Volkov, Y; Karaev, A.; Nikitina, N.& Podzorova, M. (2019).

carried out a study on the development of metacompetencies in university students, using Bloom's taxonomy as a reference and showed that most of the changes in the different levels of professional competencies of the students were determined by the development of their metacompetencies.

### **A BRIEF HISTORY OF PRONABEC**

At the beginning there was the National Institute of Scholarships and Educational Credit (INABEC). This institution was in charge of administering scholarships granted by national and foreign educational institutions. This means that during the period from 1973 to 2007, the State did not make any investment in educational scholarships. Then INABEC merged with the Ministry of Education through Supreme Decree N° 009-2007-ED.

It is then that the State begins to finance scholarships with the public treasury fund, some examples are: Haya de la Torre Scholarship, Scholarship for the inhabitants of the VRAEM and Bicentennial Scholarship of the Republic. Later in 2012, the National Scholarship and Educational Credit Program (PRONABEC) was born through Law No. 29837; whose main function is to guarantee access to scholarships for low-income people with high academic performance and to ensure that they complete their studies satisfactorily. (See Tables 7 and 8).

To apply it is necessary to be in the database of the Household Targeting System (SISFOH). Any public and targeted intervention of the State needs the information provided by the SISFOH. This system comes from the Ministry of Development and Social Inclusion. Another way to apply is to prove economic limitations. Unfortunately, school desertion plays against this State policy, either due to lack of economic resources, teenage pregnancies, gangs, terrorism, etc.

Another aspect that is not mentioned, but is no less important, refers to the will to study. For example, for a



young person from a rural area or indigenous community, the probability of obtaining a scholarship is an opportunity that will not be repeated in his or her entire life. Thus, it is easy to think that this young person could accept the scholarship without first worrying about the professional vocation that he or she should have in order to practice that specialty competently. In this regard, Kirby, Tolstikov & Walker (2020) state in their research that among the challenges faced by Beca 18 scholarship recipients of indigenous origin are discrimination, lack of preparation and attrition.

## **DIFFICULTIES OFFERED BY THE PRONABEC SCHOLARSHIP**

### **A) COLLEGE DROPOUTS**

The figures are alarming because in Peru there are approximately 18,000 applicants for about 4,000 vacancies. The beneficiaries of these scholarships receive a living allowance, but the problem is adapting to their new life; 85% of them come from the provinces and only 15% from Lima. The amount granted by the State is one thousand two hundred nuevos soles (S/.1200.00) if the scholarship holder leaves his/her province to come to Lima to study; however, if the scholarship holder remains in his/her province he/she receives the amount of seven hundred seventy-four nuevos soles (S/.774.00); distributed monthly for the entire period of studies.

The universities to which these scholarship recipients are admitted are not taking into account,

the inadequate academic preparation with which students enter the scholarship program of the educational institution, which, for the most part, is very low from the secondary level at the national level; that is why there are no resources such as a remedial course or, given the circumstances, support for this sector through hours of

academic tutoring with qualified teachers.

Despite the World Bank's efforts to design a Center for Support and Professional Educational Development, university dropouts are not only present in Peru (30%), but also in Latin America (42%). While it is true that in Peru, there is one advisor to serve 800 students, the current goal is to reduce this figure to one advisor for every 100 students. Currently, 15% of scholarship students in Lima drop out of school. In the provinces, 2,000 young people have dropped out of universities and institutes. Among the problems faced by young scholarship recipients are: teenage pregnancy, depression, semester disapproval and lack of knowledge, which consists of: lack of counseling and concentration, anxiety and lack of learning skills.

However, the figures for this problem can be reduced if the institutions in charge take into account: continuous academic counseling and the development of learning skills, which brings as a consequence, the socio-emotional well-being of students. That is why there are initiatives such as the creation of Cooperation Centers for the Promotion, Strengthening and Transparency of Good Practices (CADEP) that Support, Cultivate, Adapt, Communicate, Innovate and Host the University Community (ACACIA), in which Peru participates through the Universidad Continental.

## B) JOB PLACEMENT

Below, I present some data that can show the importance of the labor market for young university students. (See tables 7 and 8).

Hanushek (2013) explains in a study conducted for Stanford University that the Gross Domestic Product (GDP) in Peru stops growing by 2% each year because of low quality education. This means that universities are training incompetent professionals for companies.

Another study conducted by the FORGE Foundation on

youth employment in Latin America shows that only 18% of low-income Latin American youth obtained a formal job this year. Other important data can be found in Tables 4 and 5.

López & Calvo (2017) affirm through their research, the importance of the perception of young students about the learning they received from their teachers, since, if it is positive, it will favor their transition to the labor market, for this it is important to take into account the following factors: intrapersonal training oriented to collaboration, interpersonal collaboration oriented to initiative and responsibility.

Delgado, Peñafiel & Suratý (2017) propose through their research that, universities should strengthen the role they have as a connecting entity and communication channel between university students and companies, however, economic conditions and study opportunities, are determining factors for their job satisfaction and the performance of functions in the workplace.

Serna, H.; Alzate, J.; Ramírez, D. & Castro, E. (2019) demonstrate through a study the high levels of unemployment that exist in young people of scarce economic and educational resources. It is due to this condition that they accept jobs without a contract in an informal manner, further damaging the situation in which they live.

Blanco, C.; Meneses, F. (2019) support the need for a systematic monitoring of the aid financed for scholarships and university and technical education credits; since aspects such as: young people who could not finish school on time or that the vacancies for university scholarships and technical studies are not differentiated; therefore, the greater the number of applicants for a university scholarship, the fewer vacancies for a scholarship for technical studies. Among the challenges faced by the Ministry of Education is the lack of information and repercussion about scholarships and the financing of

tuition, which reduces the participation of interested applicants to these calls for applications. (Pp.115- 116)

Carranza, A. (2019) proposes the concept of positive education derived from positive psychology and the psychology of happiness, applied to university students. Therefore, this type of interventions are mostly carried out in the school stage. That is why the author emphasizes the importance of courses oriented to personal wellbeing in this adolescent-youth stage, which brings about personal changes and crucial decisions in young people's lives. Facing a series of internal conflicts such as: anxiety, sadness, disappointment, insecurity, desertion, stress; and external conflicts such as: economic and family adversities. (p.224)

Costas, E.; Sánchez, M. & Salinas, P. (2019) Explain that, in order to obtain improvements in the progressiveness of scholarships, it is necessary to analyze how the distribution of scholarships is being carried out based on the economic income received from families. They point out that one of the factors that prevents more beneficiaries is that the selected candidates are not notified in time about the scholarship; furthermore, there is no equality of opportunities among young people from different regions. (p.65)

Chan, G.; Cab, M. & Ayil, J. (2019) Describe a b-learning educational model, in which the instructor, organizes content required by the students. That is, relevant to the course. The elaborated content to which the students will have access must be based on pedagogical principles. For this it is necessary that the instructor is interested in investigating about the experiences that the students have in the use of the given resources and that he/she designs activities that stimulate the practice in the use of these tools. The use of infographics serves as a complement for more meaningful learning. The topics addressed in the course of the proposed personal development course include: development of the self, types of assertiveness, emotional literacy, personal agency and empowerment.

The research was applied, quantitative and quasi-experimental. The dependent variable used for the study was "personal development" and the independent variable was called "educational program", the experimental method was used with an experimental group and a control group that gives value both in an initial and final stage in the cognitive level of the students, as well as a hypothetical deductive method was used to strengthen the proposal of the program under study.

### **ABOUT THE "MAKING IDEAS" PROGRAM**

The educational program is based on the b-learning modality (blended learning); where the learning is carried out in a blended learning mode. It has a duration of 8 weeks, and the introduction in each weekly session will allow students to have an online meeting, in the same schedule, every day from 10 to 20 minutes.

The course consists of providing the university student with ideas and tools that will activate their internal energy, as well as help them to create and practice new behavioral habits that will result in the achievement of short and long term goals and that will be managed and controlled through a virtual platform. That is, punctuality is required to download daily podcasts with indications and introduction to guided meditations.

There is a pre-training stage that lasts one week. Since not all individuals have the facility to understand basic concepts of spirituality and personal development, it is necessary to support them in the opening of this knowledge in this stage of initiation.

The teacher of the selected courses will serve as a facilitator, since virtual education platforms Google Meets and Classroom, which are part of G Suite for education, are used, as well as Microsoft Teams, which is part of Microsoft Office 365, and finally, Cisco Webex Teams.

In this introductory stage, students are taught how to use these platforms, so that they can easily access the videoconferences. The teacher who supports the students in the mastery and use of computer tools, as well as in the learning of introspection techniques through meditation, receives at the end of the application of the program, a certificate as "Educational Coach" and the learning of tools that will help in their personal and professional development.

### *Procedures and program content*

*Virtual Modality:* Each phase lasts 2 weeks and consists of reinforcing what was learned in the classroom classes.

1. *Self-assessment on positivity.* - In this introductory stage (Pre-test), we seek to establish the student's intentions before starting the course-workshop. The student evaluates his quality of life in each of the areas of the human being, using tools such as: Maslow's pyramid, the theory of multiple intelligences and sacred numerology through basic concepts of the Jewish Kabbalah.
2. *Happiness and Money.* - Financial intelligence through Robert and Kim Kiyosaki's Cash-flow quadrant and Cash-flow game.
3. *Sociability and marriage.* - Exercises of genetic Biodescodification, bio neuroemotion and mental healing, using Alejandro Jodoroswky's psychomagic tools.
4. *Transcendence.* - Practice of the "Silva Method" for mental self-control, using the principles of the law of attraction and mindfulness.
5. *Action with passion.* - Practice of the 5 agreements of the Toltec wisdom of Don Miguel Ruíz.
6. *Religion and spirituality.* - Conflict resolution and spiritual healing through exercises of the Hawaiian



technique called H'oponono.

7. Leadership and happiness. - Through the study of the levels of consciousness of David Hawkins.

8. Feedback. - The learning is evaluated and concepts are reinforced by clearing up doubts (Post-test stage).

Each week we reinforce the elaboration of the gratitude journal, which consists of integrating the following elements: visualization, reflection of acts of kindness, elevated experience, reflection to savor the elevated experience and reflection of three blessings. Each week is dedicated to a positive emotion, distributed as follows:

1. Week 1.- Positivity

2. Week 2.- Gratitude

3. Week 3.- Service

4. Week 4.- Forgiveness

5. Week 5.- Humor

6. Week 6.- Savoring pleasures

7. Week 7.- Physical Activity

8. Week 8.- Feedback, difference between emotional intelligence and spiritual intelligence.

The population consisted of students of the Universidad Privada TELESUP in the city of Lima, in the faculty of health and nutrition located in the district of La Victoria; belonging to the seventh cycle of the professional school of psychology. The sampling was non-probabilistic and consisted of two groups belonging to the seventh cycle of the career. The experimental group was made up of 21 students corresponding to the Organizational Development course of the 2019-1 period, who were invited via e-mail to develop the

online questionnaire and who presented their portfolio with didactic material.

The control group consisted of 33 students corresponding to the Human Talent Management course enrolled in the 2019-II period, who were invited to participate in the course-workshop for personal development. They completed the questionnaires in the classroom designated for the application along with a confidentiality commitment that they signed before receiving the classes and workshops.

It is important to point out that the university at that time was not going through its best moment, since SUNEDU had ordered the irrevocable closure of all the provincial campuses for not having the basic conditions of quality. However, in an effort so that students from these remote areas would not be harmed, it was agreed that they could come every weekend to the capital to continue their studies, offering them free lunches and a 50% discount on the total cost of degree expenses, as well as exemption from the payment of their monthly fees, which were already low, as they belonged to a type of scholarship that the university offered as a promotional offer to obtain more students.

The indicators that assess the quality of the program are effectiveness, satisfaction and the impact the program has on the lives of students

The instruments used for the implementation of the program were: the psychological growth measurement questionnaire, composed of (10) questions in the Pre-test and (2) additional questions in the Post-test, Likert type, developed by Diener, E. and Biswas-Diener, R. (2008) and compiled by David Fischman (2010) in his book "The high profitability of happiness" (Pp. 27-28). The Pre-test included open-ended questions (5) on the basic concepts to be developed and additionally (2) questions in the Post-test.

The SPSS program version 22 was also used for the analysis of results and Cronbach's Alpha to measure the level of reliability of the experimental group, in the Pre and Post-test

stages was (0.75) and for the control group it was (0.63) in the Pre-test stage. The responses of the Post-test in the experimental and control groups show that the course-workshop strengthened their understanding and comprehension of the topics covered and the basic concepts of personal and spiritual development. The ANOVA test was also applied for the contrast of means, in order to significantly differentiate the statistics in the control group ( $\alpha = 0.0034$ ). Carranza (2019) highlights the importance of strengthening personal well-being in students. It is feasible, if the workshops are entirely face-to-face. However, for a teacher who has a long history of face-to-face and personalized teaching, it is difficult for him to establish a certain degree of trust with a student in a blended modality. Either because he is not sure that it is the student himself who is solving the assignments and exams online; although he understands that it is necessary to use the technological component to capture his interest in the development of the course. In short, a program with personal and spiritual development content is obliged to be carried out in a blended learning manner, in order to reinforce what has been learned virtually.

Costas, Sánchez and Salinas (2019) talk about how to improve the scholarship granting system and propose that the State should evaluate the way in which the service is being distributed. However, in Peru, the data managed by the National Institute of Statistics and Informatics (INEI) are not entirely valid. That is to say, the way in which the most vulnerable and low-income population is being considered has flaws in its system, causing situations such as, in the quarantine period of the coronavirus, people who do not have extreme poverty are being benefited with vouchers and food baskets, displacing the most needy. The same happens with scholarships. An example of this is the complaint filed by an indigenous community in the Peruvian jungle in 2015, when it was not recognized by MINEDU to be a beneficiary of the scholarship for Amazonian native communities, benefiting people who did not belong to these communities.

Hanushek (2005) explains that the growth rates of countries

are influenced by the educational quality of the people, improving their own welfare and that of the people around them; however, in the city of Lima, there are 119,578 students who did not finish their studies because the house of studies was denied licensing, the same happens in the province with a figure of 57,121 students, who opted for a university career with the purpose of improvement and personal welfare. This number continues to grow, so that by transferring to a university with a different curriculum, they will invest more time and money than expected.

The outlook for graduates from years prior to licensing and teachers from these unlicensed universities is also uncertain, since, if a university's licensing is withdrawn, it means that the education provided up to that time lacks quality, so that graduates and teachers are not competitively prepared and companies and institutions could dispense with their labor services.

***Digital literacy in teachers is of utmost importance,*** as this will allow them to propose a new pedagogy with more dynamic, active and collaborative classes, involving ICT in an appropriate and contextualized way. In addition, you will offer your students a virtual space for each course-workshop you develop as a tribe, so that young people can help each other to achieve the objectives of the course and in which you can answer any questions that may arise as a result of imparting new learning.

ICT is a set of technologies created to simplify our lives, but above all to optimize our resources and make us more productive. The digital era has made it evolve even faster. It is a bridge made up of information and knowledge. It is impossible to find an educational entity dedicated to research science as a university or institute that does not have multimedia equipment and sophisticated storage devices for information processing. But in Peru, this gap still exists, as well as there are teachers who are not updated in the use of digital tools.

***The internet signal is not optimal in all geographical areas of the country***, therefore, it is difficult for students to practice their computer skills in their home areas. That is why we provide them with physical material as a complement to the learning that they are taking home.

Developing a program to foster self-motivation and positive thinking in students who, as scholarship recipients, do not have sufficient financial resources is a challenge in itself, given the circumstances.

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## **Research skills to be developed in students before starting the doctorate in Education**

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### **INTRODUCTION**

Currently in the Peruvian university system, students applying to graduate schools, especially in the doctoral program in Education at the Universidad César Vallejo (UCV) - Chiclayo, do not have research skills such as: writing scientific articles, use of information managers (Mendeley, Sotero), database downloading (Scielo, Scopus, Latindex), data analysis programs (SPSS, STATA, Excell, Atlas ti), use of citation and referencing styles (A.P.A, Chicago, Vancouver, I.S.O ), use of forms in Google drive, scientific writing, etc. that allow them to successfully perform graduate studies in the framework of the health emergency of COVID 19 and the requirements of the National Superintendence of Higher Education (SUNEDU), originating the disarticulation between theory and the realization of the creditable products of the curricular Experiences of the study plan, which develop, doctoral students.

To demonstrate the existing problem, a virtual interview was applied to know the opinion of the 2021 doctoral students, regarding the development of research skills, which refer that they know the APA style, information search engines, information managers, but do not use them, due to lack of knowledge, they also state that it is a difficult task for them to carry out an explanatory bi-variable research, an experimental one, and a correlational one, which indicates that they do not have the research skills to perform research tasks at the doctoral level.

The professor entering the doctoral program, in his entry profile shows limitations in the basic skills to perform doctoral studies in Education, taking into account that this is the highest degree to achieve in academic life in a university, including the preparation of 03 scientific articles and the design and development of the research project, which require, from the beginning, the mastery of certain research skills that the professor does not possess. Our study aims to contribute to the development of research skills in the doctoral candidate teacher, before starting to develop the subjects or curricular experiences of the curriculum of the doctoral program in Education.

In the knowledge society, change is a constant and represents one of the current signs, that is, an institution, company or person that does not adapt to change, runs the risk of failing or disappearing; today more than ever, any institution to survive must adapt permanently to the new reality and respond effectively to the challenges of the moment. Therefore, in this knowledge society, the current educational needs consist in the development of skills, abilities, capacities and competencies to train the doctor of education in an integral way.

In order to concretely address the problems outlined in the following sections, we will answer the following questions: What are the specific skills that contribute to the development of competencies in the research subjects of the doctoral program in education? What are the epistemological, pedagogical, psychological and philosophical foundations of the research skills plan? What is the connection between the proposed research skills and the competencies of the research subjects? What are the research skills to be developed by the students before starting the subjects of the doctoral curriculum in education?

**The problem** is given by the limitations in the development of research skills presented by teachers who apply to graduate schools of the doctoral program in Education at the UCV, i.e. they do not have the mastery of skills such as: writing scientific articles, use of information managers,

database downloading, statistical software, use of citation and referencing styles, etc., preventing the project and research report efficiently.

The objective is to propose a plan of research skills, which should be developed by teachers entering the doctoral program in Education before starting the subjects of the curriculum, which will allow them to efficiently carry out the creditable products of each subject. The

**The field of action** is the development of research skills before the beginning of the subjects of the doctoral curriculum in education at UCV.

**The hypothesis** is: If a plan for the development of research skills is elaborated, then it will contribute to the development of competencies of the subjects of the doctoral program in Education of the graduate school of the UCV.

### **Skills in the research component for the development of capacities and competencies in the doctoral program in education.**

The demands of current education require the gradual development of skills and abilities for the development of competencies. This implies integrating the labor, academic and explicitly the research components in the doctoral program in Education, during the learning process throughout their professional training.

It is essential to specify that the capabilities are inherent potentialities of the person and that these can be organized in a curriculum, they develop in a spiral and become competencies, which allow the doctoral student to enhance creative thinking, critical thinking, decision making and problem solving, in the different activities to be developed not only in the research activity but in the different tasks of daily life.

The competencies to be developed by the future doctor in education, according to the curriculum of the Graduate School of the UCV, of the doctoral program in Education are of a high level. Universidad César vallejo ( 2018) states:

Research Seminar 1: Analyzes the lines of research, the approach and selection of the problem under the methodological foundations, assuming scientific rigor and social responsibility. Research Seminar 2: Analyzes the techniques and measurement instruments for research work following scientifically methodological procedures, assuming scientific rigor. Research Seminar 3: Analyzes and reflects on the usefulness of database and publication for research works following international formats, assuming a scientific vision. Research Seminar 4: Analyzes international standards (APA, VANCOUVER, ISO) for thesis report writing, assuming an attitude of respect for copyright. Design of the research project: Design, plan, elaborate and sustain a research project, applying the scientific research method, with a sense of social and ethical responsibility. Development of the research project: Designs, plans, writes and submits the scientific article derived from the thesis to an indexed journal and supports the thesis, with theoretical, methodological, social and ethical responsibility. ( p.32)

As can be seen, the competencies are of a high level, since the doctorate is the highest degree that can be achieved in academic life in Peru and to develop them require others of less complexity called research skills, which are the ones we are proposing, i.e. that serve as a basis for the doctoral student to perform without difficulty the different tasks that research activity demands; these are: Writing scientific articles, Use of information managers, Database downloading, Statistical computer program, use of citation and referencing styles, formats in Google drive, etc.

Likewise, the development of the proposed skills requires other specific skills such as: Produces, synthesizes, constructs, designs, elaborates, generates, intuit, perceives, anticipates, predicts, interprets, observes, imagines, invents, reproduces, diagrams, connects, discovers, integrates,

explores, abstracts, investigates, infers, communicates, elaborates, extrapolates, represents, contextualizes, identifies, hierarchizes, analyzes, evaluates, organizes and applies.

**Fundamentals of the research skills plan to be developed in the students of the doctoral program-UCV.**

The fundamentals that support the research skills plan that students must develop before starting the doctorate in Education, among others, are:

The theory of Conscious Processes is the basis of our study, since it essentially explains the processes that have pre-established objectives, through the determination of the components and the relationships between them that express the laws of their development.

According to Álvarez (1999) the foundations of this theory are linked to a set of principles, which can be synthesized in a single one called holistic-dialectical principle, which has a dialectical nature because they are inseparable and one presupposes the other. This holistic-dialectical principle is divided into two: 1) Holistic characterization of the object of study, which requires the object and 2) Dialectical approach to the development of the Conscious Processes related to the behavior of the object.

Likewise, the author, when referring to the holistic characterization of the object of study, states that it is subdivided into:

- a) The relationship of the holistic and the holographic in the object of study in the social sciences, considers the object in its totality, the dialectical relationship between the components of the object and the process, with its own distinctive

feature and the resulting unity between the holistic and the holographic and which are indissoluble.

b) The objective-subjective relationship in the object of study and in the researcher is a function of the fact that the subjects immersed in the objects of the Social Sciences that are the object of research are active beings who develop it with pre-established purposes with the purpose of achieving certain results that satisfy their needs, considering their motivations, interests, attitudes, emotions, etc., all of which establishes the subjective nature of the objects of research.

c) The theory-practice relationship in the social sciences establishes that in the theory-practice link, factual-perceptible analysis is essential. In this sense, both theory and practice constitute a totality and are inseparable, so that the validity of a theory is proven in practice, if the latter makes possible the development of that theory.

Our study takes into account the dialectical nature of the characterization of the object of study because this knowledge society is complex and changing due to the constant transformations that are taking place at this time, which requires an education characterized by innovation, competitiveness, development of capabilities, values and quality, in a process that conceives education as an educational phenomenon in which its components must constitute a systematic unit.

The dialectical approach to the development of the Conscious Processes constitutes a methodology and consists of the dialectical contradictions that occur in the development of the Conscious Processes, which can be characterized, taking into account a logic linked to the process in its development. It is divided into three methodological approaches:

### **Facto-perceptible approach to the object of study.**

The use of the concept of function implies that of structure, the concept of tendency links the diagnosis. That is to say, each of these concepts is linked to its categories: function - structure, tendency - diagnosis - principle - law. This factual-perceptible approach characterizes the object.

This dialectical approach to the development of the process has as its methodological principles: facto-perceptible approach to the object of study.

### **Analysis of conscious processes.**

Alvarez (2004), in his theory of conscious processes, refers to the changes of teachers and students in the teaching-learning process; in this case he supports how competencies are developed in each of the students.

The same author refers to eight components which he calls conscious processes and each of them will help to achieve learning in students. The Problem is the situation that manifests an object (part of the objective reality) and that generates a need in a subject related to that situation. The Object is a process and is the formation of man. The Objective, also called social task, is the responsibility of the school to prepare citizens well, that is, to develop competencies to develop in a social environment and solve the problems that arise. The Content is what the student must learn, which can be a branch of knowledge, science, part of it or the interrelation of several. The Method, is the ordered form or sequence to carry out the teaching-learning process. The teaching means are the tools used by teachers to modify the object of study. It is the external expression of the method. The result is one of the most important parts to be achieved by the student. It is the achievement of learning as the end of the process. These components can only be explained on the basis of the relationships established with the other components; they

are not studied separately, but through the relationships and these have a dialectical nature or rationality.

### **Links of conscious processes.**

Each of the conscious processes is holistic, that is to say that each of them is contained in the other and also each of them has three links:

- 1) The design of the process: It recognizes the existing problems, the same that exist in a social object. The fundamental thing is the content.
- 2) The execution of the designed process - Consists of the realization of the process on the basis of the relationships between objective, content, method and other components of the process. The most important is the method.
- 3) The evaluation of the process is done by relating the result with the rest of the components. The main thing is the result.

For the development of competencies at the doctoral level it is important to apply creativity, critical thinking, among other skills:

For López (1998), creativity is the function of the mind, by means of which the human being produces something new or something that was unknown to the one who produces it. It can be the result of imagination or systematic variation of information to things already known; the term creativity implies originality, inventiveness, discovery.

The levels of creativity are: fluidity, counteracting single response, flexibility counteracting mental rigidity, originality counteracting conventional ideas, and elaboration counteracting lack of action.

There are barriers that block creativity: internal barriers and



external barriers. Internal barriers can be: mental and emotional. And external barriers depend on situations outside the teacher's control.

However, there are some activities that can be used at any time during a learning session and they are related to: the attitude towards problems, the way of using information, the use of materials and the work environment.

For Boisvert (2004), critical thinking is a strategy that involves operations that function in a coordinated way and involves the execution of essential thinking skills such as inference, classification, analysis, synthesis and prediction; as well as creative and critical thinking strategies, concept formation, decision making and problem solving, and metacognitive skills such as planning, monitoring and evaluation.

