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Journal of Systems and Educational Management

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Support the international scientific community in its written production Science, Technology and Innovation in the Field of Social Sciences, in Subdisciplines of development of curriculum, programmed teaching, audiovisual media, pedagogical methods, compared pedagogy, experimental pedagogy, educational theory, development of subjects, levels and subjects of education, organization and management of educational institutions, language sciences, compared education, special education.

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Presentation of the content

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Family, tutors and school: inseparable link of the upper middle-level student**Familia, tutores y escuela: vínculo inseparable del estudiante de nivel medio superior**

SESENTO, Leticia´ & LUCIO, Rodolfo``

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Abstract

The beginning of a university career is an opportunity that is given to young people when accessing higher education in Mexico, for the student it is hard work and at times it is saturated with difficulties, which manage to resist with motivation, and study habits that help students to finish the university career. The overall objective of this research is to analyze and promote habits to develop the Action Plan Tutorial of the next school year to promote activities that are in line with the interests of students. It is a cross-sectional descriptive investigation through surveys, since variables are not manipulated by naturally targeting phenomena or facts. To carry out this research, a simple sampling was carried out with second and fourth semester students of the Engineering degree in Material Innovation of the UMSNH (Universidad Michoacana de San Nicolás de Hidalgo). Description of the instrument. Study habits test, admits to appreciating and detailing study habits; which can be managed in groups and/or individual, in an average time of 15 minutes, consists of 20 items. With regard to the questioning if, do you study periodically and not just before the exam? 47% of students refer to only studying from time to time, while 32% study almost always. Environmental condition factors, study planning, material utilization, content assimilation, and sincerity of study habit scales generally show a low-to-normal moderate utilization level trend. Study habits in their different factors require improving the degree of use.

Study habits, Students, Higher level, Engineering**Resumen**

Es importante vincular a los padres de familia con la escuela en estudiantes de nivel medio superior; la familia tiene un papel importante en el desarrollo de los sujetos, sobre todo ahora que, debido a la pandemia del Covid-19, pasan gran parte de su tiempo en casa. En este contexto, los medios de comunicación masiva han tenido gran influencia, situación que propicia que el estudiante se encuentre saturado de gran número de información, ocasionando que ellos imiten formas diversas de conducta de otros países y de otras culturas ajenas a la nuestra. El objetivo conocer el punto de vista de los padres de familia sobre las charlas que se impartieron. De la misma forma se conocieron inquietudes sobre charlas de interés para padres de familias sobre problemáticas que pueden impedir un óptimo desarrollo a los jóvenes. Habrá que reconocer la trascendencia de la participación de los padres de familia a través de programa de acción tutorial, si se cuenta con la alianza de padres de familia será mejor.

Padres de familia, Estudiante, Nivel medio superior, Acción tutorial

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Introduction

The present work analyzes the importance of the participation of parents in the education of upper secondary level students. In adolescence, the intervention of parents from home to strengthen school activities and in educational institutions is transcendental, training as agents of change in them. In the tutorial action program at the upper secondary level, the close relationship between parents, tutors and teachers is substantial. Parents are a key segment in the advancement of their children's after-school jobs. In this stage of training, parents are rarely taken into account to support their children's school responsibilities. This is achieved through the linked work of parents, teachers and students in relation to a common project to develop capacities, habits and attitudes (intellectual, cognitive and social). For this reason, it is significant that from an early age the child is conceived accepted, esteemed by their relatives, teachers and classmates. It is frequent to make the mistake of seeing the student as an isolated fraction of the environment in which he operates, the fundamental role that parents play in this stage of formation for their children is frequently neglected, where they demand precise communication and support in the progress of their extracurricular and school activities.

Development

The factors that intervene in the school performance of the upper secondary student are, among others, social environment, family environment, the cultural level of their parents and the relationship between family and school. It is important to point out that the aforementioned factors intervene in the problem of school dropout and failure. The National Institute for the Evaluation of Education (INEE, 2003) ensures that to improve the quality of education, an effective interaction between parents and teachers is essential, which implies having basic equipment at home, access to the media, optimal schooling of parents, good expectations that their children obtain higher education, that parents have the habit of reading, participation of parents in schoolwork and in parent meetings at school. It is important to highlight the need to guide parents in their educational task with their children, especially in some topics such as: orientation to health, education and development of adolescents. (Franco 1994).

Theoretical framework

For Alvira (1998), the family has undergone economic, cultural and social changes, video games, the internet, social networks and television have become a means of entertainment and teaching. However, and this is important, the home must be constituted as the space that gives security to the adolescent, since it is a period of both physical and psychological transformations, which makes young people a high-risk group. Youth behaviors that have been recognized as a risk component are: especially early sexual relations, without protection and with multiple partners; heavy use of alcohol and various drugs, including tobacco; the driving of vehicles at an early age and the little use of protection (seat belt, helmet in the case of motorcycles), while intoxicated or being a passenger of a drunk driver, prone to physical fights, essentially carrying bladed weapons or of fire.