Some of the skills they propose to achieve critical thinking in the student are: problem solving, knowledge comprehension, instructional reading, effective cooperative group work, etc.

Our research considers creativity, since it is the most important human resource, without it there will be no progress and we would eternally repeat the same patterns, if we do not put it into practice, we need students to use their own strategies to solve different situations. We believe that teachers should promote concrete actions aimed at fostering the "development of creativity" because nowadays we educate half a man because most of the activities carried out by teachers develop the left hemisphere and the right hemisphere, which is developed with creativity, is left aside.

On the other hand, we use the technical basis of critical thinking because it allows us to place students at the level of current pedagogical thinking, since education is still communicative, presenting knowledge as something finished. Moreover, its development is a response to the social task that society places on the university.

According to Piaget (1997) in his psychogenetic theory, time

is a fundamental element to understand the development of the person when he states: "The development of the learner is a temporal process par excellence", based on which he raises the importance of time in the Life Cycle of human behavior and the Life Cycle as an expression of temporal development, susceptible to variation. In the treatment of these points, Piaget only considers the properly psychological development in relation to the properly cognitive development. The term development in Piaget is Continuous Construction, learning as a continuous process. At the levels of skill development, a learner moves to a higher level as soon as he or she is socially, biologically, and psychologically ready.

Piaget distinguishes two aspects with the intellectual development of the learner. The first one is called psychosocial; everything that the learner receives from the outside, learned by family, school, educational, social or cultural transmission in general; secondly, the development of the talent itself, when Piaget states: What the student learns alone, what is taught, however, he must find alone, this is the one that demands time. This development is the one that is required to enhance gradually for the development of capabilities. For Piaget the spontaneous psychological process sees the notions that appear in the being as observation, temporality, space, etc. correspond to the process of psychic and mental maturity proper to the human species, which is implicit and at the same time justifies that the teaching of the diverse notions are learned by the individual after other basic notions that allow in their understanding have been fixed, in this way the psychosocial development is subordinated to the spontaneous or psychological development. Thus we have that a student of Language and Literature can develop skills such as: identifying, selecting, interpreting and evaluating according to levels, taking into account the nature of the subject and the complexity that each one of these presents, which will gradually become fixed in his or her mental structure, for which a greater time of psychological maturation is required. For Vigotsky the social and cultural environment can play an accelerating or inhibiting role of development, so the stages

of development for Piaget are the result of a complex process of dialectical interaction in which the subject and the object are mutually modified and is a process that is directly linked to time and individual rhythm so we say that each being is an individuality and therefore not all mature psychologically at the same age, but age is an important factor to take into account in the emergence of intellectual structures. The four factors of development are :

a. First factor: Heredity. - It is related to chronological, biological development and psychological maturation. It is determined by the transmission of certain traits and characteristics of an individual to his descendants, through genetic reproduction. It intervenes in the psychological maturation of the individual. This factor does not act alone.

b. Second factor: The role of experience. - For Piaget, "physical experience, the action of objects, is again an essential factor that should not be underestimated, but is also insufficient.

Piaget considers that the explanation does not end there, but only begins with these considerations. Introducing a basic concept in his theory. To explain the nature of the learning process from the psychological point of view: the concepts of assimilation-accommodation, assimilation-accommodation, assimilation-accommodation and assimilation-accommodation.

Assimilation is the action of the subject on the object; there is an antagonistic mechanism that complements it called accommodation; the same that designates the action in the opposite direction of the object on the subject, that is to say the modification that the subject undergoes by virtue of the object. It is precisely this permanent process of assimilation-accommodation that Piaget calls adaptation, which is an intelligent act.

c. Third factor: Social transmission. - According to Piaget, this is possible between the adult and the child, or between the social environment and the child, only when there is assimilation of what one tries to inculcate from outside. This assimilation is always conditioned by the laws of this partially spontaneous development. As for the social transmission factor, it is important to point out that it is an increasingly evident fact that human beings live more and more immersed in the cultural environment. Man is a being who lives in culture and by culture; culture is consubstantial with human nature and this is an essential descriptive feature that separates him from the animal world. We agree with Piaget that culture or civilization can accelerate or retard temporal development so that the role of the teacher should be the development of skills, abilities and capacities inside and outside the classroom.

d. Fourth factor: Equilibration. - It is an inner process by which the individual regulates his learning. This factor is very important because it allows that after having produced a cognitive alteration, either by external cause or self-induced, new levels are generated and the mental equilibrium is organized. In summary, in relation to these factors we can affirm:

- Each individual learns at a certain time and pace, according to these four factors.
- Learning in man is a permanent construction, in which each individual manages to modify his mental structure and reach a higher level of diversity, complexity and integration.

Piaget (1997) argues that intellectual development is configured by stages, periods and stages, each one of them defined by its own and differential structures in the process of evolution of organisms. In relation to this, the development of capacities would be a process in which the individual is forming, modifying and

transforming the intellectual structures, when he explains his abilities, as a consequence of his permanent interaction with his environment. The following are the stages that influence intelligence, according to Jean Piaget.

a) First Stage (of sensory-motor intelligence). Intelligent behaviors are formed from hereditary patterns or what is known as reflexes or instinctive behavior, which allow them to make their first adaptations to the stimulation coming from the surrounding world.

b) Second Stage (of the representative or preoperational intelligence). It is possible to replace in thought, an object by a symbolic representation, emerging the acquisition of language, the symbolic game and the reproduction of behaviors by imitation, when the copied model is absent. At this stage elementary inferences are made, a first form of organization is given to space, the conditions of a logical classification are established and causal relationships are learned. It is possible to operate in thought. The term operation designates an internalized action, that is, what we would usually call a thought, considering that for Piaget the essence of thought is in action.

c) The Third Stage (of concrete operations). In this period logical thinking is used for the use of concrete things, conservation is presented in a sequential way, he understands changes, processes, and relationships, he understands things between real things and kinds of things; also the relationship between words that represent things and kinds of things that have been experienced. Reflection is done only through experimentation, referring to reality.

d) The fourth stage (of formal operations). Reasoning about the real, the possible and the hypothetical arises. Comparisons, contrasts, deductions and inferences based on conceptual

contents. This contribution of Piaget helps us to understand that the sequence, the order of appearance of the development of intelligence is a constant and although the ages of appearance of the different domains may vary. In the same way, the development of capacities is also reached by levels, according to the external influences that can accelerate or delay their mastery, according to the rigorousness and considering the nature of the specialty subjects.

This contribution of Piaget helps us to understand that the sequence, the order of appearance of the development of intelligence is a constant and that the ages of appearance of the different domains may vary. In our study, the development of capacities is also reached by levels, according to: the external influences that can accelerate or delay their mastery, the rigorousness and nature of the specialty subjects and the teaching-learning process itself.

- Lev Vigostky's culturalist theory states that higher (human) mental functions have their origins in social activity. This implies considering that the learning process has a historical-cultural basis, where language is of fundamental importance.

Vigotsky (1987), when referring to the developmental zones, distinguishes three: the FIRST is what the student can do without the help of others, this represents those who have achieved learning, called the REAL zone. The SECOND is what the student does with the help of others, with the intervention of the cultural environment or surroundings, called the NEXT zone. The THIRD is what the student can reach when he/she receives the help of a teacher or one of his/her peers, called the POTENTIAL zone.

In our proposal for a research skills plan for the development of research subject competencies, the teacher will have as a function the task of empowerment, starting from the recognition of his actual development zone, and projecting himself to his potential development zone, creating zones of

proximal development.

The curriculum design by capabilities of our proposal reflects the principles of a humanistic education.

Our proposal is humanistic because it places the doctoral student at the center of its attention, promoting the development of their capabilities. In this sense, the student is the fundamental agent around which curricular decisions are made, taking into account their needs and interests, helping them to develop their autonomy and achieve self-realization.

The research reflects the new educational paradigms which indicate that teaching should not be limited to the transmission of knowledge, but that it is necessary to integrate the moral and value dimension in education. This is due to the conviction that humanistic education can offer true development and evolution to each human being and, therefore, to society. Although values education has always been present, now more than ever its necessity is evident in the formation of individuals capable of maintaining and developing personal responsibility and cooperation in the search for the common good.

Thus, the epistemological, pedagogical, psychological and philosophical foundations contribute to the development of the curriculum by capacities that assumes the spirit of the new orientations of learning theories. The conception of the curricular model is constructivism and the theory of conscious processes, as well as the principles of humanistic education.

In our proposal, capabilities are understood as potentialities inherent to the person and that he/she can develop throughout his/her life.

The system of fundamental capabilities are those that are characterized by their high degree of complexity and synthesize the main intentions of the research skills plan.

The fundamental skills are: creative thinking, the ability to find and propose original ways of acting, going beyond known routes; critical thinking, the ability to act and conduct oneself in a reflective manner, drawing one's own conclusions and making arguments; problem solving, the ability to find relevant and timely alternative responses to difficult or conflictive situations; decision making, the ability to choose the most coherent, convenient and timely alternative from a variety of alternatives, discriminating the risks and implications of such an option.

The skills are less complex and are specific to the capabilities of a course or subject. Their identification suggests the complex processes contained in the capabilities of the specialty courses.

The approach of the proposal is constructivist, since learning is derived from the experience in complex situations, according to this approach pedagogy consists in promoting a wide and varied set of experiences in complex contexts that produce in the subject the imbalances that modify the subject's knowledge schemes. Constructivism is thus a proposal to promote learning in subjects, a way that culture offers students to learn in educational contexts and outside them.

The teaching-learning process is the object of our research and is something more than the integration of teaching and learning. It is the integration, the systematization, of all aspects of a totalizing unit. The teaching-learning process develops in a movement of its own in which all the components, their relations or laws, their qualities and their results are manifested. This process has its essence in the laws studied. The laws characterize, in their essence, the pedagogical facts that occur in the development of the teaching-learning process.

For the development of skills and capacities in this process, we must take into account the knowledge that is constituted by the set of previous knowledge that students develop from the basic contents, which in turn allow the development of



skills and capacities. These basic contents are expressed in each of the research subjects.

**Connection between research subjects and the development of proposed skills in doctoral students in education.**

This section will specify the research skills, which will serve as the basis for the development of the tasks of the different research subjects of the study plan, which are:

Cycle I: Research Seminar 1.

Cycle II: Research Seminar 2.

Cycle III: Research Seminar 3.

Cycle IV: Research Seminar 4.

Cycle V: Design of the research project.

Cycle VI: Development of the research project.

These subjects will develop the research skills specified in the previous chapter, which are part of the research component.

The research skills that contribute directly to the development of subject competencies and that are directly connected are: Writing scientific articles, use of information managers, database downloading, statistical software, use of citation and referencing styles, Google drive forms and scientific writing, among others.

In our proposal for the development of research skills, we also intend to achieve a system of fundamental capabilities such as the development of creative and critical thinking, decision making and problem solving, as part of the doctoral student's training during the six cycles of the study plan.

The competencies to be developed in each of the subjects, by their nature, are holistic and require other less broad competencies called capabilities, which in turn require other

less broad competencies called research skills, i.e. the latter, as they are developed, become capabilities, and the latter, as they are developed, become subject COMPETENCIES. As can be deduced, the development of a competency is not a simple task, but requires several processes, which during the teaching-learning process, are developed in a spiral.

**Proposal of research skills to be developed in students before starting the doctoral program at UCV.**

In order for doctoral students in education to efficiently comply with the creditable product of each subject, it is necessary that from the beginning they make use of: information managers, to comply with the product of cycle I, downloading articles from databases and writing scientific articles, for the product of cycle II, citation and referencing styles for the product of cycle III, data analysis programs, forms in Google drive and others, for the product of cycle IV and all the skills proposed for the creditable products of cycles V and VI respectively.

For the development of the aforementioned research skills, a RESEARCH SKILLS PLAN must be developed, which must be developed in seven weeks or its equivalent of 45 chronological hours in a ZERO CYCLE by the teacher or teachers who will develop the research subjects of the curriculum, the research coordinator, with the support of other teachers who have teaching load in the same program.

**Table 1**

*Research skills to be developed by doctoral students.*

<b>CYCLE</b>	<b>SUBJECT OF THE PLAN OF STUDY</b>	<b>PRODUCT ACCREDITABLE</b>	<b>RESEARCH SKILLS TO BE DEVELOPED BEFORE STARTING A DOCTORATE.</b>
I	Research Seminar 1	Problem reality: Description - Problem and general objective - Justification.	➤ Writing of scientific articles.
II	Research Seminar 2	Publication of a review article.	➤ Use of information managers.
III	Research Seminar 3	Theoretical framework of the research work	➤ Scientific writing.
IV	Research Seminar 4	Publication of a scientific article.	➤ Download to database.
V	Design of the research project.	Research Project	➤ Data analysis programs.
VI	Development of the research project.	Research Report (thesis) Publication of an original article.	➤ Use of citation and referencing styles. ➤ Forms in Google drive.

Source: UCV doctoral program curriculum (2021).

The schedule for developing the proposed research skills should be negotiated with the students who entered the doctoral program, it can be done during weekdays in the

afternoon or evening or also on Saturdays and Sundays since these are the days when the doctoral program operates and the students already know the days of classes, in groups of no more than 20 students virtually, using the university's platforms.

**Table 2**

*Proposal of research skills to be developed*

<b>WEEK</b>	<b>RESEARCH SKILLS A DEVELOP</b>	<b>TOTAL HOURS</b>	<b>RESPONSIBLE</b>
<b>1</b>	Download of scientific articles in databases (Scielo, Scopus, Latindex, etc).	<b>5</b>	
	Use of information managers (Mendeley, Sotero, etc).		• Research seminar teachers.
	use of citation and referencing styles (APA, Chicago, Vancouver, I.S.O., etc.)		• UCV Research Coordinator.
	Writing scientific articles (types of paragraphs and outline)		
<b>5</b>	Data analysis software (SPSS, Atlas ti, etc.)		
	Elaboration of forms in Google drive.		
	Strategies in scientific writing		
<b>TOTAL HOURS</b>		<b>45</b>	

Source: Own elaboration.

According to the diagnosis made to the students, it is verified the insufficiency in the development of research skills before starting the doctorate in Education, the same that hinder the development of the competences of the research subjects in an efficient way, which should be potentiated with a plan of skills, in the research component. The proposal of a research

skills plan will allow the design of methodological strategies to develop capacities in the students who start the doctorate that will allow them to successfully face the research subjects and the concretion of the system of fundamental capacities: Critical Thinking, Creative Thinking, Decision Making and Problem Solving in the process of scientific research, thus integrating the components of the didactic process.

Research skills: writing of scientific articles, use of information managers, database downloading, data analysis programs, use of citation and referencing styles, scientific writing, etc. will allow to fulfill the social task that the scientific community demands today: the issuance of critical judgments and the development of creative thinking, oriented to the research function.

The novelty of the proposal of the research skills plan, before starting the subjects of the curriculum of the doctoral program is the development of skills such as: writing scientific articles, use of information managers, database downloading, data analysis programs, use of citation and referencing styles, scientific writing, etc. to successfully carry out the creditable products of the research subjects of the doctoral program in Education.

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## **Child Neurodevelopment and the participation of parents in the educational process.**

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### **Introduction**

The first years of life are fundamental for human beings. This has made children the focus of attention and concern of the family, professionals in the educational field, as well as other disciplines and the government. Today, society recognizes and values the importance of children in a very special way, we are aware that the children of today are the leaders of tomorrow's society... (Durango, 2015) . However, despite the changes in pedagogy, together with the efforts of educators and parents, there is still no evidence of an integral development of children in their cognitive, affective and volitional functions, which are fundamental for learning and their development in themselves. (Good & Jere, 2012) . Unfortunately, not all children are exposed to early experiences that allow them to reach their maximum development potential. (GRADE, 2016) .

The Report of the United Nations Children's Fund (UNICEF, 2016) The Report of the United Nations Children's Fund (UNICEF), makes a statement in this regard, revealing that the problems faced by early childhood education in Latin American countries are varied and have multiple causes. It also argues that the problems of adaptation and integration, as well as the development of cognitive capacities and potentialities, are the most significant ones to be faced. Finally, it states that most children fail to develop their capacities and skills in an integrated manner, which become evident when children begin their formal school education process, being fundamental the participation of parents, who must assume an active role in the education of their children.

In this regard, the United Nations Educational, Scientific and Cultural Organization (UNESCO), through the document on Family Participation in Latin American Early Childhood Education, states (UNESCO, 2004) The United Nations Educational, Scientific and Cultural Organization, in its document on the Participation of Families in Early Childhood Education in Latin America, states that: "the articulation of family and school results in better learning for boys and girls; it also recognizes mothers and fathers as the first educators of their children, a fact that demonstrates the positive impact that can be generated with quality early education in the development and learning of children; and finally, it refers that the family emerges as a privileged space to achieve an expansion of the coverage of early childhood education. Consequently, the presence of parents in their children's education is highly beneficial for the achievement of children's learning.

Currently, it is recognized that the family-school binomial assumes and shares the responsibility of educating. The family plays a major role in the formation and integral education of children throughout their lives; however, it is during the first three years of life where it acquires greater presence and importance. At three years of age, children begin to develop their autonomy and independence, which allows them to establish their first social relationships outside the environment called home. It is important that during this process of transition from home to school, the family as a whole puts more emphasis and contributes to the integral development of children, providing them with the conditions of affection, values, cultural and economic conditions. Children will take an important step in society when they are integrated into the school, making it the central unit where social integration and socialization of the child will take place (Anabalón et al., 2008).

In this scenario, the evidence provided by research from the field of Psychology, Nutrition and Neurosciences becomes valuable, revealing that the first years of life are critical in the formation of intelligence, personality and social behaviors, because brain cells are formed during the first two years of



life. Likewise, they show that during the first five years of life, the brain develops in a dizzying way that will never happen again in our lifetime, and it is estimated that about 700 new neural connections are formed every second, allowing the brain to grow by fifty percent (Shonkoff et al. 2009, Unesco 2004). Factors for the development of the child's brain are early experiences, and interaction with the surrounding physical and social environment. (GRADE, 2016) . This has led to the need to focus on the first years of life of the human being, as this is the stage in which the foundations are laid for the physical and spiritual development of the individual, which allows the acquisition of knowledge, skills and habits that will lead to the integral formation of the individual as a unique person (Gutiérrez et al., 2016).

This research analyzes the scientific production on strategies, programs and research aimed at improving the participation of parents in the educational process of early childhood education students, based on child neurodevelopment, with the purpose of strengthening the family-school bond and improving the teaching and learning process of children. The following questions arise: What is the role of parental participation in the educational process? What dimensions of parental participation are important for the educational process? How does the understanding of child neurodevelopment improve children's learning? The above shows us that parental participation in the educational process of early childhood education students is fundamental for the achievement of educational objectives, taking into account that families who are more involved with the school and committed to their children's education have children with better school performance.

### **Neurodevelopment in early childhood**

Frith (2005) warns that knowledge of the anatomical and physiological structures that make up the Central Nervous System (CNS) is essential to understand the learning process. The CNS is formed by the encephalon (formed by the

cerebrum, cerebellum and brain stem) and the spinal cord, and it is the one that decides and is in charge of what can be learned, how and how fast". Knowledge about the neurodevelopmental processes that take place in early childhood constitutes a starting point for pedagogical practice (Cabrera et al., 2017). Thanks to the knowledge of how the brain works, it has allowed us to understand the behaviors, feelings, motivations, attention and higher mental functions: learning, memory and language in children, managing to plan activities for them at the appropriate time according to their readiness (Tudela, 2017) .

In this regard, Martínez (2010) states that neuroscientific findings reveal that the brain is not a predetermined organ, on the contrary, it is formed and shaped through a process of continuous interaction with the environment and the experiences it provides, which definitely influences its structural composition, the cytoarchitecture of the cerebral cortex and the extensions of the neural networks that exist between the millions of neurons. What has been described allows laying the foundations for the formation of more complex capacities, in the same sense that its maturation takes place.

Neurodevelopment is defined as "a dynamic process of interaction between the organism and the environment that results in the organic and functional maturation of the nervous system, the development of psychic functions and the structuring of personality" (Medina et al., 2015, p.566). It is undeniable that early childhood is the most important stage for human beings.

The need then arises for educators to delve into the understanding of the functioning and potential of the brain during the first years of life, or what we know as child neurodevelopment, valuing its importance in the need to provide a good quality of life to the child, allowing him/her to develop in the future in the various areas of development (Parra et al., 2016). This will allow educators to apply new educational methodologies that will make effective the achievement of competencies proposed for the teaching-

learning process of students. At the same time, it will allow parents to accompany their children actively in their educational process, stimulating them and providing them with a favorable environment for their comprehensive development.

### **The participation of parents in early childhood education**

Tudela (2017) argues that the child's education "begins at home", and in this first stage of development, parents play a fundamental role, because they are the ones who initiate the knowledge of the social and cultural world in the child. The preparation of the parents and the maturity of the family will significantly influence their behavior and the path they will follow in the future. When the child enters school, it is the teacher, through his pedagogical preparation and his knowledge of the characteristics of the student and his family, who becomes the student's guide, and it is important that during this process children should always be supported by their parents.

On the other hand, López and Siverio (2005) affirm that if the conditions in which children develop are favorable and stimulating, immediate effects are produced in their learning and development; on the contrary, if they develop in unfavorable or limited conditions, they will act negatively, damaging their development. The first educators of children are mothers and fathers. The learning space par excellence is the home. Educational institutions continue and strengthen with their specialized knowledge what the family has started and continues to do. In the school institution, children are on loan so that teachers can strengthen and enrich what they have already learned. (Reveco, 2000) . Therefore, it is vital that parents take an active role in the education of their children and work together with educational institutions and teachers, in order to achieve an integral formation of the students.

In Peru, early childhood care and education in the country has progressed a lot during the last decades. Positive aspects include the recognition of early childhood as a State priority and public policies in favor of children under 6 years of age in the country. (GRADE, 2016) .

In this context, the need arises to investigate which are the strategies, programs and research aimed at improving the participation of parents in the educational process of early childhood education students, based on child neurodevelopment, which allows us to consolidate the link between the school and family binomial, and achieve an improvement in the teaching and learning process of children in early childhood education.

Thus, we proceeded to the review of scientific production extracted from the databases, having preferentially considered the years 2016 to 2020; and considering the study variables child neurodevelopment and the participation of parents in the educational process; taking into account the publications in Spanish, English and Portuguese. In the same way, research works and theses existing in the repositories of the universities of Peru and the world have been taken into account, using for their search criteria similar to those indicated above, taking into account the variables under study.

The method used for the study was the descriptive analytical method, identifying and reviewing the information recorded in the database, by reading and identifying strategies used by various authors to improve the participation of parents in the educational process of early education students, as well as the importance of neurodevelopment in early education. At the same time, the deductive method was used, which is characterized by starting from the generality of the content of the article and arriving at the specific which was the relevant content to be taken into account in this research.

The results indicate that researchers show an interest in addressing issues referred to child neurodevelopment and parental involvement in the educational process of their

children. At this point, the findings found by Boonk et al. (2018) are relevant, their research discusses the advances made in the last decade, regarding parental involvement and its correlation with academic achievement. They divide their analysis into three sections based on age: early childhood education, elementary school, and middle school and beyond. Regarding indicators of parental involvement, the authors note:

Table 1. *Participation indicators*

PARENTAL DIMENSION	INVOLVEMENT	INDICATORS
<b>PARTICIPATION IN THE HOUSEHOLD:</b>	IN THE	<p>Educational expectations / aspirations</p> <p>Assessment of education/academic achievement</p> <p>Reading with children</p> <p>Educational trips (to the library or museum)</p> <p>Academic pressure / control</p> <p>Participation in learning activities at home.</p> <p>Assistance / homework help</p> <p>Discussions between parents and children about school experiences.</p> <p>Discussions between parents and children on course/program selection</p> <p>Parent-child discussions about post-secondary school plans.</p>

<b>PARTICIPATION IN THE SCHOOL:</b>	Parental support/encouragement in learning.
	Rules for setting TV/parental boundaries
	Attendance at Parent-Teacher Association (PTA) meetings
	Volunteering at school
	Visiting the classroom
	Attendance at school or class events.
	Participation in school functions (such as being a member of the PTA)
	Parent-teacher communication about academic performance.
	Communication between parents and teachers about problems or difficulties at school.

Table N° 01. Source: Boonk et al. (2018)

Gutiérrez & Ruiz (2018), demonstrate conclusively that the neurological development of children is mainly determined by the social context in which they develop. Their findings confirm that not only children's centers detonate neurological development; in addition, the social, economic and cultural context where the child develops provides and generates stimuli to favor such development. The results obtained show how the immediate context affects or favors the neurological development of children.

In the research by Sánchez et al. (2016) on the relationship between participation and the expectations of parents regarding their children's school education in the context of a public school in southern Chile, it is shown that both variables are key in the educational process of children, and there is also evidence of a direct relationship with learning

outcomes. Additionally, they state that there is a challenge to face the barriers that hinder parental participation at home, and that this difficulty can be addressed by designing spaces for participation that are compatible with parents' working hours. This finding is shared by Pereira (2019), who reports an imminent need to involve the family in school activities, to the extent that this relationship is strengthened the conditions are more favorable for the success of boys and girls in the educational process.

Razeto (2016) postulates the need to think about the creation of new strategies to achieve the participation of parents in the education of their children, through an analysis of the benefits and forms of parental involvement to promote a link between family and school using home visits as an instrument for collecting information. This research provides us with the need to carry out national empirical studies and to be able to use instruments such as home visits to justify the effectiveness in improving family-school partnership practices through the promotion of this technique and others. These results confirm the need to develop social cooperation between educational institutions in the process of preparing the child for school with the mandatory inclusion of the family as a social institution in this process. Social cooperation between preschool educational institutions, general schools and families in preparing the child for school.

For his part, Moreno (2018) highlights the importance of the availability of management, coordination and teachers to keep their knowledge updated about children and to value the role of parents in the child's education. He states that it is fundamental to ensure the participation of parents in the school, that teachers have the ability to talk, listen and learn with them, getting rid many times of the misconception that their professional knowledge overrides the knowledge of the family. In this way, it is hoped that together, school and family can join forces in defense of an education that respects the right of children to live their childhood with dignity, enjoying what is their right: family life and children's education.

On the other hand, Echeverría (2018) conducted a study that determines the relationship between permissive parents and school performance of regular basic education students, in which they conclude that the greater the behavior of permissive parents, the lower the school performance and vice versa, thus corroborating both the contributions of the theory on the subject and what has been found by other previous field studies, and revalidating the educational processes as the first positive or negative affecting school performance.

Authors López and Guaimaro (2016) conduct a qualitative research conducted in Caracas (Venezuela), where information is collected about how the family is a determining factor in child development both at home and in schools. The research is based on theories that describe how this development evolves, which begins in families. Thus, Bronfenbrenner's Ecological Theory of Development, the Attachment Theory developed by John Bowlby and Albert Bandura's Theory, show us the reality of families and the importance of the participation of parents in the educational process of their children so that they can have a greater and better learning. The contribution of this research regarding the role of parents in improving learning is that the performance of parents in the education of their children is unquestionable, recognizing the importance of parental participation in the educational process.

We know that the participation of parents through Parent Schools is of vital importance to improve the quality of education because it creates community and generates solidarity between families and the school. It serves as a space to share experiences and experiences to learn from them. It promotes the commitment of fathers to get involved in their children's lives. In this regard, the authors Guzmán et al. (2019) conclude that parents contribute to the integral growth of their children by providing the necessary environments conducive to quality learning.

This research was carried out on a thorough review of articles and books that analyze the scientific production on parent



participation, based on child neurodevelopment, in the various databases (materials and methods), it was found that the participation of parents in the educational process of their children, is a fundamental pillar to strengthen the family-school bond and improve the teaching and learning process of children. This leads us to understand that there is a direct relationship between the categories of analysis. It can be seen that the participation of parents has an efficient impact on the educational process of their children; they tend to be related to good performance in the teaching-learning process, experiencing improvements in the exchange of information (communication) as well as intervention in the activities (participation). In general terms, the authors consulted agree that the participation of parents, based on the understanding of child neurodevelopment, generates positive benefits in the educational process of their children and improves the teaching-learning process. It is advisable to continue with the review of this type of articles to increase and improve the participation of parents in the education of their children, being an active support for the improvement of learning. Thus, parental participation brings essential contributions to school development in addition to providing a favorable environment for child development.

In this work, it was identified that the participation of parents in the educational process of early childhood education students is fundamental to achieve educational objectives. Parents should not remain outside of their children's education; on the contrary, they should assume an active role that contributes to their personal and academic growth.

Parents are recognized as the first educators. During this first stage of life, children from zero to three years of age are exclusively in the care of the family. It is necessary for parents to take an interest in the care they should provide to their children, carrying out positive parenting practices, providing them with a healthy environment where the child feels safe and happy to belong.

The responsibility to educate is shared by the family and the

school. Education professionals and parents must cooperate with each other for a common goal, to provide the child with a suitable environment for learning to take place.

Likewise, we were able to identify that families that are more involved with the school and more committed to education have children with better academic performance than those families that are not. This confirms the importance of the family in the formation of children.

Likewise, it allowed us to identify that addressing this relationship between parental involvement and the improvement of their children's educational process could have positive results in improving the quality of children's and adolescents' learning.

In this sense, it can be inferred that it is necessary to develop strategies that allow the family to be actively involved in the educational process of their children, with the aim of strengthening social, educational and emotional ties.

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## **Reading comprehension in school performance in the area of mathematics at the secondary level**

**Sara Edith Castillo Olsson**

### **Introduction**

It is frequently observed that students have difficulty in analyzing, comparing, interpreting, evaluating or creating a reading; all this influences the level of reading comprehension of students, which is evident in their school performance. Although there are different factors that can influence school performance, such as inadequate study habits, lack of motivation, poor nutrition, family problems, among others, it is a priority in this research work the influence of the practice of reading comprehension on school performance in the area of mathematics of high school students, considering the importance of reading comprehension in the daily work of people.

For mathematics teachers, it is also important that their students achieve a competent level of reading comprehension, since if they do not understand what they read, it is difficult for them to develop the competencies and skills needed in the area of mathematics.

This research work aims to provide teachers with active - participatory strategies and methodologies for reading comprehension, where students can work in cooperative - collaborative teams, with materials that allow them to practice and develop their reading comprehension, in order to improve their school performance in the area of mathematics.

The results of the last census evaluations of students, ECE 2015, show that Peruvian students do not understand what they read, do not recognize the central theme of a text, have difficulty relating what they read to their life and work context, which affects their ability to solve problems, In consideration of the above, it was decided to turn this serious situation into an opportunity, that is what we try to do with

this research work, to take advantage of diverse texts in a timely manner to improve reading comprehension and thus raise school performance in the area of mathematics in secondary school students of I. E. No. 1212 "Grume".E. N° 1212 "Grumete Medina" - Ate and I.E. N° 1227 "Indira Gandhi" - Ate.

Our educational system has been in a national emergency for several decades, demanding better levels in the area of reading comprehension, despite the fact that since 2003 Supreme Decree N° 021-2003-ED was enacted, declaring the National Educational System in Emergency, which empowered the Ministry of Education to adopt measures for the development of a "National Educational Emergency Program", since that date, regulations were issued on the educational emergency that are still being developed today, around three strategic axes: reading comprehension, logical-mathematical reasoning and values formation. The reading plan was also implemented in regular basic education educational institutions in order to improve reading comprehension levels and access to other learning.

It is evident that the level of reading comprehension is a major problem in our country. Unfortunately, not all literate people develop optimal levels of reading comprehension, which is reflected in the difficulty of solving problems or making value judgments after reading certain information. It is a matter of concern that most students read very little or almost never, and when they do read, they do so with many difficulties and deficiencies in reading comprehension. That is to say, there is no reading habit in our students because they lack criteria, dedication and interest to read; which is expressed in a low reading comprehension that influences the low performance in the area of mathematics.

In our teaching experience we observed that many of the students of the I.E. N° 1212 "Grumete Medina" - Ate and I.E. N° 1227 "Indira Gandhi" - Ate, present difficulty in the comprehension and interpretation of the read text, not only in the area of mathematics but in the other areas of learning, affecting the teaching-learning process. How many and who

are the students who present problems in reading comprehension; how it influences school performance in the area of mathematics in secondary school students is our research work.

### **Reading comprehension and its importance**

Reading comprehension is a key competence in the performance of various school subjects and in the general academic development of students at all stages and even at the university level. Such is its importance that it is included in several international assessments, such as PISA (Programme for International Student Assessment), PIRLS (Progress in International Reading Literacy Study) or TERCE (Third Regional Comparative and Explanatory Study). Although the measurements are a sum of scores, when more detailed information is required from those being evaluated regarding possible deficiencies, cognitive diagnostic models are an alternative. (Cáceres and Alvarado, 2019).

Reading is an essential tool in the teaching-learning process, which should be encouraged at an early age, since it provides endless possibilities and skills to people who practice it, and through reading, vocabulary is enriched, spelling is optimized, knowledge is increased, inquiry is developed, memory is renewed, analysis and the ability to produce and interpret texts is improved. (Cudris, Barranco and Gutiérrez, 2020). Reading is a mechanism for learning, much of the academic material is disseminated through texts, for that reason, the school context encourages the development of this competence. From 4th grade onwards, children usually have a certain level of reading fluency and mental lexis; in addition, teachers use textbook reading as a natural means of learning (Vidal, 2010).

For Grabe (2009), reading is a complex and interdisciplinary cognitive activity that demands the activation of several processes, ranging from decoding to interpretation and inference, which interact in a complex manner. Its most immediate purpose is the comprehension of the text,



followed by the acquisition of school learning and the goal is to achieve academic success. Likewise, Solé, (2012) mentions that reading comprehension refers to the knowledge and autonomous management of cognitive and meta-cognitive strategies that make the processing of texts viable, taking into account the reader's objectives. (Gallego and Figueroa, 2020). For Muijselaar et al., (2017) Reading and comprehension are valuable tools that students require to perform and succeed at work, it allows them to gain knowledge about various content, optimize their reasoning and writing skills, boosts academic development and language fluency. (Simbolon, Marbun, & Simanjuntak, 2020).

Rodríguez, Herrada and Hernández, mention that it is essential to possess reading comprehension strategies at any educational level; the acquisition and good development of these strategies are basic aspects in training, with which to build a pedagogical knowledge of reading. (Rodríguez, Herrada & Hernández, 2019). The relationship between reading fluency and comprehension is also important, in addition to its components (accuracy, systematization and pronunciation). Reading accuracy, is the ability to recognize or decode correctly written words, is a requirement to be able to understand a text, otherwise, a different message from the one written by the author is accessed. Álvarez-Cañizo, Suárez-Coalla and Cuetos (2015) found that Spanish students with low performance in reading comprehension made more accuracy errors in low-frequency words. (Ferrada and Outón, 2017).

Jurado, Sánchez, Cerchiaro and Paba (2013) One of the main objectives of basic education is to achieve that schoolchildren obtain skills and strategies to be competent in reading and writing, however, studies on the subject show considerable difficulties of basic education students in learning the written language, considering the preponderance of traditional methods in their teaching, which has contributed to change the idea of what it means to read and write (Gallego, Figueroa and Rodríguez, 2019). However, it is observed that there is an absence of reading habits in schoolchildren, this problem

must be actively addressed, otherwise it leads to serious irreversible problems, such as the loss of reflective interpretation capabilities of the contents, lack of critical thinking and disinterest in scientific research. (Barzola, Bolívar and Navarrete, 2020).

According to the Ministry of Education of Peru (2015) reading comprehension is a gradual process that develops in a spiral; and is evidenced in the achievements of new skills and abilities, the levels of reading comprehension are: (1) Literality, in which the student picks up explicit forms and contents of the text, (2) Retention, is the ability to grasp and apprehend the contents of the text. (3) Organization, order and linkages that occur in the text. (4) Inference, discovering implicit aspects in the text, formulating hypotheses. (5) Interpretation, deduces conclusions, predicts results and consequences. (6) Criteria or valuation, formulates judgments based on experience and values. (7) Creation, expresses own ideas, integrating the ideas offered by the text to situations similar to reality.

### **School performance in the area of mathematics.**

The Ministry of Education, through PRONABEC, defines school performance as a measure of the level of knowledge that a student has acquired as a result of the education he/she has received, in this case, secondary education. In this process, the student acquires the basis on which the new knowledge to be acquired in higher education will be associated (p. 7). The academic performance of students can be influenced by different contextual factors, among them, the educational practice in the family environment, parental support with homework, learning at home and the particularities of the students such as their intellectual abilities. (Bazán, Castellanos and Fajardo, 2020).

According to the information reviewed, it can be deduced that school performance measures the knowledge acquired by the student during his school years; this is important since this knowledge will be applied in real situations, during his life, in an assertive manner.

The purpose of mathematics in the curriculum is to develop ways of acting and thinking mathematically in various situations that allow students to interpret and intervene in reality based on intuition, making assumptions, inferences, deductions, arguments, demonstrations, ways of communicating and other skills, as well as the development of methods and attitudes useful for ordering, quantifying, measuring facts and phenomena of reality, and consciously intervene in it.

According to the Ministry of Education of Peru (2015) the area of mathematics values that students apply their mathematical knowledge to solve problems related to their family and social environment, with a critical attitude; the mathematical competencies are: (1) Mathematize situations, is the ability to express a problem, recognized in a real situation, in a mathematical model. In its development, the mathematical model is used, interpreted and evaluated, according to the situation that gave rise to it. (2) Communicates and represents mathematical ideas, is the ability to infer and interpret data, evaluate the cognitive process for reasoning and demonstration, expressing them verbally and in writing; representing them with different educational materials. (3) Develops and uses strategies is the ability to organize strategies, analyze and interpret available data in an effective, assertive and relevant way to reach the resolution of the problem. (4) Reasons and argues generating mathematical ideas is the ability to make judgments, respect roles and interpret conditions through reasoning (deductive, inductive or abductive) to establish answers and new mathematical ideas.

This research is necessary because of the importance of reading comprehension for students in school performance in the area of mathematics, it also allows the innovation of teaching and learning processes for teacher performance in terms of resources to overcome the limitations and deficits in student learning, the development of the student's ability in the process of reading comprehension for school performance in the area of mathematics.

Reading comprehension is the consequence of the integration of the psychological processes immersed in reading: perceptive process, lexical process through two ways: lexical or visual route and phonological route, semantic process and syntactic process. Aspect whose importance resides in the person to learn to interpret information in exposed contents for induction or deduction of explanations or new knowledge. The importance of the evolution of this type of learning lies in the quality of the logic of thought that make possible the understanding and comprehension whose direction is the organization and hierarchization of such knowledge.

In the process of mathematical knowledge, the abstraction of reality in the possibility of being quantified comes from these capacities in the integration of the same processes, an aspect that becomes more relevant when the problems in mathematics demand the fulfillment of the functions of equalization, comparison or differentiation. The sense of mathematization of reality is stimulated and developed to the extent that better abstraction is based on this type of notions.

The research used the quasi-experimental method, and the design of the pilot test and the test "Reading comprehension and mathematics" with a control group and an experimental group, and was complemented with the validation survey of the test by teachers with a Doctorate degree in Education. The pre-test - post-test and control group model was used, where each group was previously formed. The population is made up of secondary level students of the following educational institutions: N° 1212 "Grumete Medina" with a total of 240 students and I.E. N° 1227 "Indira Ghandi" of UGEL N°06 - Ate with a total of 500, totaling 740 students in both institutions, we worked with a non-probabilistic intentional sample, being the students of the second grade of secondary school made up of 64 students of sections A and B of both institutions. The technique was evaluative, for the Experimental Group it was the Reading Comprehension Module, made up of 12 sessions, the entrance test and the exit test. For the Control Group, the entrance test and the exit test.

Frequency and percentage tables and comparative bar graphs were used, which were processed using the SPSS Version 23 statistical package for Social Sciences. For the reliability of the instrument, the Kuder-Richardson scale (KR-20) was used because it is a dichotomous scale. For the normality test, Kolmogorov-Smirnov was used because the sample was larger than 50. For the hypothesis test, the Mann-Whitney U test was used.

According to the results obtained, Table 1 and Figure 1 show that in the pretest with respect to the control group, 87.5% of those evaluated were at the beginning level of school performance in the area of mathematics, while in the experimental group, 9.4% were at the same level. In the posttest, it was observed that in the beginning level of school performance, 90.6% of the students in the control group did not reach this level, while in the experimental group, 40.6% were at the level of outstanding achievement.

**Table 1:**

*School performance in the area of mathematics*

	GC Pre test		GC Post test		GE Pre test		GE Post test	
	f	h	f	H	f	h	f	h
<b>At startup</b>		87,5%		6,3%		90,6%	0	0,0%
<b>In process</b>		9,4%		90,6		6,3%	0	0,0%
<b>Expected accomplishment</b>	1	3,1%	1	3,1	1	3,1%		59,4%
<b>Outstanding</b>	0	0,0	0	0,0%	0	0,0%		40,6%

## achievement

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<b>Total</b>	100,0%	100,0%	100,0%	100,0%
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Source: Own elaboration

### **Table 2.**

#### *Normality test*

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Kolmogorov - Smirnova			
	Statistician	gl	Sig.
Pretest	,162		,000
Posttest	,282		,000

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Source: Own elaboration

Given that the value of  $\alpha$  is greater than that of  $\alpha$  in the pre-test, we can accept that there were no initial differences between both groups; while in the post-test we accept the statistical significance, rejecting the  $H_0$  and accepting  $H_a$  that the C.L. module significantly influences the academic performance in the area of mathematics in the secondary level students of I.E. N° 1212 "Grumete Medina"-Ate, and I.E. "Indira Gandhi"-Ate.

**Table 3.**

*Ranks, Mann Whitney U, bilateral significance in the Experimental group and Control group in mathematics school performance.*

**Ranges**

	Group	N	Average range	Sum ranks	dMann-Whitney U	Sig. asymptot. (bilateral)
	Control		33,78	1081,00		
Pre test	Experimental		31,22	999,00	471,000	3,500
	Total					
	Control		16,61	531,50		
Post test	experimental		48,39	1548,50	,573	,000
	Total					

a. Grouping variable: grou

**Statistical decision:**

After the analysis and interpretation of the results, affinity is found with the following studies. The statistical analysis of the experimental group, in the post-test evaluation of the application of the reading comprehension module (C. L.), obtains the value of  $p = .000$ ; given that this value is less than the expected critical value  $\alpha = .05$ , it is decided to approve the alternative hypothesis that says: The reading comprehension module (C. L.), significantly influences school performance in mathematics in secondary level

students of the Educational Institution N° 1212 "Grumete Medina" - Ate.

The statistical analysis of the experimental group, in the post-test evaluation of the application of the reading comprehension module (C. L.), obtains the value of  $p = .001$ ; given that this value is less than the expected critical value  $\alpha = .05$ , it is decided to approve the alternative hypothesis that says: The C.L. module has a significant influence on the school performance in mathematics, in the ability to mathematize situations, of the students of the second year of the secondary level of the Educational Institution N° 1212 "Grumete Medina"- Ate.

The statistical analysis of the experimental group, in the post-test evaluation of the application of the reading comprehension module (C. L.), obtains the value of  $p = .001$ ; given that this value is less than the expected critical value  $\alpha = .05$ , it is decided to approve the alternative hypothesis that says: The C.L. module has a significant influence on the school performance in mathematics, in the ability Communicates and represents mathematical ideas, of the students of the second year of secondary level of the Educational Institution N° 1212 "Grumete Medina"- Ate.

The C.L. module significantly influences school performance in the area of mathematics in secondary school students of I.E. N° 1212 "Grumete Medina"- Ate, and I.E. N° 1227 "Indira Gandhi"- Ate, with a value of  $p=0.000 < 0.05$ . In addition, this is evidenced in the post-test of the experimental group, where 40.6% of students are in the outstanding achievement level, while 59.4% are in the expected achievement level, with no student in the levels in process and beginning.

It is recommended to replicate the study as an experience in the classrooms of the different years of secondary education to improve performance in the area of mathematics, to continue with the application of the C.L. Module to maintain and continue raising the school performance of students, so that everyone learns and no one is left behind.



It is concluded that the C.L. module has a significant influence on school performance in mathematics in the ability to mathematize situations, with a value of  $p= 0.001 < 0.05$ . It is important to reinforce the strategy of reading comprehension workshops aimed at integrating the knowledge of reality through the mathematization of situations as an important factor in the understanding of problem solving in mathematics approaching the reality of the educational context of secondary school students.

It was concluded that the C.L. module has a significant influence on school performance in mathematics in the ability Communicates and represents mathematical ideas, since a value of  $p= 0.000 < 0.05$  was found. Considering the importance of the formation of language codes related to the expression of mathematical ideas and their communication, it is necessary to improve the practice in the formation of the statements of analysis and problem posing in mathematics according to the student's experience in order to apply logical identities in their reasoning.

It was concluded that the C.L. module has a significant influence on school mathematics performance in the ability Elaborate and use strategies, with a value of  $p= 0.01 < 0.05$ . The active methodology of these times leads to learning in the elaboration and use of strategies in high school students to understand the abstraction of mathematics to solve problems of daily life as examples of their own learning.

It was concluded that the C.L. module has a significant influence on school performance in mathematics in the ability Reasons and argues by generating mathematical ideas. A value of  $p= 0.009 < 0.05$  was found. To allow the development of the student's mathematical reasoning ability through the experience of constructing arguments with mathematical ideas about the knowledge of their reality and the identification of the problems of their coexistence in their environment.

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## **Organizational culture and work motivation in the collaborators of the Strategic Crime Prevention Program of the Public Prosecutor's Office.**

**José Antonio La Cotera Vega**

### **Introduction**

The Public Prosecutor's Office had as its Institutional Policy the Prosecution of Crime through the proactive action of the Prosecutors, a new dimension had been given to the intervention of the defenders of the Law, taking a fundamentally prosecutorial action of the infractions to the criminal law, in order to attack the causal factors of the crime, with lines of direct action that acted with their own methodologies and strategies of intervention.

In this context, after the lessons learned between 2008 and 2016, it was deemed appropriate to place greater emphasis on preventive rather than prosecutorial action, with targeting criteria, methodologies and intervention strategies articulated at the family, school and community levels, with a results-based budgeting approach; Thus was born the Strategic Crime Prevention Program, a line of work at the national level, which confronts crime, not only with the investigation and requirement of criminal punishment, but also with the need to identify and minimize the causes of its perpetration, from crime prevention through direct lines of action: days of approach to the population, parents building successful children, young leaders, school prosecutors and restorative juvenile justice, having as a common objective to bring the institution closer to the population, especially parents, adolescents and young people in the areas most vulnerable to crime, to sensitize and engage them in the prevention of violence and crime, in a scenario of collaboration between prosecutors, citizens and the State as a whole. (Public Prosecutor's Office, 2016).

In order for prevention actions to have a greater meaning and social impact at the end of the Program, the staff must be sufficiently sensitized, committed to society, willing to offer their best skills and have a spirit of achievement that makes them go beyond their responsibilities to achieve a common goal: to contribute to the construction and strengthening of a culture of peace with a human face. For these reasons, the personnel involved in the Strategic Crime Prevention Program must have an organizational culture centered on positive values in order to fulfill the mission of the Public Prosecutor's Office; likewise, they must be aware of the need to undertake sustained processes of change in order to make the best use of their work competencies in the management of the program, which will lead to doubling their energies to provide an effective and efficient public service that transcends in the society of technology, information and knowledge.

In this perspective, pertinent and timely actions were taken in the scenarios where violence and conflicts with the criminal law are generated, allowing us to have a more focused look at the family, because it is the basic cell of the social fabric that allows us to proactively and decisively face the social conflicts that take hold and empower the streets and society.

Employees of the Public Prosecutor's Office, especially those linked to the Strategic Crime Prevention Programs, have a professional profile that allows them to develop competencies of high awareness and social commitment, without undermining their responsibilities in their family environment; for these reasons, it is important that the factors involved in the organizational culture and motivational aspects are not affected in the development of their personal competencies; It therefore requires a professional profile that includes work competencies of integrity, responsibility, social commitment, openness to change, a sense of opportunity, tolerance, flexibility, and the capacity for transcendence to go beyond the call of duty, and that allows them to contribute in a sustained manner to the development of a culture of peace and social harmony.

For this reason, it was important to carry out a diagnosis of the organizational culture and its relationship with work motivation among the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office in Metropolitan Lima and Callao, because these public servants are the driving forces that act in the areas most vulnerable to violations of criminal law and whose inhabitants have a high crime rate that is increasing and diversifying among the most unprotected populations: adolescents and young people, creating a complex social conflict whose spiral of violence advances stealthily becoming a State problem, which in the absence of clear public policies do not transcend socially affecting the organized life of the State and the Nation, compromising its present and its future.

### **Organizational Culture**

Currently, organizational culture faces challenges that come from technological advancement, globalization, politics and economics, which are constantly renewed, however culture is a key element, an integrating mechanism within the organization, which provides security and stability in a world difficult to forecast, culture is an important asset in organizations because it conveys identity, facilitates commitment and understanding of members by providing accepted premises and assumptions when making decisions. (Ibarra-Michel et al, 2019)

Organizational culture is the visible behavior of a collectivity or organization that comes from shared values, beliefs and thinking, these values and behaviors shape the physiological and sociological environment of an organization in a unique way and have a strong influence on decision making. It is also a variable that favors the good performance of the business, because it promotes the capabilities of the collaborators and favors personal development. (Marulanda, López and López, 2016). Arciniega, mentions that the problems of collaborators in different organizations affect the organizational climate and culture, mental workload, psychosocial factors, etc., which influence productivity. Therefore, it is necessary to take into account the social

practices of the actors, the construction of workers' experiences, conditions of the workplace, such as the climate and culture of the organization, interpersonal relationships, types of work management, forms of management, work styles and workers' attitudes. (2013)

Organizational scholars recognized that these facts or phenomena played an important role on the culture in the lives of the members of an institution or organization, it could be identified that the origin of culture as an independent variable that influences the attitudes and behaviors of workers, could be visualized in the last 50 years, until the concept of institutionalization appeared. When an organization was institutionalized, it acquired a life of its own, separate from its founders or any of its members, and it was also valued by itself, acquiring immortality.

Organizational culture has been converted into an instrument to create diverse marketing strategies, which offer immediate solutions to the problems that afflict today's organizations; this has created confusion and distortion at the moment of defining organizational culture. Studies on organizational culture have accelerated since the 1980s, with the most widely accepted argument being that this intensity has been brought about by the decline in U.S. productivity and the increased competitiveness of the Japanese. An organization is not only reduced to a set of people identified with goals and strategies involving a structure and a division of labor, but as structured spaces that regulate the relationships between social agents, affecting their limits and possibilities of action. Therefore, organizations, companies and institutions are a social construction resulting from conflicts and solutions produced by itself, and not only from problems related to the surrounding environment (Ibarra, 2006, p. 229).

Culture is a fundamental concept for the existence of organizations, it is part of the day to day life of the companies, of the way of proceeding and working of the employees. Several studies show that culture is a critical component that leads a company to be innovative or

paralyze, depending on the cultural aspects of an organization and that promote prosperous environments or, on the contrary, difficulties in the changes to face new challenges, markets, customers, products and innovative processes. Hence the importance of conducting this type of research, which allows to explore theoretically and empirically, the necessary conditions of organizational culture to achieve innovative results and be more competitive. (Rueda-Barrios et al, 2018)

### **Work motivation**

Motivation since ancient times has been considered of great interest and importance for several scholars, the first attempts to explain about human motivation were the Greek thinkers. Epicurus with the theory that people are motivated to seek pleasure and avoid pain, as well as Socrates tried to find the reason for the pursuit of happiness, but Aristotle based on observation determined that some human behaviors were related to feelings of love that govern behavior (Manjarrez, Boza and Mendoza, 2020).

In recent years, there has been a growing interest in organizations to focus on improving the working conditions of their employees, however, it has not yet been considered that in addition to remuneration, it is important to pay attention to incentives, recognition, teamwork, interpersonal relationships. (Manjarrez, Boza and Mendoza, 2020). In order for employees to feel motivated, there must also be an appropriate work environment that generates confidence when performing their work, which is an environment suitable for doing a good job, oriented to their well-being and safety. (Bohórquez et al, 2020).

Work motivation is an intrinsic state that pushes and directs our thoughts and is related to all those factors capable of provoking, maintaining and directing behavior towards a goal, those behaviors vary in the degree of activation or intensity of the behavior. (Marin and Placencia, 2017). Focusing on the structure of behavior, workers contribute motivated by their own interests and try to impose it to the



organization, however, collaborators are an essential element for the progress of institutions, if the management makes a correct administration of resources can promote the achievement of personal and institutional goals translated into a good performance of workers (Marin and Placencia, 2017). Motivation becomes a relevant factor in the performance of the collaborators of the companies, since it plays an essential role for the success of the organization (Bohórquez et al, 2020), therefore it is also important to analyze the motivational aspects and how they intervene in the behavior of the collaborators in the work environment and to detail those elements such as the lack of organizational values that influence the interpersonal relationships, feelings and commitment that the collaborators of the company possess. (Guevara and Godoy, 2018).

Knowing the culture of the organization is relevant in the behavior of the personnel working in the Strategic Crime Prevention Program of the Public Prosecutor's Office - Prosecutor's Office of the Nation, in the Prosecutorial Districts of Metropolitan Lima and Callao, in the search to achieve greater effectiveness, efficiency and innovation. The description of the organizational culture is an important input to design coherent and feasible strategies to be implemented within the organizational change processes. Likewise, a high level of job satisfaction is related to a better organizational environment, less work stress, less role conflicts, greater organizational and professional commitment, along with a better work-life balance. (Alarcón et al, 2020).

The approach taken shows the importance of this study, because it is intended to awaken a deep reflection of the representative authorities of the institution, to consider the organizational culture as a determining factor in the administrative effectiveness and efficiency; also taking into account that the behavior of the group is conditioned by the perception it has in the organization, so that the organizational culture should be developed to achieve a balance between the reference groups and logically improve

performance and work motivation.

In this research it has been possible to determine the relationship between organizational culture and work motivation, which was decisive in demonstrating that the staff of the Strategic Crime Prevention Program develops its activities closely related to the dimensions of involvement, consistency, adaptability and mission of the organizational culture, given that their work motivation influences to generate in them a social commitment or vocation of service, which contributes to crime prevention actions and the reduction of criminal law infractions in the beneficiary population, where the public servant plays a preponderant role in the creation of a culture of social peace.

This research was basic and quantitative, descriptive, correlational, under a non-experimental cross-sectional design, with a positivist approach using the hypothetical deductive method, the study population comprised the staff of the Strategic Crime Prevention Program, being 41 the study subjects and 37 the sample. The technique used in the research for data collection was the survey, the data were obtained from the sample of 37 servers of the Strategic Crime Prevention Program, which were randomly selected. The instruments used for data collection were: 1) Denison Organizational Culture Survey Questionnaire adapted by José La Cotera. 2) R-Maws work motivation scale adapted by José La Cotera year: 2017. The data were tabulated and presented in tables and figures according to the variables and dimensions, and the Spearman correlation coefficient test was used for hypothesis testing, by means of which the hypotheses were contrasted and conclusions were drawn.

It was determined that there is a relationship between organizational culture and work motivation in the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office in Metropolitan Lima and Callao; this allowed validating the antecedent Organizational culture and its relationship with productivity in a financial institution in Mexico City, where it was concluded that organizational culture had a very significant relationship with productivity

and where motivation was immersed. Organizational culture is related to other variables that act in a complementary manner, such as work motivation, work wellbeing, leadership and productivity, among others. This was validated by means of the antecedent Incidence of organizational culture on the labor welfare of public servants in an educational institution in Valle del Cauca, where the greater the organizational culture, the greater the labor welfare.

In addition, it was determined that there is a relationship between the dimension of organizational culture involvement and work motivation in the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office in Metropolitan Lima and Callao, which allowed validating the antecedent: Organizational culture and its relationship with productivity in a financial institution in Mexico City, in which it was concluded that the dimension "involvement of organizational culture" had a very significant relationship with productivity, in which work motivation was immersed. The organizational culture involvement dimension is related to other variables that act in a complementary manner, such as work motivation, work wellbeing, leadership and productivity, among others. The greater the organizational culture involvement, the greater the work motivation.

After the study, it was determined that there is a relationship between the consistency dimension of organizational culture and the work motivation variable in the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office in Metropolitan Lima and Callao, which allowed validating the antecedent: Organizational culture and its relationship with productivity in a financial institution in Mexico City, in which it was concluded that the consistency dimension of organizational culture has a very significant relationship with productivity, in which labor motivation was immersed. The consistency dimension of organizational culture is related to other variables that act in a complementary manner, such as work motivation, work wellbeing, leadership and productivity, among others. The greater the consistency of the organizational culture, the greater the work motivation.

It was also determined that there is a relationship between the adaptability dimension of organizational culture and the work motivation variable in the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office in Metropolitan Lima and Callao, which allowed validating the antecedent: Organizational culture and its relationship with productivity in a financial institution in Mexico City, in which it was concluded that the adaptability dimension of organizational culture has an average relationship with productivity, in which work motivation was immersed. Organizational culture is related to other variables that act in a complementary manner, such as work motivation, work wellbeing, leadership and productivity, among others. The greater the adaptability of the organizational culture, the greater the work motivation.

Finally, it was determined that there is a relationship between the mission dimension of organizational culture and the work motivation variable in the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office in Metropolitan Lima and Callao, which validated the antecedent: Organizational culture and its relationship with productivity in a financial institution in Mexico City, in which it was concluded that the mission of the organizational culture has a very significant relationship with productivity, where work motivation was immersed. Organizational culture is related to other variables that act in a complementary manner, such as work motivation, work wellbeing, leadership and productivity, among others. The higher the organizational culture mission, the higher the work motivation. Organizational culture has a significant relationship with work motivation in the staff of the Strategic Crime Prevention Program of the Public Prosecutor's Office (PPED) in Metropolitan Lima and Callao, the correlation value of Spearman's Rho was 0.891\*\* is very high correlation, so also the involvement of organizational culture has a significant relationship with work motivation in the staff of the PPED of the Public Prosecutor's Office in Metropolitan Lima and Callao; interpreting the value of 0.818\*\* is very high correlation. For the consistency of organizational culture has a significant relationship with work motivation in

the staff of the PPED of the Public Ministry in Metropolitan Lima and Callao, the value of 0.913\*\* is very high correlation, also the adaptability of organizational culture has a significant relationship with work motivation in the staff of the PPED of the Public Ministry in Metropolitan Lima and Callao the correlation coefficient Spearman's Rho was 0,891\*\* is of very high correlation and finally the mission of the organizational culture has a significant relationship with work motivation in PPED personnel, the correlation coefficient Spearman's Rho correlation was 0.690\*\* is of high correlation.

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## **Relationship Marketing and Customer Acquisition at DBROT GRANDA, Lima, 2020**

**Cárdenas Saavedra Abraham**

### **Introduction**

Companies opt for relationship marketing, since it allows them to get to know their customers and thus strengthen long-term ties, which will ensure the company's profit. It is for this reason that providing constant online communication has become a necessity to be competent in the middle of the red ocean, with which it is achieved that those who are customers acquire complementary services and/or products, which will generate an increase in profitability for the company and on the other hand will achieve the attraction of new customers. Villacis et al. (2021) show us in their article that business associations through the model of the M.R. facilitate a reciprocity of knowledge, information and innovation. Their main point was to determine the fields of application of innovation found in the scientific literature on RM. For this purpose, they carried out a systematic study of literature in the Web of Science database of 167 articles, in which the total number of articles taken as a reference was 50, which were subjected to a network study with the support of Bibexcel and Pajek software. Concluding through the results obtained, 3 clusters were suggested, which were virtual environments, collaborative work and product development. Holt et al. (2004) constructed a sales plan to improve customer acquisition for the Mía store in the city of Santo Domingo. The research work had an inductive-deductive method, with a qualitative and quantitative approach. In conclusion, it induces s a study of a sales plan favors the Commercial Mía to take care of orderly and to strengthen and develop growth. Friberg & Sanctuary (2021) sought to highlight relationship marketing for its great importance and contribution to the modern business environment. In conclusion, this discipline opens the door to the unknown world of our consciousness, providing unique and accurate customer feedback on the effectiveness and efficiency of marketing communication.

Alden et al. (2013) showed the most important aspects of on-demand work as a new organizational model in Latin America and the use of digital marketing, generating inferences about its incidence factors, benefits and an overview of this style worldwide. Surveys were carried out, with a type of field and documentary research; analyzing the data obtained through statistics. The results were very significant, showing the trend towards a work without schedules is increasing, the home is preferred, the control of their own time and with particularities defined on the types of work performed by the Guayaquilians, to whom they would provide their services, their forms of payment and the conditions for which they choose freelance work, it is a new challenge a new paradigm for the way of working in the world.

The current research establishes the relationship between relationship marketing and customer acquisition in D'BROT GRANDA E.I.R.L. The general problem is: What is the relationship between relationship marketing and customer acquisition in D'BROT GRANDA E.I.R.L., Lima, 2020? The study has a theoretical justification, which has allowed the analysis of theories and definitions of certain authors for each variable, which generated reflection on the subject providing knowledge about relationship marketing and customer acquisition that will be useful for further research. Regarding the methodological justification, the research was based on the correlational level, which has as its final objective to establish the effective relationship of the variables investigated, for this purpose, the material for obtaining and measuring the variables: Relationship Marketing and Customer Acquisition was elaborated with the purpose of measuring the concordance. The questionnaire was evaluated and approved by specialists of the Administration career and then processed in the statistical software SPSS, in order to measure the reliability of the result. And considering the practical justification, the purpose of the researched study is to identify the problems that occur in the company, thus contributing to the research by providing solutions and thus attract more customers, whose purpose is to direct the company to obtain a



continuous improvement, participation, long-term positioning in the market.

### **Characterization of the levels of Relationship Marketing**

The study was carried out in Lima, Peru, at D'Brot Granda E.I.R.L., a technology company.

It is taken into account as a theory related to Relationship Marketing, the theory of Marketing Evolution of Gummerus et al. (2017) who indicates that the origins of marketing are given in ancient times, when, worldwide, men began to practice barter among themselves. Some became retailers, wholesalers and peddlers. But large-scale trade began to take shape in Europe and the United States during the Industrial Revolution in the late 1800s. As a consequence of the development of commerce in the United States and Europe, commerce in Latin America also had to develop. Since then, world marketing has gone through five successive stages of development: Production Orientation, Finance Orientation, Sales Orientation, Marketing Orientation and Human Concept Orientation. In the conceptual part, Fidel et al. (2016) indicate that it focuses on creating relationship, as well as maintaining and further strengthening business-to-customer relationships, in order to find the maximum benefit for the customer. In addition, it also seeks to pursue the attraction of new customers, locate and differentiate them by type of market and finally to build customer loyalty. Battor (2010) It is marketing in which customers' desires are identified and satisfied through the creation of lasting personal ties over time, thus generating a common benefit for both parties and in a profitable way.

On the other hand, the relationship marketing variable presents the following dimensions: Actions towards the customer, for Chang & Lee (2008) defines actions towards the customer as commercial groupings focused on a process that extends in stages, where the objective is to motivate customers to make the purchase of the product or service offered by an organization. At the same time, the

organization is in charge of verifying and conducting market research to identify its current and potential customers. The second dimension is Customer service, Colorado (2020) defines it as the service provided by all companies (as well as those that offer a service or product) to their customers when they need to: express complaints or request suggestions, communicate their concerns or uncertainties about the product or service requested, request more information, make use of the technical service and reservations of the service or product. The third dimension Relationship channels where Kim et al. (2016) tells us that these channels are stable of a communication barter and adding a value, with the sole purpose of generating an environment of trust, equality and contribution of competitive advantages that makes it impossible to run away with other competencies. In addition, they also indicate that they have as a fundamental point the demonstration, sale or marketing and delivery of services or products to end buyers, distributors are identified, as well as wholesalers and retailers. Continuing with the theory of customer acquisition, we have the theory of 4 P's of the marketing mix of Hernandez et al. (2021) in his theory indicates that the main four points of the marketing process where they are to understand the market determinedly, know the needs and desires of consumers, make a strategic marketing plan focused on customers where superior value is delivered and at the same time create profitable relationships. That is why with the help of these four fundamental points, the most important thing is to attract customers and build useful relationships with them.

In the conceptual position for Angamarca et al. (2020), it indicates that it consists of getting customers or buyers to come to the commercial place and make their first purchase, providing them with promotions or discounts on the products or services being offered, for example. On the other hand, the variable customer acquisition has the following dimensions: Customer relationship where Moreno et al. (2020) Process or procedure of establishing and above all sustaining profitable relationships or connection with them at the moment of granting more value and a high level of satisfaction. This is related to the diversity of forces related

to gaining and capturing customers, mastering their commitment and conceiving growth as a whole. As a second dimension Customer engagement where Nguyen (2020) defines customer engagement as the creation of a deeper and more meaningful connection between the company and the customer, extending over the long term. It consists of creating relationships with the customer that generate bonds and loyalty. And as a third dimension, customer value, where Balabanis & Diamantopoulos (2008) mention that by determining the value of the customer, the company is able to make the distribution of its investments and resources in order to concentrate on the most profitable customers, with the aim of achieving their loyalty and at the same time increase the value of the others.

To know the levels of the variables and the inferential statistics for hypothesis testing. Then we proceeded to analyze the data collected by means of SPSS 26 software, the following results were obtained for the variable Relationship Marketing:

Table 1: Levels of the Relationship Marketing variable

Levels	Frequency	Percentage
Deficient		20.0
Regular		28.0
Good		34.0
Optimum		18.0
Total		100.0

Source: Data obtained by survey

Table 1 shows that the variable Relationship Marketing, according to the survey, the deficient level reached 20.0%, the regular level reached 28.0%, the good level reached 34.0% and the optimum level reached 18.0% in the company D'Brot Granda E.I. R.L, Lima, 2020. The following results were also obtained for the dimension Actions towards the client:

Table 2: Levels of the dimension Actions towards the client

Levels	Frequency	Percentage
Deficient		16.0
Regular		34.0
Good		34.0
Optimum		16.0
Total		

Source: Data obtained by survey

It is observed that, in Table 2, the dimension Actions towards the client, according to the survey, the deficient level reached 16.0%, the regular level reached 34.0%, the good level reached 34.0% and the optimum level reached 16.0% in the company D'Brot Granda E.I. R.L, Lima, 2020. The following results were also obtained for the dimension Customer Service:

Table 3: Levels of the Customer Service Dimension

Levels	Frequency	Percentage
Deficient		20.0
Regular		24.0
Good		34.0
Optimum		22.0
Total		

Source: Data obtained by survey

Table 3 shows that, in the dimension Actions towards the client, according to the survey, the deficient level reached 20.0%, the regular level reached 24.0%, the good level reached 34.0% and the optimum level reached 22.0% in the company D'Brot Granda E.I. R.L, Lima, 2020. Likewise, the following results were obtained for the dimension Relationship Channels:

Table 4: Levels of the Relationship Channels dimension

Levels	Frequency	Percentage
Deficient		16.0
Regular		24.0
Good		48.0
Optimum		12.0
Total		

Source: Data obtained by survey

Table 4 shows that, in the dimension Relationship Channels, according to the survey, the deficient level reached 16.0%, the regular level reached 24.0%, the good level reached 48.0% and the optimum level reached 12.0% in the company D'Brot Granda E.I. R.L, Lima, 2020. The following results were also obtained for the variable Customer acquisition:

Table 5: Levels of the variable Customer acquisition

Levels	Frequency	Percentage
Deficient		20.0
Regular		24.0
Good		42.0
Optimum		14.0
Total		100.0

Source: Data obtained by survey

Table 5 shows that, according to the survey, the variable Customer attraction reached 20.0%, the average level reached 24.0%, the good level reached 42.0% and the optimum level reached 14.0% in the company D'Brot Granda E.I. R.L, Lima, 2020:

Table 6: Levels of the Customer Relationship dimension

Levels	Frequency	Percentage
Deficient		24.0
Regular		16.0
Good		46.0
Optimum		14.0
Total		100.0

Source: Data obtained by survey

Table 6 shows that, according to the survey, the poor level of the customer relationship dimension reached 24.0%, the fair level reached 16.0%, the good level reached 46.0% and the optimum level reached 14.0% in the company D'Brot Granda E.I. R.L, Lima, 2020:

Table 7: Levels of the Quality of Service dimension

Levels	Frequency	Percentage
Deficient		22.0
Regular		30.0
Good		32.0
Optimum		16.0
Total		100.0

Source: Data obtained by survey

Table 7 shows that in the service quality dimension, according to the survey, the deficient level reached 22.0%, the regular level reached 30.0%, the good level reached 32.0% and the optimum level reached 16.0% in the company D'Brot Granda E.I. R.L, Lima, 2020. Likewise, the following results were obtained for the Customer Value dimension:



Table 8: Levels of the Customer Value dimension

Levels	Frequency	Percentage
Deficient		24.0
Regular		16.0
Good		38.0
Optimum		22.0
Total		100.0

Source: Data obtained by survey

It is observed that, in Table 8, the dimension Customer Value, according to the survey, the deficient level reached 24.0%, the regular level reached 16.0%, the good level reached 38.0% and the optimum level reached 22.0% in the company D'Brot Granda E.I.R.L, Lima, 2020.

### **Contribution of Relationship Marketing to Customer Acquisition**

To identify differences and/or similarities between Relationship Marketing and Customer Acquisition, hypothesis testing was performed using Spearman's Rho.

Table 9: Correlation of the Relationship Marketing variable and the Customer acquisition variable.

			Marketing Relacional	Captación de cliente
Rho de Spearman	Marketing Relacional	Coefficiente de correlación	1,000	,623**
		Sig. (bilateral)	.	,000
		N	50	50
	Captación de cliente	Coefficiente de correlación	,623**	1,000
		Sig. (bilateral)	,000	.
		N	50	50

\*\* La correlación es significativa en el nivel 0,01 (bilateral).

Fuente: Programa IBM. Statistical Package for the Social Sciences 26 (SPSS-26)

Table 9 shows the degree of correlation between the variables Relationship Marketing and Customer Acquisition in the company D'Brot Granda E.I.R.L., Lima, 2020. Spearman's Rho of 0.623 was determined, evidence that there is a high positive correlation between these variables, with a significance level of  $p < 0.01$ , which rejects the null hypothesis and accepts the alternative hypothesis. It is concluded that there is a high and significant correlation between the variables.

Table 10: Correlation of the variable Relationship marketing and the dimension Customer prospecting

			Marketing Relacional	Relación con el cliente
Rho de Spearman	Marketing Relacional	Coefficiente de correlación	1,000	,353**
		Sig. (bilateral)	.	,002
		N	50	50
	Relación con el cliente	Coefficiente de correlación	,353**	1,000
		Sig. (bilateral)	,012	.
		N	50	50

\*\* La correlación es significativa en el nivel 0,01 (bilateral).

Fuente: Programa IBM. Statistical Package for the Social Sciences 26 (SPSS-26)

From Table 10, the results of Spearman's Rho statistic indicated that the correlation coefficient (0.353) of the Relationship Marketing variable and the customer relationship dimension, according to the significance table was moderate positive and significant ( $0.000 < 0.05$ ); therefore, the null hypothesis is rejected and the alternate hypothesis is accepted.

Table 11: Correlation of the variable Relationship Marketing and the dimension Quality of service D'Brot Granda E.I.R.L, Lima, 2020

			Marketing Relacional	Calidad de servicio
Rho de Spearman	Marketing Relacional	Coefficiente de correlación	1,000	,545**
		Sig. (bilateral)	.	,000
		N	50	50
	Calidad de servi- cio	Coefficiente de correlación	,545**	1,000
		Sig. (bilateral)	,000	.
		N	50	50

\*\* La correlación es significativa en el nivel 0,01 (bilateral).

Fuente: Programa IBM. Statistical Package for the Social Sciences 26 (SPSS-26)

From Table 11, the results of Spearman's Rho statistic indicated that the correlation coefficient (0.709) of my variable Relationship Marketing and the dimension Customer Identification, according to the significance table was very high positive and is significant ( $0.000 < 0.05$ ); therefore, the null hypothesis is rejected and the alternate hypothesis is accepted.

Table 12: Correlation of the Relationship Marketing variable and the Customer Value dimension.

			Marketing Relacional	Valor de los clientes
Rho de Spearman	Marketing Relacional	Coefficiente de correlación	1,000	,600**
		Sig. (bilateral)	.	,000
		N	50	50
	Valor de los clien- tes	Coefficiente de correlación	,600**	1,000
		Sig. (bilateral)	,000	.
		N	50	50

\*\* . La correlación es significativa en el nivel 0,01 (bilateral).

Fuente: Programa IBM. Statistical Package for the Social Sciences 26 (SPSS-26)

From Table 12, the results of Spearman's Rho statistic indicated that the correlation coefficient (0.289) of my variable Relationship Marketing and the Customers dimension, according to the significance table was positive moderate and significant ( $0.000 < 0.05$ ); therefore, the null hypothesis is rejected and the alternate hypothesis is accepted.

It was sought to know if Relationship Marketing has a relationship with the attraction of customers of the company D'Brot Granda E.I.R.L, since it sought to enhance sales and loyalty of existing customers. From the background, similarity was found with Fidel et al. (2016) whose objective was to establish the relationship between relationship marketing and the attraction of new customers, which presented an important similarity pointing out that there is a positive relationship between both variables. Discussion by methodology The level used for the research was descriptive-correlational, non-experimental-transversal design. It was similar to the study by Colorado (2020) whose methodology used was applied and explanatory level, starting from the general objective: to determine the incidence of customer satisfaction on the loyalty of lodging companies in the town of Huancayo, and following the procedures of the scientific method such as the inductive-deductive method. It was concluded that there is a strong relationship between both

variables. Discussion of results. In the development of the article, we sought to obtain the best results according to the situation in which the customers are in relation to relationship marketing issues. Fifty clients who used the company's services were surveyed. The results showed that 28% of the clients consider that relationship marketing is applied at a regular level, while only 34% of clients consider that it is applied at a good level. In addition, it is observed that 18% of customers consider that they apply Relationship Marketing at an optimal level and with respect to the variable Customer acquisition, the results showed that 24% of customers of D'Brot Granda E.I.R.L., consider that it is applied at a regular level, while only 14% of customers consider that they apply it at an optimal level. Likewise, 42% of clients consider that they apply customer acquisition at a good level. This corroborates the relationship between the study's constructs. From the background, the article by Alden et al. (2013) also measured the level of Relationship Marketing to achieve greater customer acquisition in that company. The results demonstrated the importance of the application in improving the company. Discussion by conclusion The research concluded that customers of D'Brot Granda E.I.R.L, consider necessary the application of relationship marketing to achieve the mutual benefit of the customer and the company. In the article by Rivera and Garcillán (2014) it was concluded that relationship marketing opens the door to the unknown world of customer and non-customer awareness, providing the unique and accurate customer feedback on the effectiveness and efficiency of marketing communication. Discussion by theories In the research presented an important theory was used which is the theory of Relationship Marketing by Moreno et al. (2020) which is for the variable Relationship Marketing, where it is described that the relationship between customer service, quality and marketing is a key and essential factor today, supported by a series of steps that allows attracting, recovering, retaining and building customer loyalty through long-term relationships. In essence, they place as an indispensable basis working hand in hand with the customer, connecting with him and turning

him into a strategic partner. Similarities were found with Villacis et al. (2021) where the theory of relationship marketing was used as a fundamental basis. The general objective was met, i.e. it was determined that there is a relationship between relationship marketing and customer acquisition in D'Brot Granda E.I.R.L., Lima, 2020. It was determined with the specific objective 1, that is to say, it was established that there is a relationship between Relationship Marketing and the relationship with the customers of the company under study.

It was demonstrated with the specific objective 2, that is to say, it was proved that there is a relationship between Relationship Marketing and the quality of service of the company in question. It was established with specific objective 3, i.e. the existence of a relationship between Relationship Marketing and the Customer Value dimension was verified.

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## **Tutoring, a tool for socio-emotional support in the face of vulnerability by COVID 19**

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### **Introduction**

The issue that summons us, requires answering how necessary is tutoring as a tool for socio-emotional support in the face of vulnerability to COVID 19 in the educational context, the experiences lived directly and indirectly in this pandemic generate a state of emotional vulnerability in the educational community (students, families, teachers, administrative staff); in the understanding that our emotions energize our performances, the socio-emotional support is an extremely useful mechanism for the restoration of emotional balance.

The socio-emotional support as an intervention process is deployed in different actions of emotional accompaniment that seeks that each person recognizes his emotional state and makes use of his personal resources to restore it, leading to normal development in the different facets of his life, including educational activities.

For a better understanding of this relevant and extensive topic, it will be organized around three specific aspects: COVID 19 effects, emotional vulnerability and intervention with social-emotional support in the educational context.

In order to offer relevant and reliable information through this production, a systematic review and analysis of pertinent information has been carried out, which has allowed us to have the necessary resources to propose the socioemotional intervention that restores the emotional balance of students and families of the Educational Institutions.

Mentoring as a tool for socio-emotional support as an intervention against the state of vulnerability, being a

process of accompaniment, requires the person who performs it to "Be with the affected, but not as the affected" to ensure effective support in the emotional restoration, mobilizing their own resources from different actions, strategies, techniques as forms of emotional containment.

### **Effects of COVID- 19**

COVID-19 has had a negative impact on public health worldwide and specifically in Latin America, forcing governments to take measures to contain the effects, declaring a state of emergency, social isolation and quarantines.

The educational environment is being strongly affected and challenged to redesign service delivery, which implies for students, families, teachers and managers to come into full contact with technological resources, demanding an accelerated adaptation.

In Peru, in addition to the great effects on physical health, the loss of lives that COVID-19 is causing, the educational gaps in the use of technology come to light; high percentages of students in rural and marginal urban areas do not have the opportunity to continue their studies on a regular basis via online or remote education for various reasons such as: Lack of technological equipment, having only basic technological equipment without the option to interact and above all by the lack of internet coverage in the spaces where they are, affectation that translates into educational inequity, not being able to ensure under these circumstances that it is concrete an "Education for all", nor can we guarantee that "No one is left behind".

Although the issues described above in the educational context are tangible, they are visible; The statistical reports offered by different media show that each family experiences adverse emotional situations due to the contagion of the disease, loss of family members, friends, the confinement in which they live, the conflicts that arise in the family environment, material shortages, lack of conditions, the lack

of access to education, the lack of access to health care, the lack of access to education, the lack of access to education, the lack of access to health care, the lack of access to education, the lack of access to health care, the lack of access to education, These and other situations cause a state of emotional vulnerability that triggers depression, anxiety, aggressiveness, stress and other indicators of emotional imbalance.

(Pan American Health Organization, 2020) In its 2020 epidemiological technical report, it reports that in view of the magnitude of the pandemic, the responses of the countries of the Americas region have been as follows: There are 111 Recommendations and technical guides of their own or adapted from WHO materials, 21.4 million PCR tests sent to 36 countries, 226 virtual and face-to-face training sessions on testing, localization, care and others, 32/35 countries have preparedness and response plans for COVID -19, 38/51 countries with capacity to perform molecular testing for COVID-19 diagnosis, 21/35 countries using severe acute respiratory infection surveillance systems, 17/22 countries where at least 50% of health facilities have triage capacity, OPM, 107 shipments of PPE to 34 countries and territories.

This report shows the mobilization of PAHO's capacities to address the effects of the pandemic, but the quantitative summary does not specify interventions or responses aimed at emotional containment.

The impact of COVID-19 compromises the mental health of the general population with consequences that, because they are not identified and addressed in a timely manner, generate uncertainty, insomnia, anger, fear of being infected, increased consumption of alcohol or cigarettes in adults, young people, adolescents, social isolation, development of stress disorder, anxiety disorders, depressive disorder, somatization, (Lozano, 2020)

The aforementioned conditions cause serious emotional difficulties for the school population, their families and teachers, which prevents them from performing their normal

duties.

### **Emotional vulnerability**

(Vargas, Vargas, Cedeño , & Piloso, 2020) They point out that the pandemic situation greatly affects people, behind every statistic there are children, adolescents, young people, adults, striving to adapt to a crisis situation and using their few or many tools and skills to turn to a new way of carrying out their activities: study, work; people with fears, expectations, uncertainties and unique emotional needs, looking for their space and learning to generate value with others in a different way.

Vulnerability is the state of susceptibility or intrinsic predisposition to be affected by a certain event and to experience fears, uncertainty, anxiety, depression and other reactions that are considered "normal" to "abnormal situations"; however, they should be properly addressed so that they do not result in a stress disease. (Yncera, Ruiz, & Peña, 2021)

In this sense, emotional vulnerability is the affectation of the human being by what happens, it is the difficulty to resist the stress coming from the environment placing it in a state of momentary incapacity for the use of personal resources in its own performance, however the circumstances demand to connect with oneself to give way to the confrontation of reality, in this sense it is necessary in each person the regulation of behavior and motivation according to concrete goals and the use of different strategies, recognizing that it can have quotas of initiative, confidence, effort and persistence to successfully achieve the challenges. (Flores & Marquez, 2020)

### **Tutoring as a tool for social-emotional support**

One of the organized and sustainable ways of intervening to strengthen mental health in educational institutions is through tutoring, a process that will allow a timely response to the emotional and behavioral demands of students

according to their needs, with a personalized or individual approach and in turn a group approach as required by the situation, mobilizing the personal resources of those affected so as to ensure a sustainable recovery, without generating dependence with excessive external help.

Considering that this situation generates emotional crisis in different magnitude in each affected person, it requires ***necessary conditions in the person who provides socio-emotional support***: Easy verbal expression, favor catharsis, tolerate anger, manage resistance, combat negativism, avoid inactivity, promote imagination, in this way the affectation of self-esteem, sense of control, sense of existence and sense of trust will be faced, starting by exercising the first and fundamental help, ***listening***; validating in the affected person what at the moment he/she is feeling, offering him/her expressions such as: "I can listen to what is happening to you" "I can understand how much this affects you", "I am at your side to listen to you and accompany you."

It is necessary to provide this accompaniment by appealing to different resources and strategies that make the intervention more effective, seeking a return to wellbeing, for which some support resources are detailed below.

It is necessary to begin by reviewing what tutoring involves as a tool for social-emotional intervention, starting by recognizing that tutoring is a form or modality of guidance for students through timely, sustained and comprehensive (socio-affective, cognitive, pedagogical) accompaniment in order to strengthen them by generating conditions that favor their development.

Tutoring will be successful as long as it effectively responds to the real needs and interests of students, as stated, (MINEDU, 2020) The tutoring is developed in a permanent and planned way, creating an affective bond between teacher and student through daily interactions, and the socio-affective accompaniment contributing to the integral formation of the students, to their well-being and to the prevention of risk situations" (MINEDU, 2020).

In current scenarios, socio-emotional accompaniment through tutoring should be prioritized in the educational task given the multiple experiences that are lived because of the pandemic (COVID) which negatively impacts the life of the educational community, considering the conditions, socio-economic, cultural of many students are risk factors against the virus, a condition that makes them more vulnerable; A large part of the population shows a highly affected emotional state due to the triggers of the pandemic and to which are added the conditions in which they live that have to do with their precarious economy, harmful intra-family coexistence, lack of resources to develop their learning activities.

The socio-emotional support aims to contribute to the recovery of students and families of the Educational Institutions, a process that will allow effective results, as it constitutes a systematic intervention, planned with criteria of sequentiality of activities according to the need, remember that "What is not planned, is improvised, what is improvised does not cause impact", we can with this practice make us believe that "tutoring is useless". Planning guarantees, knowing what is going to be done and doing it well.

In normal circumstances, the human being requires practical, experiential experiences that lead to a process of reflection to gradually give rise to a change of attitude, in the current circumstances it is even more necessary to work with an active, practical, participatory, experiential methodology.

**Active:** The student, the families need to become the protagonists, the managers of their own improvement or recovery. "They should not be restricted to being the ones who listen to advice", it is necessary to induce them to identify solutions and implement them.

**Practice:** Promote the participation of students and families in concrete, achievable or executable situations, carry out activities among all members of the family or personally perform actions that generate reflection (lessons learned).

**Participative:** It is very important to work on tutoring from the beginning "Everyone counts", therefore promoting total participation, "getting them out of their bubble" is the responsibility of the counselor, it is essential to break resistance, since those who do not participate have less possibilities of learning, of moving from one socioemotional state to another, persistence is required to make everyone visible and interact.

**Experiential:** To the extent that the tutor creates situations where students and families interact in experiential and participatory experiences, that is, based on what the participant "feels and lives" (providing verbal expression of affection, accompanied by a gesture and a physical caress to family members or sharing or expressing the situation that worries or worries them most) or a simulated situation through techniques or dynamics, a process of reflection that generates learning and leads to a change of attitude will be initiated.

It is relevant to consider **how to** provide socio-emotional support, which is related to the methodology; it is no less important to specify **how** it should be done, therefore the resources to be used must be taken into account; if we conceive an active, participatory, practical, experiential methodology as valid, it is not convenient to use only discursive, expository resources; permanent dialogue, interaction, encourage active participation using resources such as:

**Techniques:** The Attitude Traffic Light, Your Sacred Place, Positive Focus, Personal Focus, others.

**Dynamics:** The hour of self-esteem, The inquisitive dice, Thermometer of emotions, the personal backpack, others.

**Reflections:** Reflective messages, motivational messages, metaphors, sayings "In the midst of difficulty, lies opportunity", "You are greater than the difficulties".

**Casuietry:** Real situations, experiences that are analyzed

and lessons learned are extracted.

Emotional support needs to be an organized, systematic and therefore planned process; each meeting, each session must have a script or route to guide the intervention and above all to provide the necessary resources for its execution. The following diagrams propose routes or sequences and resources for the intervention.

*Group support session:* It is carried out in response to the needs of the group as a whole, in order to minimize the emotional imbalance that affects the majority or the group as a whole and does not allow its normal performance.

*Individual support session:* It is necessary when emotional situations have been identified that are affecting the behavior and performance of a participant, the case may be identified by the teacher or tutor, by a family member or close person or it is the affected person him/herself who declares it and asks for help.

Just as it is necessary to have a guide or route that orients the socioemotional support intervention, following a logical sequence, it is necessary to have **support resources or a toolbox of** resources that will allow socioemotional support to be provided in a more didactic way if they are used with criteria in the sequence of the session, whether individual or group.

### ***Social-emotional support, a priority for COVID-19***

In the circumstances in which we all find ourselves in the face of COVID-19, it is necessary to specify who are and in what conditions should be those who provide socio-emotional support, under the principle: "Be with the affected and not as the affected", requires the person responsible for providing socio-emotional support to review and ensure their own emotional conditions to ensure an effective intervention, much of what they offer will be input to reverse the socio-emotional affectation of the affected person. According to the theory of Mirror Neurons, the responses to certain events can



be imitated, that is, symmetrical relationships are configured from mimicry or replication of what the other does, as well as emotional contagion and empathy, as cited by (Rodriguez & Rodriguez, 2019)

In another sense, the person who provides socio-emotional support may be disturbed by the experience of the affected person, this emotional situation is known as vicarious trauma, emotional exhaustion due to empathy or secondary trauma. (Erazo, 2018) Therefore, he/she is not in a position to continue with the intervention until he/she is able to recover.

***Is there a degree of vulnerability or affectation in the educational environment that justifies social-emotional intervention against COVID-19?***

The pandemic has unleashed a series of difficulties of various kinds, the educational context is not exempt from this affectation, students, families, teachers have had to untimely change the ways of carrying out their usual activities, students develop their learning activities remotely, this is not the only situation they have to face, many of them and their families have suffered the virus infection, have lost family members, their parents have lost their jobs, lack of resources to develop their learning activities greatly affecting their emotional state.

As stated by the (World Bank, 2020) The pandemic represents a threat to the advancement of education worldwide because it produces two significant impacts, including the closure of schools almost everywhere, which will lead to a loss of learning, an increase in school dropout rates (also known as school dropout) and greater inequity. The economic crisis affecting households will aggravate the damage, as it will be accompanied by lower educational supply and demand. Together, these two impacts will have a long-term cost on human capital and well-being.

***Among others, is social-emotional emergency care a priority in the educational context?***

With the understanding that emotions energize our performance and recognizing the magnitude in which educational communities are being affected by the pandemic, timely interventions are needed to minimize socio-emotional difficulties, so the education system is in crisis response mode, prioritizing health and safety and creating conditions for students to continue their learning activities remotely, safeguarding their emotional health as a priority.

Evidence shows that the mechanisms by which we process our behaviors are mainly through learning, so that the behaviors involved in the processes of health and disease respond to the same mechanisms. Thus, moving from a condition of absence of disease to being sick and even the success or not of the treatment will be determined by our beliefs (cognitions), emotions, as predispositions to action. (Urzúa, Vera, Caqueo, & Polanco, 2020).

These are the arguments that allow us to ensure that it is necessary to give priority attention to mental health in order to restore the socio-emotional development of those affected and give rise to their normal performance in the different facets of their lives.

In this chapter we intend to reflect on the effects of the pandemic with the greatest impact in recent decades, COVID-19, focusing mainly on the socio-emotional vulnerability in the educational environment, generated by the infection of the virus, loss of family members, confinement, sudden changes in the dynamics of life, lack of resources to develop learning activities and others, a situation that is replicated in the different educational communities.

Immediate intervention is required as a coping measure, so it is proposed to implement tutoring processes as a tool for the socio-emotional support of students, families and staff of

educational institutions through virtual group and individual activities, as needed, using methodologies that allow mobilizing their own personal resources for their recovery. It is necessary to emphasize that the intervention requires a tutor with resilient capacity, with methodologies and human quality, in order to guarantee the development of a solid and favorable accompaniment process.

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## **Competency-based assessment of learning in non-university higher education**

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### **Introduction**

In recent years, there has been an educational reform in Higher Education Institutions, due to the global trend to develop a holistic professional training in the different learning and performance scenarios that integrates knowledge (knowledge), knowing how to be and live together (values and attitudes), knowing how to do (skills), and entrepreneurship. These changes have made it possible to reflect on how to innovate training models, directing attention to the students' learning process and focusing on the results that are valued through professional competencies.

The competency-based educational model places the student at the center of the training process, developing according to the competencies he/she demonstrates upon graduation from higher education (Biggs, 2004; Bok et al., 2013). One of the most significant aspects of this training model is that it allows us to identify the competencies that students should develop during their professional training and focus them according to their educational profile (Martín et al., 2013), with a view to achieving a successful insertion in the social and labor field, in this highly competitive society, in which their ability to adapt in a short time should also prevail. Within this context, it is important to be clear that if we intend to achieve a comprehensive training of students, in which they acquire general and specific competencies, it will be necessary to establish an evaluation system that allows us to measure the results generated by such learning. This allows us to give way to the evaluation of learning, giving rise to an evaluation for learning (López, 2009), or "evaluation as

learning" (Torrance, 2007), since the final objective is to contribute to the student's improvement and mastery of the proposed competencies.

Competency-based assessment is a challenge for higher education, due to the pedagogical usefulness it represents and the social and professional consequences derived from its application Tejada, 2011. Assessment has become one of the most important tools in the transformation of higher education for student learning (Biggs, 2004) and as an instrument to improve the quality of learning, becoming one of the most important issues in the educational field. One of the factors that explain why assessment occupies this place is that professionals in this area understand that assessment has become a scientific discipline, an element of motivation and internal organization for learning (House, 1993). In this sense, society is more aware of the importance of evaluating or being evaluated, since it makes it possible to achieve higher educational quality indexes and to take full advantage of available resources.

Likewise, evaluation becomes a fundamental element for the development of any type of didactic innovation in teaching, to the point that no evaluation will be effective if it is not accompanied by changes in the way it is conceived. This implies moving away from the evaluative practice focused only on the teacher, based only on quantitative grades, or that which considers it a means of control and where only conceptual contents are evaluated, prioritizing the interest in the final results, with the absence of clear criteria for evaluation and inadequate and scarce feedback.

The present study shows an investigation to know the competency-based learning evaluation model in a Public Higher Education Pedagogical Institute, which houses teachers who evaluate in the traditional way. An unending question arises: What is the evaluation model of learning based on competencies? Therefore, the present work bases the configuration of this evaluation model at the non-university level in a state pedagogical institute, with the purpose of meeting the needs of evaluation by competencies

that exist in the teachers of the non-university higher education level and to establish a clear route that allows them to give a turn to their way of evaluating and to the students greater autonomy and development of the general competencies and of their profession. The above shows us that there is an urgent need for a change in non-university higher education that addresses the formative process of student evaluation.

### **A brief look back at the beginnings of evaluation**

The term evaluation comes from the world of industry and has undergone a profound historical transformation since its introduction and dissemination in the field of education a century ago. Since Tyler introduced the term educational evaluation in the early 1930s, its scope of study has only expanded. This historical evolution of the concept of evaluation in education shows a series of overlapping, contradictory, overlapping and antagonistic models. Therefore, it is clear that there is no single defined path; each model clearly illustrates the content before and after the evaluation, ensuring a harmonious continuity in accordance with the new educational paradigms.

Fuentes, et al. (2003) consider the 20th century as the golden century of educational evaluation, or the scientific stage of evaluation, because it represents a period of unprecedented development in which scientific knowledge begins to operate in the field of evaluation. The positivism of the end of the 19th century was a fertile ground for the development of quantitative methodologies. Taking this route, we find studies by (Barbier, 1993) who points out that at the beginning of the 20th century the so-called docimology or science of evaluation emerged, a characteristic rationalization movement. This acquired scientific status in the 1920s, in France, with the work of Piéron and others. However, problems soon arose due to the heterogeneity of the information and criteria used, which redirected the debate and focused studies on the results of teaching and the

proposed objectives. Thus, prescriptive docimology promotes the development of instruments and procedures, and standardizes the immediate conditions of production of value judgments (Barbier, 1993, p.46), with psychometric tests appearing as the prototype of evaluation in the field of psychology, also permeating the field of education.

The history of educational evaluation underwent a change in the early 1930s with the intervention of Ralph Tyler, the first theorist to propose a systematic educational evaluation. His behaviorist conception was revolutionary at that time, the success or failure of students was no longer considered the responsibility of their own intelligence, but was interpreted in the institutional context and linked to the ability of educators to plan content. At this stage, assessment is closely related to the study plan (curriculum) whose essential purpose was to determine the achievement of the intended objectives (Perassi, 2006). The pre-established objectives were defined in terms of behaviors. This leads us to understand that this concept of behaviorist educational evaluation characterized teaching practice.

Beginning in the 1960s, the tendency arose to link evaluation with decision making. The so-called third generation of evaluation arose, in which evaluation is fundamentally carried out according to certain criteria (Guba and Lincoln, 1989). The importance of including processes was emphasized, and with it the application of evaluative research (Cronbach, 1963) and Scriven (1967). At this time, the evaluation of the objectives is carried out on the analysis of the needs of the users and not of the producers. (House, 2000).

In the 1970s and 1980s, known as the new wave, there was a high production of evaluative models, characterized by being alternative. The importance of the audience as part of the evaluative process is highlighted. Including the promotion of qualitative evaluation in the field of education. Well-known authors aligned themselves with this movement, such as: Stake, with his proposal of the Responsive Evaluation or Negotiation Model, Mac Donald with the Democratic



Evaluation, Parlett and Hamilton with the Illuminative Evaluation, and finally, Eisner, with the Critique of Art.

In the 1990s, evaluation began to be debated in other fields that are neither research nor teaching, but in political agendas, among others, gaining social relevance, opening the way to another moment in the history of knowledge, where the relativity of knowledge prevails, the certainty that everything is organized and the simplified thinking that emerges from the absolute disjunction between the object and the subject that perceives and conceives it, is already insufficient (Morin, 2004), under this thinking it is necessary to understand the existence of a principle of relationship between the observer-conceptuator and the observed and conceived object. Thus, in the construction of knowledge, it is not enough to observe only others but also to make a self-observation and the evaluator must also make a self-reflection involving himself in the whole process because the reflective processes accompany the objectification processes and the observer-evaluator is involved in the evaluation.

In the face of the discussions inherent to modernity, evaluation models emerge, which present holistic, multidimensional characteristics that seek the transformation of concrete and contextualized scenarios.

### **Competency-based assessment**

The competency-based approach has its origin in the relationship with the knowledge society, the quality of education and the formation of human capital (Tobón, 2006). This is the starting point that justifies a competency-based approach or design. The knowledge society, in which we currently find ourselves, allows us to have within our reach a wide range of information, which is created quickly and outdated in a very short time, so that knowledge is more important than the information itself. In this scenario, it is essential to know how to search for the right information, select it, process it, understand it and finally appropriate it to

produce new knowledge, to achieve this it is necessary to have the skills and competences to solve real problems in real contexts, assuming an integrated knowledge (Morin, 2001). The pedagogical designs by competencies are oriented precisely to develop broad capabilities in which one has the possibility of learning, unlearning and above all, adapting to the diverse situations of life itself, changing in a short period of time. Competencies have been defined by various authors, among which the contributions of Perrenoud and Tobón stand out. Perrenoud (2008) argues that competencies are the aptitudes to face a set of analogous situations, mobilizing multiple cognitive resources quickly and adequately. His approach to competencies is broad and comprehensive, oriented by a socio-constructive model, which transcends the school environment, worrying about those who will not have the possibility of pursuing higher education, preparing them for the future life they will have to face. His perspective makes us reflect on the role that teachers should play, broadening their horizons and valuing their role of accompanying and guiding students, which transcends the mere acquisition of knowledge. For his part, Tobón (2007) defines competencies as comprehensive actions to identify, interpret, argue and solve the problems that arise with suitability and ethics. His approach guides us to value school competencies, since they will later be incorporated into professional or labor competencies. It gives importance to the learning process of the student's education, making no difference if the achievement of competencies should be done in the school stage or during their professional training.

The use of a competency-based model in non-university higher education means that teachers will shift their focus from teaching to learning. Learning is understood as a process of capturing, encoding, linking and storing new information, and combining it with information already stored in long-term storage. To carry out information processing, it is necessary to integrate all cognitive activities (Schunk, 2008). Therefore, in order to change the training model, we must first evaluate, review and adjust the assessment.

As for the evaluation of higher education, it is in a pedagogical dilemma, since it is an effect, but at the same time it is the cause of learning (Cano, 2008), that is, it can produce real changes in the learning process, since it orients the curriculum. Competency-based assessment is a process that includes a variety of methods to measure student performance. Its objective is to determine the level of mastery of a competency based on established criteria and evidence to establish the achievements and aspects to be improved, seeking that the person has the challenge of continuous improvement through metacognition (Tobón, 2006). Likewise, it is based on the permanent integration of learning and evaluation by the student himself and his peers, becoming an indispensable requirement in the process of construction and communication of meanings. (Condemarán and Medina; 2000). In this sense, competency-based learning assessment is an evaluative model that changes our perception of how to assess the knowledge learned by students in the teaching-learning process. Assessment should be a learning opportunity to mobilize students' competencies and should be coherent with the other elements of the training design and integrated into it. Therefore, the methodological experience most consistent with the design of capabilities has been associated with competency assessment activities. Consequently, competency-based assessment allows us to use different instruments and involve different agents in the learning process.

In this context, the need arises to implement an evaluation system that generates a change in the evaluation processes to promote the development of global competencies and units of competence of each dimension of the professional profile of the graduate, as proposed in the National Basic Curriculum Design for Initial Teacher Education.

Thus, we proceeded with the planning, identifying and collecting the information in order to build the instruments, with the help of the instruments and techniques developed, the information was collected and, finally, the information was analyzed to allow the configuration of the competency-

based learning assessment model.

The method used for the study was the quantitative method of scientific research, of a descriptive - propositional type. The sample consisted of 30 teachers appointed and hired by the Instituto de Educación Superior Pedagógico Público "Sagrado Corazón de Jesús", in the district of José Leonardo Ortiz, Chiclayo, all with experience in non-university higher education, who have worked since their beginnings in basic education, have completed postgraduate studies (with a Master's degree) and have participated in the accreditation process of the institution; and 15 students of the VIII cycle of the initial education career. The technique used to collect information was the survey. The data collection instrument was the questionnaire, the purpose of which was to collect the teachers' appraisals regarding the evaluation they carry out. In relation to data analysis, in order to determine the configuration of the competency-based learning assessment model in state non-university higher education, descriptive statistics were used to determine the percentage frequency of the data obtained in the study. The results of the analysis provided an insight into the techniques, procedures and instruments used by teachers to assess the learning of non-university higher education students.



Figure 1. Teacher survey

These results indicate that most teachers are familiar with the techniques, procedures and instruments for evaluating student learning; however, they need a clear guide for competency-based evaluation. They also reveal that the vast majority of teachers use final exams to evaluate student learning, and that there is a considerable percentage of teachers who do not use control charts and evaluation scales or laboratory practices, proving that these are the techniques least used by teachers to evaluate student learning. Likewise, they reveal that teachers take with care the use of self-evaluation, awakening interest in its application to the same extent as teachers who prefer to stay away from it because they consider that it is a test that must be known how to use it and that it is not completely objective.



Figure 2. Survey applied to teachers.

The results of the analysis show that teachers use techniques, instruments and procedures to evaluate without taking into consideration their previous planning, because they prefer to use instruments they have already been working with, that is, they opt for a traditional form of evaluation. The results show that the tests for student evaluations do demand time and work in their elaboration by teachers. On the other hand,

observation is the technique most used by teachers when evaluating their students, being applied when they are taking notes, generally during classes. Thus, the findings reveal that most teachers plan final evaluations as opposed to competency-based evaluations, adapting them to the new educational system, and that they grade their students with the vigesimal system, as an objective response to the level reached.

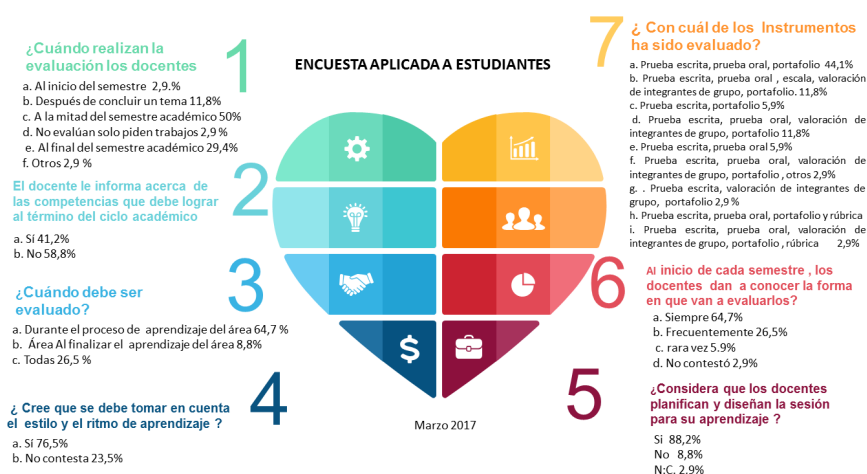


Figure 3. Student survey.

The findings allow us to deduce that students are unaware of the competencies they must achieve at the end of the academic cycle, although they are informed of what they will be evaluated on. Likewise, the written tests to which they are subjected are generally carried out in the middle of the academic cycle, and in other cases at the end of the same. On this point, most students consider that evaluation should be carried out throughout the learning process, not being limited to a particular evaluation period, and that the learning style and pace of each student should also be evaluated. Regarding teachers' planning, the results indicate that most students consider that teachers plan and design the learning sessions. The instruments most used by teachers, from the students' perspective, are: the written test, the oral test, and the portfolio.

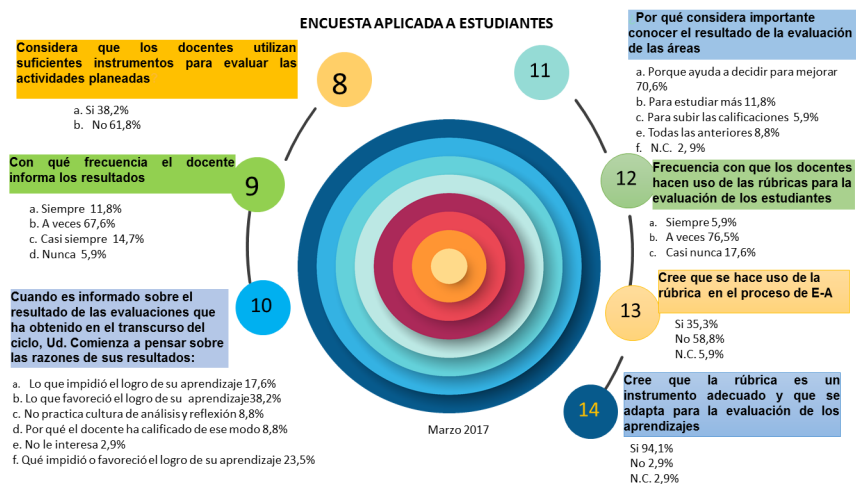


Figure 4. Student survey.

These results reveal that although the students consider that teachers plan and design their learning sessions, they also consider that most of them do not use enough instruments when evaluating the proposed activities, associating a deficit in the communication of the results obtained. Likewise, it is corroborated that students are concerned about knowing the factors that favored or hindered their learning achievements, since most students consider that it helps them to decide to improve; however, they are not clear about how to channel it. With respect to evaluation rubrics, the great majority of students find them adequate for the evaluation of their learning; however, teachers do not prioritize them as an evaluation instrument.

In the present study it was found that a little more than half of the teachers collect information that evidences learning by competencies, using diverse techniques and instruments from simple observation, the review of voluntary and obligatory work as evidence of knowledge; control tables and evaluation scales, personal files to evaluate attitude, practices to evaluate doing, and final exams and portfolios to evaluate the product, which is nothing more than

competencies achieved by the students; However, it is observed that there is a marked tendency towards the application of final evaluations, clearly alluding to a tendency towards the traditional evaluation of contents at the end of the development of the area. The data obtained are compatible with the study conducted by Parra and Pedreros (2016), the same who conclude that the evaluation is focused on the qualification as a way of knowing if the contents have been internalized. This means that they did not verify, at the time of preparing the syllabus, whether the products are congruent with the proposed performance criteria and indicators, i.e., whether it is predictable that the portfolio and the final evaluation can evidence learning by competencies.

In relation to the actor who evaluates, most teachers apply self-evaluations, which indicates that they are incorporating metacognition as a fundamental element in the development of skills by students. In agreement with the authors mentioned above, they confirm that it is important to have an evaluation process in conjunction with the students because it is an input for their educational practices; however, at the time of writing their report, they indicate that this process was not being carried out. What does not happen with Gómez (2017), in that he gives importance to learning in the three dimensions such as knowledge, attitudinal and procedural, where he mentions that the result was valuable for the student, but exhausting for the teacher.

From the results obtained in the present research, it was found that teachers use little varied and precise techniques and instruments for competency-based assessment unlike the authors found in Gómez (2017) and Burrola (2015) who highlight the greater effort demanded by the teacher.

This research contributes in a clear and important way as it highlights that the teacher must have as input a methodology that serves as support in the teaching-learning process of the three dimensions: knowledge, attitudes and procedures, in such a way that the pedagogical, technological and organizational aspects can be combined, that is to say, to work on the learning that is desired to be achieved, since they



will then be evidenced in the evaluation of the competencies developed by the student, from which it was obtained resulting in the improvement of the teaching-learning process. This finding is shared by Ríos and Herrera (2017), who state that competency-based assessment represents a challenge for the educational field, due to the concern towards the process prior to obtaining the final learning product.

For his part, Mosquera (2020), states that qualitative or quantitative evaluation alone are not enough to make reliable measurements of the cognitive progress of students, being necessary to use the assessment of competencies as a strategy for learning. Coinciding with the proposed competency-based approach, directed towards a comprehensive training of students, valuing that each of them learns at their own pace and therefore their learning should be assessed through the achievement of the proposed competencies.

The study suggests that in spite of the scarce tendency of the teacher to plan the evaluation, which to a certain extent limits the development of competencies in the students, it proposes to promote ways in the process that revert the deficiencies found in the teaching-learning process, because, finally, it is the teacher who is responsible for guiding the teaching-learning process and must be prepared to provide a quality education that is evidenced at the moment of evaluating competencies.

This study allows us to conclude that teachers do know the techniques, instruments and procedures for student assessment; however, they lack a clear guide to carry out competency-based assessment.

The students consider that the teachers do plan and design the learning sessions that will be taught; however, a majority group of students maintain that the teachers would not use sufficient instruments for evaluation.

The students affirm that the teachers do inform them of the competencies they must achieve as part of their academic

activities, and that the evaluation should be carried out throughout the development of learning in the area, that is, that it should not be limited to a specific moment, such as at the beginning or end of the activity.

One of the techniques most used by teachers for competency-based assessment, from the teachers' point of view, is observation, applied mainly when students take notes, and even outside the classroom.

From the students' point of view, the instruments most used by teachers for their evaluation are the written test, the oral test and the portfolio.

One of the evaluation instruments least used by teachers are the attitude assessment scales due to the time required for their planning, construction and analysis.

Likewise, teachers do little statistical analysis of the results that evaluate the progress of the students as a whole. This is mainly due to a lack of knowledge in statistical analysis.

A large number of teachers are unaware of the instruments that evaluate the development of competencies in students, seeking adaptation mechanisms that allow them to assess the achievement of student competencies.

It is inferred that teachers do not promote learning autonomy through the instruments they apply. It is necessary to program suitable learning spaces for students to learn and exercise their skills and attitudes so that this type of evaluation becomes a meaningful evaluation and is progressively incorporated as part of the process.

It is advisable that teachers receive clear guidance on competency-based assessment in order to improve their work performance and to adequately assess student learning achievement.

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## **State Contracting Law and its regulations, in the development of civil engineering works**

**Rafael Damián Villón Prieto  
Claudia Rosalía Villón Prieto**

### **Introduction**

In Peru, currently the objective of the Procurement Law and its Regulations with its amendments is to establish the techniques for contracts with the state, which suits the vast majority of organizations with their processes and procedures to acquire goods and services, execution of works with the State, in an effective and clear manner, in a timely manner, with quality and reasonable price. (Veterinaria, n. d.). Where the law, regulates all the processes of the contract, considering principles and especially of environmental sustainability, as presented the OSCE (Supervisory Body for Contracting with the State) in its vision shows the fulfillment of institutional and administrative goals, considering important: acquiring goods, contracting services and contracting execution of works. Rodriguez (2018), hydrocarbon exploration are activities that promoted investment in civil works, which increased to 8.7%, at the end of the year, have happened against an annual period, according to report of the Institute of Statistics and Informatics (INEI), which indicates that greater investment in civil works is explained by the behavior of the type constructions for mining (which includes hydrocarbons), whose increase was 122.5 percent, contributing 19.2 percentage points to the annual variation. These are the results performed by the Central Government in terms of infrastructure. Velásquez et al. (2017), for the

Mexican case of the College of Civil Engineers of Mexico (CICM), in conjunction with parastatal companies and state secretaries, work and it is expected that for the construction of these works the federal government would contribute 34% of the resources and the rest would be private capital. The projects presented would have to be put out to bid. "This is the six-year term for infrastructure, that is what President Felipe Calderón has said. It is necessary to invest in this area in order to be more competitive with our commercial partners and competitors," he added. In the energy sector, the Tula and Salamanca refineries must be reconfigured and cryogenic plants must be installed in the Burgos Basin, which is the country's most important gas-producing area. New multimodal corridors should also be developed and the transversal highway axes such as Altamira-Manzanillo and Durango-Mazatlán should be completed. *"If developed, 5.2 million direct jobs would be generated and 36,000 engineers would be employed; 2.5 billion dollars would be injected annually into the economy,"* said Salazar. Understanding that civil works are highly related to population growth (needs), national planning (development of the country) and dynamics of the economy (macroeconomic indicators), being that economic resources are highly concentrated, it can be mentioned that they effectively control investments that can be the subject of research, to improve and optimize the resources of a country, and after explaining the problems and justification of the same, the following question is asked: How does the application of the Law of State Contracting and its regulations allow the development of Civil Engineering works? In order to derive the problem, the following hypothesis is formulated: The application of the Law of State Contracting and its Regulations increases the development of Civil Engineering Works, thus the following objective has been established: To determine the level of

application of the Law of State Contracting and its Regulations for the development of Civil Engineering works.

### **Contractual Execution**

It is composed of the contracts, original contract, updated or current contract, obligation to contract, contract perfection, formality (rights, obligations and including the requirements to sign a contract, terms and procedures to sign a contract), contract content, contract term, contract completion, contract modification, subcontracting, additional contracts and reductions, term extensions (applicable, payments, contract termination, complementary contracting, dispute resolution at the contract stage, technical study).

### **Government Procurement**

It shows the Integral Management of Quality, Safety and Environment of a Hygiene, Industrial Safety and Occupational Health Plan (SySO), for the execution of a project. In Human Resources Management This chapter contains a Business Plan, for the consummation of a marketing strategy and positioning of a product that provides waterproofing services for roofs with polymer-modified products and chemical products. In the Legal, Tax and Contract Administration Regime with its Conceptual Map of the SABS norms, applicable to public works, and in Construction Management it shows the complete Technical Proposal for an ANPE project, and in the Supervision of Works it contains documents proper to the beginning of works with an Initial Report and at the end the test. According to Barrientos Irigoyen, D. D. (2021).



The Olmos Tinajones Special Project, according to Law N°. 27444, "Law of Administrative Procedures" and Law N°. 30225 "Law of State Contracting and its Regulations provides the expressed of Administrative Procedures to perfect the Contracting that show with efficiency and effectiveness a facilitated support by the PEOT staff facilitating to achieve the objectives aimed to spread its economic value as a contributor carrying out pertinently the conditions of price and quality. Anaya Quijano, C. S. (2020). State contracting in the Olmos Tinajones project-years 2017-2019.

The Search for Efficiency in State Contracting is achieved through the Use of Information Technology.

The government analyzes whether to make acquisitions with electronic support, based on innovation and development policies, where the factors that would change it to a smart user. Presenting the evolution of the different procurement models, in the frame of reference to equate and self-determine whether it supports before the government so allow, devise and find refinements in procurement models aimed at transforming and updating a new process towards the desired modern introduction public procurement towards the demand for products and services intelligently. (Ortega-Laurel, 2021).

### **Register of Disqualified Persons**

"Implementation of the internal control standard and its impact on the administrative management of the District Municipality of Pichacani - Laraqueri, period 2018", analyzes the process of the implementation of internal control and the level of compliance of the management instruments by the process of the research methods used in its the data obtained show a process of Regular

Implementation with a guarantee of 46% since there are no trainings of internal control, the lack of the evaluation of a self-control, self-regulation and self-management by the top management towards the officials and servants of the entity. Where the levels of application of the documents show a Regular compliance; due to lack of updating and compliance of the management documents. (Zapana, 2021).

The data collection instrument used were structured surveys, using the online methodology with the web page system: [www.encuestafacil.com](http://www.encuestafacil.com). Additionally, surveys were used, coding sheet, necessary for the orientation and preparation of the report, with the data collection procedures, obtained are presented through texts, graphs, tables with their respective interpretation and analysis, of the methods of data analysis where the IBM SPSS v. 22 program was used for data processing and Excel was used for the statistical tables, as well as the statistical method used was the correlation analysis. The population and sample, for the population according to the College of Engineers of Peru, there are 145,059 registered and licensed engineers nationwide as of December 2013, for the sample 73 people were considered.

The theoretical framework shows an organization related to logical methodology, in the legal framework based on the importance of the State Contracting Law and its Regulations D. L. N° 1017 and D. S. N° 184-2008-EF, with their respective amendments: Law N° 29873 and D.S. N° 138-2012-EF, where it clearly points out the processes: (Palacios Cárdenas, 2020).

## **Selection Process and Contractual Execution**

They are regulated by the Contracting Law, according to Article 4° Principles that govern State contracting, where it involves that all civil works to be developed anywhere in the country in all its phases must be of great importance known and applied by the professionals of Civil Engineering, whose main activity is the contracting and execution of public works in such a way that unifies and delimits the importance to the social context of the problem under investigation, in the selection process with integration of bases, presentation of proposals, evaluation of proposals, and awarding of Good Pro.

Considering process management, management by objectives, the legal framework within the procurement file, approval of the procurement file, requirement and determination of technical characteristics, types of selection process, ceilings or amounts for selection processes.

## Statistical Treatments and Interpretation of Charts

In the elaboration using the Pearson technique, the 5-point Likert scale was used for the analysis variables.

Table 1: Indicators

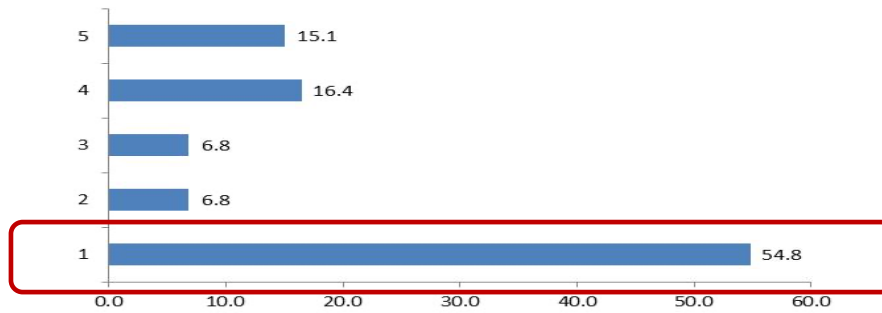
Variable	Indicators
<b>Requirements</b>	Documentation to be submitted
	Application of subcontracting with third parties
	Compliance with the technical specifications within the works.
<b>Rules of procedure</b>	Non-fulfillment of contractual stipulations
	Risk assessment in resolution development
	Penalty within the contracting
<b>Obligations and rights</b>	Guarantee in support of the obligation assumed
	The technical and economic know-how to meet the requirements of advancement
	Deficiencies in the technical file
	Extension of contract term
	Reception, completion and rendering of works

Source: Own elaboration

## Descriptive Statistics

### Number of Public Bids Won

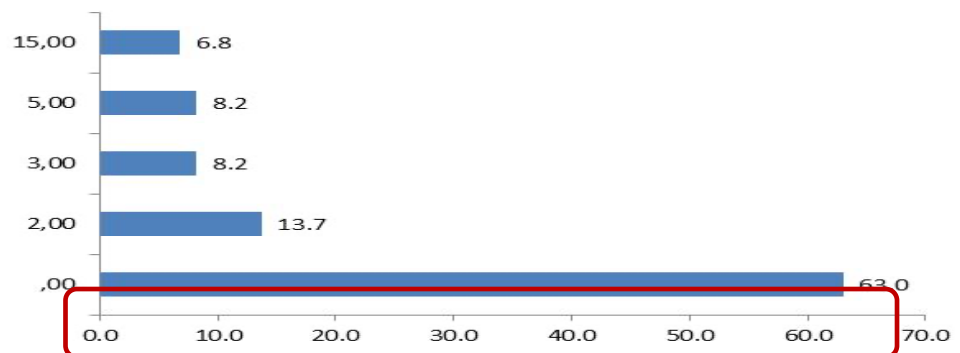
More than half of the interviewees mentioned that they had won a public bidding process, information that supports the fact that it is a particularly large project, as well as being too big for any supplier (due to the high costs of planning and equipment).



*Figure 1* Number of Public Bids Won

### Number of public tenders won

Continuing with the trend, more than half of the interviewees do not specify having won public tenders. This information is in line with the previous question.



*Figure 2.* Number of public tenders won

**Amount of Direct Award Won**

About 40% of the interviewees mentioned not having won any direct awards, however, a significant 15% of interviewees mentioned having won 4 projects.

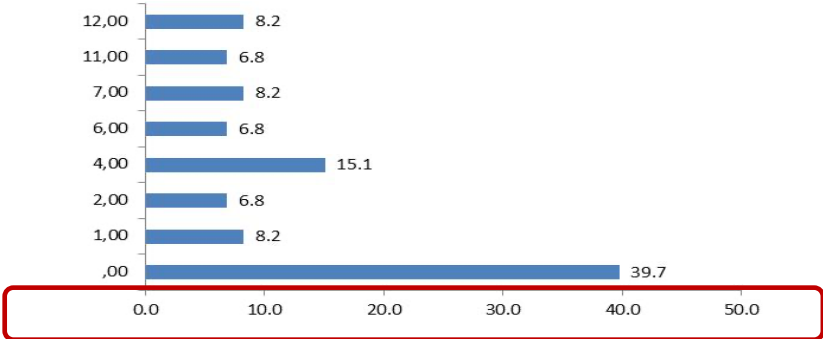


Figure 3: Amount of Direct Award Winning

**Selective Direct Award Amount**

Nearly half of the interviewees mentioned not having won any selective direct awards, however, clients uniformly mentioned winning from 2 to 15 selective direct awards over several years.

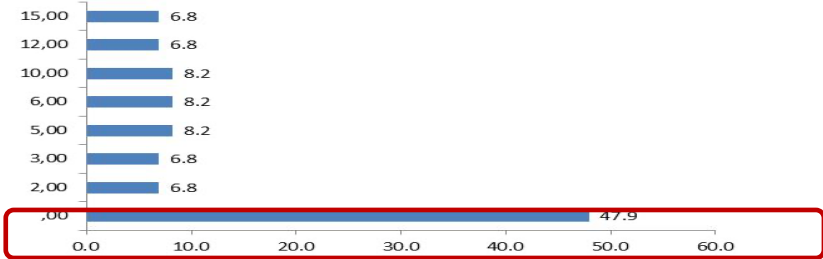


Figure 4: Selective Direct Award Amount

## Amount of the Small Amount Award

Approximately 30% mentioned not having won an award of lesser amount, however, the distribution of this amount can reach up to 23 works per civil engineer.

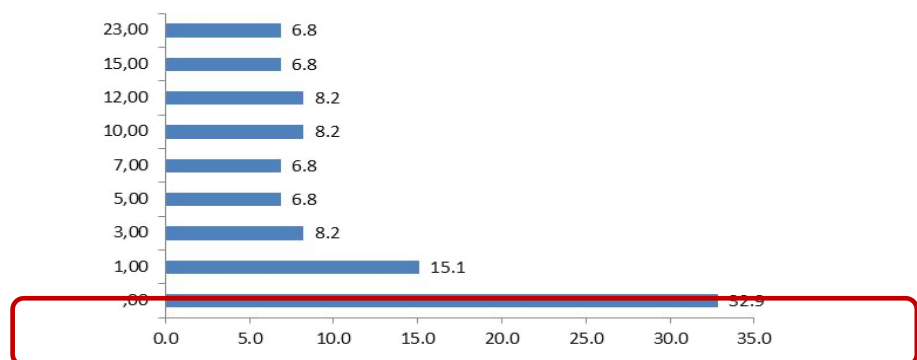


Figure 5: How many Small Awards

## Variable correlations

### Requirements - Hypothesis Testing

$H_p$ : The correlation coefficient of the requirements variable and the expected application of the State Contracting Law and its regulations are similar to zero.

$H_o$ : At least one of the expected correlation coefficients of the variable requirement and the application of the State Contracting Law and its regulations is different from zero.

Alpha: 0.05

Table 2 *Correlation of Variable Averages*

<b>Correlations</b>					
		P1_1	P23	P24	P25
<b>P1_1</b>	Pearson correlation	1	0.272 *	0.581 **	0.748 **
	Sig. (2-tailed)		0.2	0	0
	N				
<b>P23</b>	Pearson correlation	0.272 *	1	0.357 **	0.329 **
	Sig. (2-tailed)	0.2		0.002	0.004
	N				
<b>P24</b>	Pearson correlation	0.581 **	0.357 **	1	0.852 **
	Sig. (2-tailed)	0	0.002		0
	N				
<b>P25</b>	Pearson correlation	0.748 **	0.329 **	0.852 **	1
	Sig. (2-tailed)	0	0.004	0	
	N				
<b>Correlation is significant at the 0.05 level (2 - following).</b>					
<b>Correlation is significant at the 0.01 level (2 - following).</b>					

P valué (Application of the Law) = 0.05 > 0.020

Decision (Law Enforcement): Hp rejected.



Conclusions. - There is sufficient statistical information at 95% confidence to affirm that the correlation coefficient of the *requirement variable and the application of the Law and its regulations* have a positive direct relationship of 0.272, a relationship that is different from zero.

In the aforementioned approach, it has been possible to appreciate that the three research variables directly and significantly affect the application of State contracting and its regulations in the development of civil works, without the obligation and rights and rules of procedures have a greater positive impact (of greater importance) compared to the main variable. However, an indicator that affects more significantly is the deficiencies of the technical file or unforeseeable situations in the fulfillment of the works, a situation where the contractors cannot avoid, considering that the failures are presented in the same state entity.

There is sufficient statistical information at a 95% confidence level to determine that the requirement is associated with the application of government procurement and its regulations in the development of civil works, however, the indicator level of knowledge in the documentation of the subscription is significantly associated with the main variable with greater strength (0.513).

There is sufficient statistical information at a 95% confidence level to determine that the procedural rule is associated with the application of State contracting and its regulations in the development of civil works, however, the indicators the level of knowledge of risk assessment in the development of contract resolution (0.543) and the impact of penalties in contracting (0.585) are associated in greater magnitudes with the main variable.

There is sufficient statistical information at a 95% confidence level to determine that the obligation and right is associated with the application of State contracting and its regulations in the development of civil works; however, the indicators deficiencies in the technical file or unforeseeable situations in the fulfillment of the works (0.756), extension of the contractual term (0.526) and the reception, completion and rendering of works (0.508) affect the main variable to a greater degree.

At a 95% confidence level, it can be determined that the three research variables (requirements, rules and procedures and obligation and rights) are directly related to the application of State procurement and its regulations, in the development of Civil Engineering works, however, the obligation and right most frequently affect the application of procurement, basically due to the cause of deficiencies in the technical file or unforeseeable situations in the performance of the works, a situation where contractors cannot avoid, considering that the failures are presented in the same State Entity. With reference to the Call for Bids timetables published on the official website of the SEACE, as well as the selection process timetable found in the bidding documents, specifically in the deadlines for the formulation of consultations, as well as for the formulation of observations to the bidding documents, for the review of the technical file, the deadlines are very short, which prevent the easy detection of any deficiency in the technical file, which is subsequently reflected in delays during the execution of the work, economic intervention of the work, with economic and legal losses for the professionals in charge of the execution of the public works. With respect to the level of requirement, 27.2% of the requirement has a positive effect on the increase in the application of State contracting and its Regulations. Regarding the level of

procedural rules, 58.1% has a positive effect on the increase in the application of government procurement and its regulations. Regarding the level of rules of rights and obligations, 74.8% have a positive effect on the increase in the application of State Contracting and its Regulations.

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## **Strategic plan to improve the quality of care for adult university students**

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### **Introduction**

In Peru, companies used to carry out their activities, tasks and procedures based on empirical methods, which was reflected in poor customer care and service. Nowadays, modern and avant-garde companies base their mission on strategic plans, which allow organizations to set objectives and strategies that enable them to meet the needs of their users, thus making planning very important in a competitive world with increasingly demanding users. González (2015), Díaz (2012) and Duque and Chaparro (2012), address the issue of evaluating the quality of user care in order to measure user satisfaction. According to Gonzales (2015), the main dissatisfaction gaps in service quality are improved by applying a process management and continuous improvement approach. In this regard, Díaz (2012), in order to analyze the importance of customer satisfaction in the future, maintenance and competitiveness for this type of market, which is mostly complex and demanding. Financial institutions, as in this case, should place greater emphasis on the quality of service they intend to provide, comfort and good treatment will be the only factor for the growth of the organization. Duque and Chaparro (2012), the perception of university students, consider that a good service in the educational system, would be, if the directive, administrative, governmental, work articulately.

Suárez (2015), Watson (2013) and Huerta (2015), agree in their studies related to measuring the level of quality of user service in higher education. For Suárez (2015), quality education for all is the key to development, so it is necessary

for staff to show willingness to provide advice on procedures for students. Watson (2013) indicates, from the proliferation of private universities in Lima, and considering the search for educational quality standards, it is pertinent to obtain more information on the demands of students as the main users of the educational service. Being the students of the social psychology mention the least satisfied with the educational service. While, Huerta (2015), suggests applying the SERVQUAL method, to measure and update user satisfaction, due to increasingly demanding, where they seek to exceed their expectations in various procedures performed in that establishment.

Aponte and Zaragoza (2011). Puig et al. (2013) and Sosa (2014), agree on the strategic plan. In this regard, Aponte and Zaragoza (2011), design a value chain proposal to generate competitive advantages in the company in the area of marketing and sales. With a quantitative approach of a non-experimental type, obtaining results of a descriptive transactional nature, showing that the institution needs to readjust its existing strategic planning. Puig et al. (2013). tells us that developing an action plan to improve care and accessibility for user care, allows to achieve an agile and efficient care with citizens and improve the internal organization between the different professionals of the primary care teams and Sosa (2014), proposes a strategic plan and balanced scorecard for the contribution and improvement of management in the star institution of belen in the district of la victoria in the period 2014, with a qualitative approach of a propositional, descriptive type, showing that the institution does not have adequate strategic planning to have clearer key points of the institution and thus be able to reinvent itself and that there is growth in the market".

Based on the different research conducted, we can formulate the question: How does the proposal of a strategic plan improve the quality of customer service in the training program of the adult university student, Chachapoyas, Peru? The theoretical justification was based



on Chiavenato's theory on strategic plan in which he proposes a strategic plan scheme and on the Serqual model of Parasumaran Zhetman and Berry (1992), for the quality of customer service. A methodological justification; Naupas (2013) "indicates that the use of certain research techniques and instruments can serve for other similar research such as questionnaires, tests, hypothesis tests, diagram models, etc.". Instruments such as the questionnaire for both strategic plan and quality of care were developed, which were validated by experts, serving as a model for future researchers, who can apply the designed instruments. And a Social justification, which aims to determine the causes of the reduced number of enrolled students in the training program for adult university students through the use of the strategic planning analysis, for which the external factors will be analyzed at the macro and micro levels, to determine the opportunities and threats, as well as the internal factors to evaluate the strengths and weaknesses that the association currently presents and identify competitive advantages, if any. This information will make it possible to formulate the vision and mission, as well as the long-term objectives and strategies to be followed. Given the above reasons, the general objective is to propose a strategic plan to improve the quality of customer service in the training program for adult university students, and the specific objectives are: 1. 2. To diagnose the level of customer service in the training program of the adult university student. 3. To determine the structure of the strategic plan to improve customer service in the training program of the adult university student. In the same way, the general hypothesis was raised: The proposal of a strategic plan if improves the quality of customer service in the training program of the university adult student, Chachapoyas, Peru.

### **Planning**

Robbins and Coulter (2005), consists of "defining the organization's goals, establishing an overall strategy to achieve them, and drawing up comprehensive plans to integrate and coordinate the organization's work".

## **Strategic Planning**

"Strategic planning is the process used to formulate and execute the organization's strategies in order to insert it, according to its mission, in the context in which it finds itself". (Chiavenato, 2011). Planning makes it possible to propose strategies, which can then be executed.

### **Parts of the strategic plan**

#### **Vision**

"It is a broadly inspirational goal, encompasses all other goals, and is long-term. Although visions cannot be measured by a specific indicator that assesses the degree to which they are being achieved, they provide a fundamental statement of the values, aspirations and goals of an organization (Lerma and Bárcena, 2012) we consider that the vision must be socialized with all those involved in the company". The vision allows expressing the fundamental aspirations and purposes of the organization, defining its long-term objectives, for which it is necessary to answer the question "What does the organization aspire to be?"

#### **Mission**

"It encompasses both the company's purpose and the basis of competition and competitive advantage. More specific and focused statement of the means by which the company will compete. It incorporates the concept of stakeholder management. (Lerma and Barcena, 2012) a company without a mission is unlikely to succeed in the market". It is the reason or *raison d'être* of a company, it is the set of fundamental reasons for the existence of the company, it is necessary to take into account the question "What is the organization dedicated to?"

#### **Corporate Values**

"Corporate values are the collective ideals and principles that guide the reflections and actions of an individual (e.g., loyalty to one's family), or a group of individuals (solidarity or the Darwinian principle that the best survive)". (Lerma

and Bárcena, 2012). They correspond to the organizational culture and are elements specific to each business.

### **Strategic Objectives**

"Strategic objectives are used to operationalize the mission statement, i.e., they help provide direction for how the organization can meet or move toward the higher objectives in the goal hierarchy, the vision and mission." (Lerma and Barcena, 2012). With these it is expected to achieve the position of the organization in a specific market, carrying out actions that allow it to fulfill its mission, inspired by the vision, for this it is necessary to consider the following questions What results does the organization intend to achieve? How does it intend to achieve the expected results?

### **SWOT Analysis**

"A fundamental tool for strategic planning is the SWOT analysis that uses the SWOT matrix: Strengths, Weaknesses, Opportunities, Threats. In English, SWOT is commonly used to facilitate memorization. Through SWOT we can measure the objectives of the company or institution and be able to measure the progress of the same. The internal elements are the strengths (F) generated and proper of the company, and in turn the weaknesses (D) that for natural reasons any organization has or are generated due to the technological and management progress of other companies" ... "The external elements: the competition, its strengths and strategies, as well as its weaknesses, together with the economic, social, technological development and political circumstances, represent opportunities (O) or threats (A). (Chiavenato, 2014)." It is a tool for studying the real situation of a company with which it will be possible to analyze all its internal and external characteristics and be able to plan a strategy for the future.

### **Quality of customer service**

#### **Quality. -**

According to Ferrando and Granero (2008), "Man is man since his existence, and is linked to the concept of quality,

since, from the times when barter was common practice until today, when acquiring a product we have expectations" (pp.13).

Vargas and Aldana (2007), "the continuous search for perfection is the process that has man as its center and from him builds products and services that will lead him to satisfy desires, expectations and needs within a reasonable framework" (pp.72).

### **Service Quality System .**

Parasuraman, Zeithaml and Berry (1992) "Service quality consists of the discrepancy between users' desires about the service and the perception of the service received. He describes it as a form of attitude, related but not equivalent to satisfaction, where the customer compares his expectations with what he receives once he has carried out the transaction". As for the dimensions, it considers within the measurement of quality, traditionally the intangible dimensions, related to the interaction between employees and users or how the service is provided, such as reliability, responsiveness, security and empathy; and on the other hand the tangible dimensions, physical aspects of the service or what is offered in the provision of the service. These dimensions are":

**Tangible elements:** "Appearance of facilities, equipment, employees and communication materials".

**Reliability:** "Ability to deliver the promised service as promised with zero error. This indicator attempts to measure the ability to deliver the promised service. Efficiency and effectiveness in providing the service. Efficiency is the use of time and materials, and effectiveness is simply that the customer obtains the required service".

**Responsiveness:** "The desire to help and satisfy customer needs quickly and efficiently. To provide service in an agile manner".

**Safety:** "Knowledge of the service provided, courtesy of the employees and their ability to transmit confidence to the client".

**Empathy:** It is the solid connection between two people. It is fundamental to understanding the other person's message. It is an ability to infer the thoughts and desires of the other.

Through the questionnaire designed, information is obtained from the customer on each of the service quality dimensions, which measures perceptions versus expectations, measures the relative importance of the quality dimensions and measures behavioral intentions to evaluate the impact of the service quality".

Academic research and business practice have established that a high level of service quality provides companies with considerable benefits in terms of market share, productivity, costs, staff motivation, differentiation with respect to the competition, loyalty and new customer acquisition, to name a few of the most important. As a result of this evidence, service quality management has become a priority strategy and more and more companies are trying to define, measure and ultimately improve it.

This research is descriptive-propositive, since the company's problems were described in terms of loyalty, in order to then develop a proposal based on a strategic plan. According to Hernandez (2010), cross-sectional research designs collect data at a single moment, in a single time. Its purpose is to describe variables and analyze their incidence and interrelation at a given time. At the same time, it is non-experimental since they are studies that are carried out without deliberate manipulation of variables and in which only phenomena are observed in their natural environment and then analyzed.

The population is a set of individuals of the same class, limited by the study. According to Tamayo and Tamayo

(2003) define the population as the totality of the variable to be studied where the population units have a common characteristic which is studied and gives rise to the research data". For the present research, 63 students of the adult university training program of the Cesar Vallejo University, based in the city of Chachapoyas, were taken as the population.

The instrument applied was a questionnaire elaborated with a series of 21 statements or assumptions in Likert scale composed of 3 levels of response: Total Agreement (TA) Indifferent (I) Total Disagreement (TD), used to measure the variables and were validated by expert judgment, the contents and structure of the items were verified, the construct and criterion validity was also carried out, to reach the reliability of the instruments the statistical method of cronbach's alpha was used which gave as a result (Alpha = 0.875), for both variables, whose validations and reliability of the instruments were carried out on the basis of the data obtained from the pilot test.

The technique used was the survey, as a statistical method descriptive statistics was applied for the levels of variables, dimensions and inferential statistics for the contracting of hypotheses. If the proposal of the strategic plan improves the quality of customer service in the training program of the adult university student, then it will increase the number of students. Human talent, as one of the most relevant factors, has to see training as a way and a competitive strategy that generates competitive advantage.

Table 1. Percentage level of the strategic plan in all its dimensions, according to questioned.

Plan Estratégico										
Dimensión	Visión		Misión		Valores Corporativos		Objetivos Estratégicos		Análisis FODA	
Indicador	Metas a largo plazo	Socialización de metas	Actividades de la empresa	Realización de operaciones	Ideales colectivos	Principios colectivos	Planificación de estrategias	Cumplimiento de misión	Avance de objetivos	Elementos internos y externos
Items	¿Considera que la empresa tiene metas a largo plazo?	¿Considera que las metas deben ser socializadas con los miembros de la empresa?	¿Considera que la empresa realiza actividades y tareas de forma diaria para lograr sus...	¿Considera que la empresa realiza operaciones y procedimientos de forma diaria para...	¿Considera que la empresa tiene ideales colectivos que guían las acciones de los colaboradores...	¿Considera que la empresa tiene principios colectivos que regulan las acciones de los...	¿Considera que la empresa planea estrategias para lograr las metas propuestas?	¿Considera que la empresa realiza acciones para cumplir su misión?	¿Considera que la empresa mide el avance de sus objetivos?	¿Considera que la empresa tiene elementos internos y externos que ejercen presión...
TA	71.43%	69.84%	66.67%	71.43%	69.84%	65.08%	71.43%	66.67%	68.25%	63.49%
I	7.94%	4.76%	4.76%	6.35%	7.94%	3.17%	6.35%	6.35%	7.94%	7.94%
TD	20.63%	25.40%	28.57%	22.22%	22.22%	31.75%	22.22%	26.98	23.81%	28.57%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 2. Percentage level of customer service quality in all its dimensions, according to respondent.

Calidad de Atención al cliente											
Dimensión	Elementos Tangibles			Fiabilidad				Capacidad de Respuesta		Seguridad	Empatía
Indicador	Equipos modernos	Infraestructura a moderna	Instalaciones apropiadas	Cumplimiento de promesas	Solución de problemas	Tiempo apropiado	Servicio sin errores	Puntualidad	Servicio rápido	Trato amable	Comprensión de necesidades
Items	¿Considera que la UCV cuenta con equipos modernos?	¿Considera que la UCV cuenta con infraestructura moderna?	¿Considera que las instalaciones de la UCV tienen una buena apariencia?	¿Considera que la UCV cumple con lo que promete con respecto a lo que ofrece?	Solución de problemas	¿Considera que el tiempo que usted espera para ser atendido es el apropiado?	¿Considera que la UCV brinda un servicio con cero errores?	¿Considera que el personal que labora en la UCV es puntual?	¿Considera que el personal de la UCV le brinda un servicio rápido?	¿Considera que el personal de la UCV le brinda un trato amable?	¿Considera que el personal de la UCV comprende lo que usted necesita?
TA	71.40%	69.84%	69.84%	71.43%	68.25%	68.25%	79.37%	71.43%	73.02%	74.60%	69.84%
I	7.94%	7.94%	6.35%	6.35%	6.35%	4.76%	4.76%	6.35%	7.94%	7.94%	6.35%
TD	20.63%	22.22%	23.81%	22.22%	25.40%	26.98%	15.87%	22.22%	19.05%	17.46%	23.81%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Significant changes have been achieved with respect to the proposal of a strategic plan to improve the quality of student care in the university adult education program in Chachapoyas, it should be based on having: Mission, vision, corporate values, strategic objectives and SWOT analysis, allowing to understand that; "Strategic planning is the process that serves to formulate and execute the strategies of the organization in order to insert it, according to its mission, in the context in which it is located". (Chiavenato, 2011). Planning makes it possible to propose strategies, which can

then be executed.

Aponte and Zaragoza (2011). In their study on the design of a strategic plan based on Michael Porter's value chain in the area of marketing and sales in the Interceramic franchise, Puebla, they consider as the initial and main work to design a value chain proposal, which allows generating competitive advantages in the company in the area of marketing and sales. This research was non-experimental and under the quantitative approach for the collection and analysis of data, yielding results of a descriptive transactional nature. For this study it was necessary to define the population and sample units, surveying 250 frequent customers, whose results showed that the proposal of the strategic plan design, increased sales by 63% in relation to existing sales initially and that the loyalty of customers or users allowed to have a selected segmentation of the market.

We also have Ferrando and Granero (2008), since man is man there has been the concept of quality, since the times when bartering was common practice until today, because whenever we acquire a product we have expectations". Morán (2017), quality as the set of aspects and characteristics of a product or service that are related to its ability to meet the expressed or latent needs (needs that have not been met by any company but are demanded by the public) of customers. This subjective view of service quality is oriented from the theory of consumer behavior, as expressed by Rust and Oliver (1994), through the gap between consumer expectations and perception, the satisfaction judgments issued on the services offered are checked" (p.34). Peña (2015), in his research "Evaluation of the quality of service offered by the commercial company rc to its customers - Chiclayo branch", in which he proposes to determine the status of the characteristics of the service provided to improve this in the company Comercial RC located at Av. Grau No. 698 - P.J. San Nicolás - Chiclayo in relation to the performance of the business. The results obtained showed that there is a low level of service quality offered to its customers by the company, since the gaps between dimensions were significant. Finally, it is concluded that the



practical application of the SERQVUAL model (instrument to know the existing gap between expectation and perception) allowed us to identify which items of the security dimension are being more covered (average gap 0.28) in the company COMERCIAL RC - CHICLAYO and which items of the tangible elements dimension (average gap 0.67) need continuous improvement in the quality of service. In this way we obtained the gap in the customers' perception of the company, the perceived service quality and the ideal service quality that were found with the results of all the dimensions.

The quality of customer service is a process aimed at achieving total satisfaction of the customer's requirements and needs, as well as attracting an increasing number of customers by means of positioning, which leads them to carry out person-to-person advertising free of charge. User satisfaction is linked to each specific transaction, unlike attitude towards a product or service, which is general and can exist without a specific personal purchase and consumption experience (Oliver, 1980; Evrard, 1993/4; Lewis and Mitchell, 1990). Perceived service quality is similar to attitude toward a service (Cronin and Taylor, 1992; Bitner, 1990; Churchill and Surprenant, 1982), and is not linked to each specific transaction such as customer satisfaction, but is an overall or global assessment of the service (Parasuraman, Zeitharnl and Berry, 1994; Cronin and Taylor, 1992).

Considering the mission, vision, corporate values, strategic objectives and SWOT analysis as steps in a strategic plan to improve the quality of customer service in the university adult education program in Chachapoyas, Peru, leads us to the following conclusions:

The strategic planning level of the university adult education program should have greater consideration in its goals and should be socialized with each of the members of the company, as well as perform activities, operations, procedures and tasks on a daily basis to achieve its proposed objectives and can achieve the goals set in the recruitment and retention of students in the program.

The level of customer service in the university adult education program in Chachapoyas is medium-low, despite the fact that the company has modern equipment, modern infrastructure and a good appearance. The biggest problem is the study schedule and the teaching and administrative staff that attends students in reduced hours.

The structure of the strategic plan to improve customer service in the university adult education program must consider internal and external elements that exert pressure on the company, measure the progress of its objectives, carry out actions to fulfill its mission, considering as a starting point that periodically the SWOT can be carried out, in order to strengthen the weaknesses and take advantage of the opportunities, and reduce the threats that every company has in the way of its positioning.

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## **Neuroleadership a tool for educational management**

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### **Introduction**

The issue at hand responds to specify how neuroleadership is a tool for educational management that commits to enhance decision making, therefore it is relevant to know the basic characteristics of both neuroleadership and educational management, considering that this becomes optimal when there are leaders who act within the framework of neuroscience, framed in the values of social work in educational institutions.

Neuroleadership has to do with the functioning of the brain and the leader must understand the meaning of the neural basis to understand the performance of people, manage work teams, analyze the emotional and intellectual elements to manage an institution, but also to understand himself.

The contents are addressed around two major topics such as the characterization of neuroleadership according to principles, qualities and conditions, as well as educational management focused primarily on basic education. Based on the method of systematic analysis of information to understand the behaviors of educational leaders oriented to take advantage of the opportunities offered by neuroscience for educational processes focused on evidence (Gocen, 2021).

The neuroleadership as a tool intends, then, to glimpse various perspectives, approaches and experiences related to neuroscience, which allows to open the mind for a person to be a leader in an educational institution and thus to make educational policy, operations on educational management specifically in regular basic education. So the neuroleadership is a modern tool to feel and live the educational management, always looking for openness, registration and laboriousness of internal and external resources of the context.

## **Leadership, leader and neuroleadership**

It is about specifying the meanings of leadership, leadership and referring to certain leaders in the world, as well as about neuroscience, in all cases making a specific characterization, aimed at collecting updated information regarding neuroleadership, advocating its exercise mainly in educational management, so necessary to promote the development of an educational quality without discrimination and that generates happiness in the entire population.

Prior to the characterization of neuroleadership, it is pointed out that leadership is the ability of leaders to modify the behavior of subordinates, motivating and empowering them to make the most of the knowledge and skills of the followers in favor of the objectives of a given organization (Pedraja-Rejas, Rodríguez-Pone, Espinoza-Marchant and Muñoz, 2021).

The term leadership etymologically means *the one who has received the position of guide*; it comes from the suffix *azgo*, whose meaning is set of activities of, of the leader, and from the English word leader which means guide (Etymological Dictionary). So the leader is the person who guides a group, a mass of people, an educational institution or other, it has to do with going towards something, positive of course, with movement, mobilizing the group of people, accompanying them. The followers of a leader then, have to get on board the leader's singular boat for their own motivation, being in front of a servant leadership.

The etymology of leader, a word derived from the English word leader meaning guide, in turn composed of the verb to lead which means to direct, to go ahead. Lead comes from a Germanic root that is related to the Danish *leiden*, *pokorny* associates it with an Indo-European root *leit(h)-2-*, meaning to go out or to die, also present in the Greek *loimos* meaning pestilence. The suffix *er*, meaning agent, the one who does the action, as in teacher, meaning the one who teaches, from teach, to teach; poster and catcher, equal to catcher, from catch meaning to catch (Etymological Dictionary). Thus, it is pointed out that the leader is the one who guides, orients, directs, leads, directs forward, towards the achievement of a goal, of objectives, even risking his life and probably not recognized by the company, by the



institution, for being the one who directs actions as a teacher does in the educational institution.

The current social and environmental challenges indicate that sustainable business leaders have to engage in a pursuit of strategies, business models and solutions to meet the needs of society while avoiding compromising the natural wealth relevant to the growth and development of new generations (Giovanini, 2021). Hence the importance of good leaders as is the case of the Prince of Wales has joined and requested companies to have more sustainable business leaders at the front. Therefore, it is necessary to have leaders, sustainability directors in the institutions, to guarantee the commercial, business, management and decision making strategies, taking into account the Sustainable Development Goals (SDGs).

The author also highlights other leaders such as Dickenson, CEO of Taven + Lily, a leader in the ethical fashion industry and social business, providing women with special tools to realize their potential and move towards a better quality of human life, overcoming poverty. Desai, Global Head of Dole Packaged Foods, working for all people to enjoy nutrition and wellness in a positive, sustainable and gender-equal way in business and leadership. Hiranaga, Director of General Mills, concerned about companies being a force for good by helping to strengthen communities.

Fleischer, characterized by the reinvention of organizations to achieve data-driven and complex end-to-end systems to power business growth in fast-changing environments, to develop skills demanded by the 21st century. Nixon-Saintil, an engineering student who excelled in working on the issues that women face daily in the academic fields of science, technology, engineering and mathematics (STEM), has focused her work on addressing gender inequality in her current position as Vice President of IBM and Director of Corporate Social Responsibility on addressing gender inequality in the pursuit of professional development and a better quality of life.

Mitchell, mobilized the Grenner Rinks program for the field hockey league to value the availability of sustainable stadiums to have model community rinks adding to it the protection of water and develop the preservation of this valuable resource for human

life, is so for example care in buildings and in general in all homes maintain water and energy systems, control the levels of cooling, humidity and temperature, water heating equipment. Aragón aimed to transform the company he leads, driving progress through clean energy solutions, placing the company with zero energy in net business emissions for the year 2050 and even before this date.

Savage, Patagonia's director of social responsibility, leads decent work, with living wages to enjoy a dignified life, stresses that it is consumers who must reject low-cost disposable products, demanding quality. Joy Tan, as Vice President of Public Affairs at Huawei, leads the way in building a smart world with digital connectivity and sustainability. Fink, a U.S. businessman and financier, chairman and advisor of BlackRock, every year asks companies to commit to the environment and communities, and for the current year, 2021, he warned that the first enemy in the world is climate change, if not resolved, it is impossible to solve the challenges outlined in the SDGs. Shin-pei Tsay, Uber's transport and cities policy leader, has the role of guiding companies to monitor environmental impact and migrate to electric fleets by 2025. Of course in the world there are countless leaders, men and women, committed to responsible change in favor of the population without distinction, laudable, of course, but that requires the ongoing participation of leaders, the articulation of their proposals and their realization for a better planet earth, within it for a quality educational management.

Now, neuroscience is the set of scientific disciplines responsible for studying and understanding the central nervous system at the molecular, cellular, systemic, behavioral and cognitive levels (Bustamante, Fernández and Barrós, 2018, as cited in Arana (2020). For his part, Ibarrola (2013) points out that in the 1970s to 1990s the human brain was analyzed for the first time without its owner having died, with the application of magnetic resonance imaging techniques and positron emission tomography, giving rise to neuroscience with an interdisciplinary character to study the brain, thereby knowing in depth about the structure and corresponding functions.

Likewise, Arana (2020) points out that neuroscience is in charge of studying the brain and the nervous system in order to explain

human behaviors and learning processes; the author cites Gueguen (2019) who specifies two conceptions of neuroscience: *cognitive* neuroscience, in charge of analyzing cognitive brain mechanisms, and *affective and social* neuroscience, which studies the brain mechanisms of emotions, feelings and the consequences they have on the brain and on development.

Neurosciences are included in all disciplines of human knowledge with their various contributions such as development, aging or changes in living beings generated through the passage of time; neuronal death, intellectual capacities such as memory, learning, language, cognition and emotions; implementation of models in neurosciences; the biological bases of psychopathologies; psychopharmacology; cellular and molecular plasticity; perception, psychophysics and movement. Thus, the objectives of neuroscience are to study the brain and the nervous system in general; to deepen the knowledge of the relationships between the brain, mind and behavior; to establish bridges between the disciplines of biology, sociology, humanities and computer science; to investigate the origin, diagnosis and treatment of diseases that depend on the brain and the nervous system (Rossel, Juppet, Ramos, Ramirez & Barrientos, 2020).

A case of neuroscience is, for example, when asking why what is studied remains many times in the short-term memory, the answer is that generally everything is left for the last moment, thus sending wrong orders to the brain to make believe that what is stored has no relevance knowing that it does, for example you have a shopping list to go to the market and a history evaluation test and they are considered of the same relevance, however it is stressed that the evaluation indicated is of greater importance.

The same authors mentioned above point out that the brain has evolved to associate and confront environments, to self-educate and educate the human being's own organism, to allow it to understand the enormous capacity it sustains. So there is a challenge for teachers, for educational leaders to know how the brain learns, the way it processes information, the control of emotions, feelings, attitudes and also weaknesses in the face of certain brain stimuli; aimed at developing pedagogical innovations, making educational management, making transformations in education, for example.

Neurosciences encompass levels of analysis that according to Canales (2018) are the *molecular level* that encompasses the knowledge of molecular biology applied to the nervous system, having as thematic axes molecular neuroanatomy, genetics and neuronal development, neuroplasticity, molecular signaling in the nervous system, neurogenerative diseases. Thus, this level has been identified as the most complex part of living matter that exists in the universe.

The *cellular level* has to do with the morphology and physiology of individual neurons in their various types, the neuronal interinfluence, the joint work they perform. An example is the human connectome that develops a map of the connections that occur between neurons in the brain using pathway tracing, which traces the nervous system from one part to another, as is the case with intracranial electroencephalograms that record electrical activity directly from the cerebral cortex of the human body.

The *systemic level*, formed by complex circuits of neurons with diverse functions such as seeing, visual system, hearing, auditory system, tasting, feeling, balancing the organism, each one with a different circuit within the brain. Then, at the systemic level, we study the neural circuits and the analysis of sensory information, perceptions of the world, decision making and the movements they perform. The visual system is a neuronal circuit, which analyzes the sensory information provided by the environmental stimulus to collect the perceptions of the external world and then make decisions. As for environmental stimulus, we have for example the tree, visual stimulus, which reaches information to the brain. The motor system that allows the decision made by the brain to be put into practice, for example moving the arm to touch the branches of the tree.

The *behavioral level*, where neurosciences through various techniques determine the location, existence and characterization of brain damage and the influence they exert on the behavior of the person, whose complex mental functions correspond to language, thought and memory. *Cognitive level*, aimed at understanding the neural mechanisms responsible for the highest levels of human mental activity, such as self-awareness, imagination and language. At this level are the computational sciences that see the brain as an information processing system, to solve problems through specific computations.

Damiano (2014) points out that neuroleadership requires leaders to know how the human brain works, in order to act, produce successful situations and work climates to have permanently motivated collaborators, such as the recognition of human talent. Rock (2020) coined the term "neuroleadership" to talk about the application of neuroscience to leadership; it is about helping managers to understand the impact that emotions and habits have on the behavior of others and vice versa, and how this affects their successes and failures, and how this awareness can produce a real change in the leader.

It is essential to know the basic aspects of neuroleadership, therefore, Arana (2012) states that it focuses on intellectual and emotional aspects related to decision making, team management, individual and organizational learning, creativity and innovation, change management, motivational processes, reward mechanisms.

Ruiz, Ruiz and Hernández (2020) state that today's world is volatile, uncertain, complex and ambiguous (VICA), with new knowledge and skills, which implies modernizing the skills of leaders, adapting them quickly to changes, thus ensuring good performance of organizations and therefore of collaborators. Thus, neuroleadership lays the neural foundations of leadership for educational management in the field of education.

Likewise, the authors point out that it is likely that the productivity of a company can be reduced by various factors, such as with non-incentivized collaborators in which the best of themselves is not appreciated, monotony at work, deficiencies in communication between collaborators and management personnel of the institution, economic remuneration not commensurate with the work being done, distrust in the company and leaders which limits the production of new ideas. These situations give rise to leaderships with new tendencies among them the neuroleadership that must be adopted by the companies, by the educational institutions, recognizing that the leader is the basic element for the emotional climate of an organization whose attack gives rise to the mobilization of the group towards a certain direction.

Atencio, Ramírez and Zappa (2020) express that neuroleadership is assumed as a tactic that allows formalizing

through in situ analysis the attitudes and competencies of the leaders who direct and execute the progress of educational institutions. Therefore, for the processes of directive management, leadership criteria are required that show the successes and failures, which allow knowing a certain educational reality to propose solutions to the problems from the cognitive-emotional base. Therefore, it is necessary to highlight the basic relationship between neuroleadership and educational management, which should be taken into account for the prosperity of educational institutions.

In the daily work inside the educational institutions, the management staff has to deal with different situations during the performance of the teachers and other collaborators; some of them are encouraging and show the dedication and efforts in the work, and others generate concern, discomfort, reactive attitudes that in many cases are the cause of the wear and tear of the work environment:

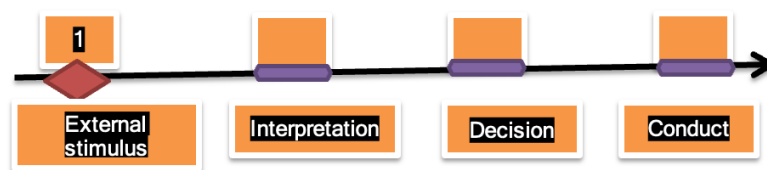
Knowing that, if the teacher does not have a cordial treatment with the students then it affects their self-esteem; knowing that the teacher generally does not plan and performs the educational tasks in an improvised manner affects the students' learning; if they present reduced initiatives and reduced methodological efforts they do not impact the students, a sign that they do not leave the comfort zone, offering in general more of the same.

Situations of non-compliance with the work as a teacher, many times not attending classes, not having the necessary tools and educational materials to develop the pedagogical work; in other cases the teacher is poorly aligned with the institutional vision, and shows little commitment and identification with the Institution, directly affecting the educational management.

Faced with the aforementioned aspects, the response of the institution's management staff may be *reactive*, judging, calling attention, sanctioning or it may be a *reflective* response, a director who seeks more suitable communication channels and strategies that promote a change of attitude, making possible new ways of acting and therefore fostering illusion instead of dissatisfaction.

This last option challenges managers not only to have the ability to manage material resources, but also to adequately manage the human potential that accompanies them, to lead, which requires in this sense to be nourished by what is offered today by the development of science and technology, specifically neuroscience and the understanding of human behavior; Appealing to this

valuable contribution, the manager, faced with these situations, will be able to analyze the context, regulate emotions, understand the behavior and emotions of the collaborators, use assertive communication, persuasion strategies, reflection mechanisms, opening spaces for dialogue, among others. The following figure illustrates these ideas.



*Figure 1.* E-stimuli trigger behaviors. (Serrat , 2013)

Neuroleadership, allows to enhance human relationships, enhance intra and interpersonal communication, understanding that a leader has to be in the ability to transform people, starting from the attitude itself as such, whose actions inspire to dream more, learn more, to do more and be better; acting reflexively, with human sense and with the conviction that other people can overcome difficulties, can modify their attitudes, taking advantage of the neurophysiological resources that each one has to undertake a journey towards excellence and to a large extent depends on how the manager, leader, approaches, manages each situation from an appreciative look to guide it towards the favorable transformation of the group, the institution.

It is important to recognize the teacher for leading the tolerance, respect and affection that he/she transmits to the children, that makes them feel important, self-confident, learn more and better; to recognize the competence, to count on the programming, that allows to carry out the teaching work with all the demands of the case. Then the teacher will feel more confident in carrying out educational activities, gradually incorporating novelties in the learning sessions, situations that motivate students, thus demonstrating how much he cares about the welfare of students, the development of the institution. The above is summarized in the expression of Alex Rovira "Treat the human being as he is and he will continue to be what he is, treat him as what he can become and he will become what he is called to be".

## Convergences in Educational Management

In this second part, the etymology of management and education is developed as a basis for the knowledge of such terms, to then address what corresponds to educational management, establishing relationships with leadership and neuroleadership, so necessary in the field of education, making it clear that in education students learn fundamentally, but in itself, students learn and teachers also learn, both are in a continuous learning process, this is extrapolated to educational management, aimed at working for educational quality in all educational institutions, in decentralized agencies and in the central body such as the Ministry of Education.

According to the etymological dictionary, the word management derives from *gestio, gestionis*, composed of *gestus* which means done, concluded; it is a participle of the verb *gerere*, which means to do, management, to carry out; and the suffix *tio*, which means *cion, action* and *effect*; hence the appearance of the word *gestionar*. From the verb *gerere* derives *manager, gerund, belligerent, to digest, to suggest*; from the participle *gestus*, from which comes *gesto* meaning to gesture, digest, congestion, suggestion, indigestion. It is also linked to the Indo-European root *ag*, meaning to lead, from which we have the term *agere* from which we derive the words *agenda, agitate*.

So, the term management has to do with managing, meaning to conclude facts, to do, to carry out; it is action, effect, it is to suggest, to manage, it is congestion, suggestion, to lead, to schedule, to agitate, important meanings that imply to mobilize people to act in favor of the development of the institution, of the human talent of the same one.

When talking about management, various functions such as planning, organization, execution and control are observed, which involve decisions and actions, closely related, with the purpose of achieving the objectives of an organization, creating conditions to optimize the processes and therefore the achievement of results. The management of the teaching staff is one of the causes of the quality of the educational service, therefore it is necessary to consider in the management processes as a priority the strengthening of teachers to overcome the transmissive methodology, moving to active, participatory and reflective methodologies, where the teacher is the mediator for the construction of learning. CITATION Pér20 \l 2058 Pérez & Ledo (2020) .

As for the word *educativa*, related to education, according to the



etymological dictionary, it derives from the Latin *educatio* which means upbringing, training, education; from the verb *educare*, which means to nurture, raise, educate, which derives from *educere* which means to guide, export, extract. From *educatio* we have the prefix *ex* which means outward, as in the case of *expose*, *expose*, *expel*. Associated with the Indo-European root *eghs* and the Greek prefix *ek-ex*, meaning *eclipse*, *eclectic*, *exorcism*, *exodont*. Then we have the root *ducere*, meaning to lead, guide, produce, seduce, decide; in turn it is related to the Indo-European root *deuk*, which means to guide, drag, applied to people of high social status, hence the word *duke*. The suffix *tio*, equal to *cion* which is indicating action, effect as in the terms *administration*, *capitulation*, *exhibition*, *intervention*.

So there is a person who guides and another who is guided and in some cases both are guided and are guided, referring to teachers and students; in this way education is training, learning, nurturing, guiding, exposing, leading, exporting, extracting, for the development of the person, both at the level of the educational institution, formal education, at home, in the community, non-formal education, to have a good citizen in the future in a given context, developing positive attitudes, excellent, contagious among people.

Joining the terms management and education, we have educational management, which according to Contreras (2019) it is oriented to the realization of relevant activities that allow the achievement of institutional educational objectives from a shared vision, giving rise to leadership that involves two fundamental functions: *providing direction and exerting influence*, constituting the key to good educational management with effective leadership.

Good leadership in educational management allows integrating and coordinating work teams with common educational goals, establishing strategies, respecting the functions of each member within the framework of tolerance and respect, aimed at positioning the educational institution effectively to train students competently, as a main purpose of educational management. Therefore, educational management constitutes a fundamental pillar to achieve the optimal development of educational institutions, considering that every organization works as a system, therefore its elements require conditions to operate.

In this sense, educational management is not reduced to managing infrastructure, administration of resources, materials, financial resources; educational management emphasizes the management of and for student learning, so it is necessary to have an amalgam of processes, strategic management, operational management and support, as follows (MINEDU, 2016) strategic management provides guidelines and the route of action to the educational institution, the operational processes with actions directly related to students and parents and finally the support management processes that contribute to the previous processes, therefore also very necessary.

Taking up the idea of Quintana (2018). it can be specified that educational management is the integration of the general principles of educational administration and training aimed at student learning and attitudes and values in general; from this vision two approaches are considered one oriented to the solution of the educational institution's own issues, adapting the administrative models to reality and the other the management of learning achievement, a fundamental function of the educational institution.

Aguilar, Soplapuco, Molina, Cuba, & Bazán (2020) point out that the value of educational quality lies in the quality of human beings and vice versa, who are formed in solvent educational institutions, which offer a quality educational service, with better opportunities to develop the life projects of students, that implies assuming an institutional policy focused on the effort of collective construction of quality management processes, encouraging the commitment of all, teamwork and inclusion, effect of the application of neuroleadership.

The primary mission of educational management is to improve the educational service provided by the educational institution or a decentralized educational agency such as a regional directorate of education (DRE), a local educational management unit (UGEL), from this perspective, whoever leads an educational institution must exercise excellent leadership by emphasizing pedagogical management and not only administrative management, in order to respond effectively to the demands of students, therefore involves mobilizing institutional capacities to generate conditions that produce authentic and relevant learning, creative, with a critical sense, that is, to train competent

students, able to respond appropriately to different situations.

An educational management focused on learning requires an articulated work, the implementation of different mechanisms and the use of various tools that bring the pedagogical leader closer to the true spirit of the educational institution, which is fundamentally the achievement of learning by students. Therefore, as Ayala (2020) points out, the managerial leader must be a visionary, managerial, creative, participatory, collaborative, policy communicator, who favors the development of a good organizational climate in order to contribute to ensure educational quality.

Educational institutions, as it refers Quintana (2018). need a management staff that, supported by neuroleadership and pedagogical knowledge, manages to organize the ways of doing, interpreting, agreeing, concretizing and putting into action the work of the educational institution focused on learning. Every educational institution orients its daily work to provide a pertinent educational service, being challenged to a process of redesign at all levels, in the understanding that *"Organizations are transformed, not when buildings are built, but when people change"*, requiring the educational leader, to apply a new approach to the educational process. This requires the educational leader to apply neuroleadership and to be able to manage this process of change.

As they point out Molina, Collazos, Ruiz, Hernandez, & Gonzales (2021) in light of the new paradigms, the management staff of educational institutions, through their management, has the commitment to put them into practice by promoting spaces for reflection to adopt empowering attitudes, make the right decisions and undertake different and impacting actions that guarantee the transformation of educational institutions, in essence, the optimization of educational services commits each member to assume professional performance to give rise to institutional transformation and thus contribute to the generation of public value in a given community.

Lemus (2020) states that the current educational scenarios demand that within each institution, collaborative actions must be dynamic, with shared responsibilities and the effective intervention of the different actors. Therefore, it is essential to

have suitable managers, with a sense of ethics and participative leadership style; managers with new ways of conceiving educational management, of deciding and acting with the capacity and skills to communicate, work as a team, capable of encouraging the development of new human values, that allow the commitment of him and his work team with a high commitment to rethink education from their own practice, which means that educational management is not static and inflexible, but constantly reviewed, reflected and rethought.

It is through the educational management carried out by the management staff of an educational body that conditions are generated, learning spaces and citizen coexistence are created, ideal for the appropriation and constructive reciprocity of knowledge, cementing the culture of collaborative work, creative work, with leadership, assertive communication, work oriented to the achievement of educational objectives.

The role of the leader in an educational institution is crucial, the vision, the conviction, the approach to educational management that he/she adopts, traces the route of his/her work, hence it is essential to focus the exercise of leadership on learning to make visible the needs for change and propose innovation processes, generate impact on the organizational culture, to give rise to a high quality educational system, as referred to by CITATION Las191 \l 2058 Lasso, Maya, Alavarado, & Velasco (2019).

The exercise of leadership in educational institutions requires taking into account specific approaches and theories such as the situational approach which, according to the situational approach, the leader's effectiveness lies in the ability to adapt and modify his style in situations that require participation. Hersey & Blanchard (1993) the leader's effectiveness lies in the ability to adapt and modify his or her style in situations that require participation; it implies being able to adapt to the maturity level of the followers, considering the experience and competencies demonstrated in the professional performance.

According to the contingency theory, as they point out **CITATION Fie87 \l 2058** Fiedler & Garcia (1987), a leader has to be able to make an adequate reading of a given situation to achieve a real adaptation of the leadership style, which gives assurance to the leader according to the contextual circumstances. Likewise, the theory of the member-leader

exchange, which according to Graen & Uhl-Bien (1995) emphasizes the leader's relationship with the members of the educational institution as a condition for generating a climate conducive to optimal performance.

This same perspective is stated as follows Molina, et al. (2020) indicating that it will be possible to achieve total educational quality in the educational service, knowing the physical and emotional state with which the human talent interacts and the way in which it is working to achieve the objectives of the institution. Therefore, it is required that the management staff of an educational institution cultivate positive emotions that allow them to think and act better and better in the institutional development.

To exercise good leadership requires the practice of self-management of the leader's own emotions, so that he/she will be able to make new and better decisions, generating an empowering work environment in the institution. Then it is necessary that the management staff of the educational institution assumes the role as true agents of change, acting with the commitment to the resurgence of new practices of educational agents to generate new ways to respond to the educational demands in different contexts. Educational quality depends, to a great extent, on the educational management carried out by the institution's management personnel; which demands from them, certain interactive, professional, academic, administrative and educational management competencies in general, providing them with the necessary tools to achieve institutional efficiency. (Lemus, 2020).

### **Support for educational management**

In the different levels of the educational field there are scenarios where generally there are disagreements, disagreements at the level of the different educational processes, to some extent it is considered normal, however, you have to overcome the problems reaching consensus, for this you need a leader who fundamentally manages the neuroleadership, so it is essential to note the relevance of educational management. CITATION Vas20 \l 2058 (Vasconcelos, Imbiriba, & Aquino, 2020).

In the field of education there is always talk of educational quality, the same that depends on the educational management

carried out by the educational authorities (Lemus, 2020), achieving educational quality also implies knowing the physical and emotional state of human talent (Molina, et al. (2020), educational quality depends both on the leader and on all those who comprise the human talent, being necessary the close relationship between the managerial leader and the members of the educational institution (Graen & Uhi-Bien, 1995), therefore the educational leader must be able to interpret the educational reality as a first instance; with the ability to modify it (Hersey & Blanchard, 1993) and thus aim at achieving a quality educational system (Lasso, Maya & Blanchard, 1993). The educational system is based on collaborative activities, of shared responsibility, that respond to new paradigms and with leaders who know and apply neuroscience to achieve the educational quality so desired, so that the management of the educational institution has an authentic pedagogical support.

It should be noted that educational management with the above considerations should be integrated by administrative and pedagogical principles (Quintana, 2018), a strategic management with authentic guidelines and concrete routes for the development of education (Minedu, 2016) therefore to achieve the great national objectives of education, participating from the lowest rung to the highest, following an inductive path complementing with the deductive.

In the educational institution and during the corresponding management, the management staff is in charge of the different educational activities according to areas, collaborating staff, according to the UGEL to which the educational institution belongs and there is the function of management with balanced communication management and in an assertive way. Therefore, there must be a constant dynamization between the leader and the human talent, so the neuroleadership is a tool that channels communication to the extent that the behavior of the collaborators and the management itself is understood, giving rise to a good working environment as a basis for good institutional development.

Neuroleadership is a modern tool to feel and live educational management seeking understanding, recognition and application of internal and external resources of the context. Hence, the success of an educational institution is fundamentally based on the correct emotional management of human talent.

The educational neuroleadership ensures notably the absorption of the transformations that occur in the environment, in accordance with the development of science and technology, hence currently education professionals and educational institutions in general are concerned about the preparation in neuroleadership in order to optimally achieve the capabilities of the brain, thereby developing a quality educational management that meets the expectations of students, parents and the community in general. Therefore, neuroleadership from neuroscience gives a fundamental role to the sensitivity to lead the staff of an institution.

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## **4MAT model and its influence on English language learning, Jesús María**

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### **Introduction**

In this globalized world it is evident that English has become the global language of communication, it is the most widely used language in the world, more than 50% of information on the Internet is in this language. This is undoubtedly a vital linguistic tool for many businessmen, academics, tourists and citizens of the world who, in the future, wish to communicate easily at an international level. (Harmer, 2001). Research shows that cross-border business communication is in English, therefore it is a necessity to speak English to enter a global job.

Indeed, nowadays English is considered a fundamental component of basic education, and is even a requirement for university entrance (Durán R. and Beltrán F., 2013). Our country is no stranger to this reality, nowadays the English language is a necessity, because whoever does not master this language would be at a disadvantage, that is why more language centers have emerged to meet this demand. The educational centers at different levels have increased their hours of English, universities consider English as a requirement for graduation, also to opt for the degree of magister and doctor are required at least an intermediate level.

To learn this language we must develop receptive skills (oral comprehension and written comprehension) and productive skills (oral production and written production), as Douglas Brown points out: "Over nearly six decades of

research and practice in English language teaching, the "four skills" - listening, speaking, reading and writing - have been identified as being of paramount importance". (Brown, 2014). In Peru, it is mandatory, the approval of the English subject for basic, high school and higher education levels. Therefore, the 4MAT methodological strategy based on learning styles is proposed as a tool to increase and improve motivation and learning of English.

### **Model 4MAT**

The 4Mat System model, proposed by Bernice McCarthy, is based on Kolb's postulates and the influence of the hemispheric specificity of the brain in teaching, learning and human development. This is proposed as a resource to know the student and how he learns, therefore, it is of vital importance that teachers know the learning styles used by their students to guide the learning process of concepts; guiding them in the construction of strategies that enable the development of scientific competencies and prepare them for their future life. (Gutiérrez and Santos, 2012).

According to McCarthy, B. and McCarthy, D. (2006): there are two major differences in the way we learn, the first is how we perceive and the second is how we process. We perceive reality differently, we take things in different ways. In new situations some of us process primarily through feeling while others through thinking. The 4MAT system's continuum moves from reflection to action, the combination of these two possible choices in the individual forms the individual differences, which he calls imaginative, analytical, common sense and dynamic learning styles.

### **Imaginative Learning Style**

They are learners who perceive concrete information and process it through reflection, integrate experiences into

themselves, and learn by listening and sharing ideas. They are highly imaginative people who believe strongly in their own experiences. Their right hemisphere seeks to give personal meaning to events through experience, while the left hemisphere seeks to understand experiences by analyzing them.

### **Analytical Learning Style**

Students who perceive information abstractly and process through reflection. They develop their own theories by integrating observations into their knowledge. They learn by reasoning from ideas. They need to know what experts think. They feel more comfortable in traditional classrooms. Their right hemisphere seeks to integrate experience into what they know and thus clarify whether they require more information, while the left hemisphere seeks new knowledge or information.

### **Common Sense Learning Style**

Students who perceive abstract information and actively process it. They integrate theory into practice by testing theories and using common sense. This type of learner is usually pragmatic; they believe that if something works, then it should be used. They are realistic and objective problem solvers, value strategic thinking, and are oriented to the development of diverse skills. They need to work directly with things to know how they work; they seek utility and results. Their right hemisphere looks for individual application and use of learning, while their left hemisphere looks for more general examples of what other people have done.

### **Dynamic Learning Style**

Learners who perceive concrete information and actively process it. They integrate experience and practical

application through trial and error. They are interested in new things, so they tend to adapt easily to change. They like to take risks and have no problem adapting to people, although, on occasion, they can be manipulative or directive. Their right hemisphere seeks to understand learning while their left hemisphere seeks to analyze learning for relevance and meaning.

### **Application of the 4MAT system**

Mc Carthy proposes a learning cycle incorporating his research on the brain hemispheres, proposing that all students perform all eight activities in the cycle, since, "all students need to be taught in all four ways, to feel comfortable and successful some of the time while being forced to develop other learning skills. The 4MAT model is conceived as a natural cycle of learning. In order for people to be optimally instructed, they need to go through the four quadrants with their two modes (left/right), starting with quadrant 1. (Rosado, C., Sanchez, D., & Garcia, R., 2016).

Mc Carthy superimposes the hemisphericity to the initial construct of the four styles, associating the function of the left hemisphere with the verbal and field independence and the right hemisphere with the visuospatial and field dependence, in this way the four quadrants corresponding to the four profiles build a progressive cycle of eight steps:

1. Connect: Relate to experiences that have personal meaning.
2. Examine: Reflect, analyze the experience of connecting.
3. Imagine: Integrate to the experience of greater knowledge, make a mental image.
4. Define: Learn concepts and skills.
5. Rehearse: Try, practice with the content.
6. Extend: Develop original applications and adapt them to personal needs.
7. Refine: Analyze the application for relevance and usefulness.
8. Integrate: Share and celebrate learning. Apply to new and more complex

experiences.

The 4MAT teaching model will have many contributions especially in the teaching of English, students will be able to understand new concepts and terminologies, which is one of the biggest difficulties faced by students. Also, teachers should learn the differences between the four learning styles and apply it correctly to each student in their learning process. (AlSaleem, B., 2019)

### **Learning English**

The acquisition of a second language involves a whole systemic process that, if carried out by activating the universal innate device, the acquisition will be complete. Over time, many models have emerged that try to explain the process of second language acquisition and therefore propose pedagogical strategies as linguistic considerations, which every researcher or teacher immersed in foreign language teaching should take into account.

When learning a foreign language, a person is expected to acquire and develop the four skills: listening, speaking, reading and writing. Douglas Brown notes, "Over nearly six decades of research and practice in English language teaching the "four skills" - listening, speaking, reading, and writing - have been identified as of paramount importance." (Brown, 2014).

Learning a foreign language involves learning the rules of grammar, vocabulary and the correct rules of pronunciation. Grammar acquisition is demonstrated by using these rules in the context of a conversation, in a reading, in listening to a speech. Language skills do not work in isolation or alone, they are integrated with each other.

English teachers must be prepared to develop academic tasks that are challenging and of certain complexity, moderately difficult, in accordance with the level of capacity of each one to reinforce their professional cognitive process and overcome the challenge of carrying out teaching activities in the work contexts of each area of study. (García, A., and Martínez, R., 2015).

According to the results obtained prove that the 4MAT Model significantly influences English learning in students of the Professional School of Engineering, Alas Peruanas University, Jesús María, 2014 ( $R=0.930$  and  $R^2=0.865$ ). In the same way it is considered by (Conde, M., 2017) which in his doctoral thesis proves that the use of the 4MAT cycle for the design of strategies, facilitates knowledge management in work teams. As a result, he obtained that the 4MAT cycle contributes to the acquisition of knowledge and provides a clear procedure.

Likewise Tapara, L. (2019), from the analysis of the results concluded, that there is significant relationship between didactic model and English language learning, by Spearman's  $Rho = 0.837$ , against the degree of significance  $p < 0.05$ . Therefore, the better the didactic model, the better the English language learning.

In the same way López, M. (2017) determined that there is a significant relationship between the variables teaching styles in higher education with the comprehension of written texts in the students of the Basic English II course of the third cycle of the English major at the National University of Education Enrique Guzmán y Valle, 2017 ( $p < 0.05$ , Spearman's  $Rho = 0.552$ ; being moderate positive correlation).

The 4MAT Model significantly influences English Language Learning in students of the Professional School of Engineering, Alas Peruanas University, Jesús María, 2014 ( $R=0.930$  and  $R^2=0.865$ ).

The Imaginative Learning Style significantly influences English Learning in students of the Professional School of Engineering, Alas Peruanas University, Jesús María, 2014 ( $R=0.874$  and  $R^2=0.764$ ).

The Analytical Learning Style significantly influences English Learning in students of the Professional School of Engineering, Alas Peruanas University, Jesús María, 2014 ( $R=0.969$  and  $R^2=0.939$ ).

The Common Sense Learning Style significantly influences English Learning in students of the Professional School of Engineering, Alas Peruanas University, Jesús María, 2014 ( $R=0.934$  and  $R^2=0.873$ ).

The Dynamic Learning Style significantly influences English Language Learning in students of the Professional School of Engineering, Alas Peruanas University, Jesús María, 2014 ( $R=1,000$  and  $R^2=1,000$ ).

The predominant Learning Style of the students of the Professional School of Engineering of Alas Peruanas University, Jesús María, 2014, is the Imaginative Learning Style with results of 52%.

The English Learning of the students of the Professional School of Engineering of Alas Peruanas University, Jesús María, 2014, has a tendency to a sufficient level (68%).



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