The adolescent has the need to face very different problems. The family is the natural biological group of the human being, it is a social compound that encompasses the generality of the segments in a society. In the family it is where they carry out the socialization functions, in its perimeter the individual obtains his identity and the intergenerational individual position, symbolizes the forms of progress and well-being of adolescents. Alvy (1994) maintains that the family has five functions and responsibilities: the provision of basic resources for subsistence, home care, protection of young people, guidance, promotion of physical and psychological progress of these, protection and support of youth origin before the community. Work in the family is a precise component in the preservation of health or in the appearance of disease among its members (Jiménez, 2001).

In 1978 the World Health Organization brought together a commission of experts to define family health and propose indicators for the analysis of the state of health in the family and family groups in the world, depending on the time and the result, dysfunctional families emerge, whose members not only experience a reversal of values, but also have difficulty assuming self-criticism. These vulnerable family structures have serious effects in the early years, but are more evident in adolescence, since it is the segment of life where an individual's personality must surely be formed.

According to Gonzalvo (1993), the family has always been recognized as one of the most relevant variables in the origin and maintenance of risk behaviors. The association between family functioning and these behaviors on the part of children has been the subject of numerous investigations. Most of these studies highlight the need to involve the family in the prevention and treatment of the onset of substance use and even drug addiction (Iraurgi, 2004). For this reason, it will be important to know the types of family.

Types of family

The different types of family are not only those that are traditionally known but also exist: the nuclear family (father, mother and children), extended or consanguineous family (it is more than a nuclear unit with a mixture of two generations parents, children, grandparents, uncles, nephews, cousins), the single parent family (only one parent and their children), the single mother family (mother who only takes care of her child or children), the family of separated parents (when both parents they are separated but fulfill their role). Therefore, it is not only an important process that parents must carry out together with their children, it is also an obligation of each guardian to collaborate in the education of her children. It is essential that parents accompany their children in physical, motor, cognitive, school, social and intellectual development. (Oliva; 2003).

Children are initially formed in the family, hence the importance of establishing healthy and stimulating relationships in an environment that allows them to understand and develop their social, cognitive and adaptive skills to the environment. The first years of life are decisive in the formation of an individual's personality. What is lived at home, what parents transmit through not only spoken but affective language. Outstanding theorists of child development, such as Freud, Maslow and Erikson, assure that it is in the stage of two to five years when children shape their emotions and personality, as well as the processing of fears, to lose love, security, control of anguish and anxiety, with which they will face life.

The family has the responsibility of forming principles, values, and security attitudes in the first years of the child's life, which cannot be delegated to other socializing agents. Salazar (2013) indicates that the family, the social nucleus where the individual is formed, is the most complex of institutions, since today this social group continues to exercise (positively or negatively) educational, religious, protective, emotional functions, recreational and productive that put the student in a vulnerable situation.

Family factors

School performance also depends on the context in which the family and the student develop, because it is important the perception that young people have about the positive or negative evaluation of their family towards them, their knowledge of the support that the family gives them, the Parents' perception of homework, their expectations, communication with students, and concern for them. Oliva and Palacios (2003) indicate the importance of studying the similarities and differences between the family and school environment, they point out the consequences of the different contexts on the educational process, the development of the child and the adolescent. The family context of the student establishes the economic, social and cultural aspects that reach to circumscribe or benefit their personal and educational progress. The attitude that parents share with their children towards education, culture, teachers and school exercises great attribution in their learning process (Oliva & Palacios, 2003).

UNESCO (2004) mentions important reasons for the participation of parents in the education of their children, firstly, because the bond that exists between parents and children improves learning, secondly, the father and mother are the first educators of their children and this shows a positive impact of quality early education on the development and learning of young people. Currently the family faces great economic, cultural and social changes, urbanization is growing day by day, women have the opportunity of education, women have joined the workforce, for this reason the role of caring, feeding and educating children is no longer a role exclusively of the mother.

For Rojas (2007), nowadays a problem that is becoming alarmingly general in Mexican society is family disintegration, this phenomenon has the effect of the multiplicity of single-parent families, children cared for by people other than their parents and on minor occasions they come to an empty home. At times it seems that the adolescent upon entering the upper secondary level in public educational institutions, we observe it as an isolated piece of the process, where only the teacher and the students are the essential factors in its use.

Solares (1998, pp. 100-103) mentions that “in the social trajectory of individuals, the family plays a leading role, where together with the school it is responsible for the cultural transition; its efficiency depends on the degree to which the family itself participates in this culture. The family supports the evolution of young people, controlling them and helping them in the process of schooling and progressive introduction in different social environments”.

In the development of the tutoring, the tutor must interlace the efforts of parents and students. That is, to be at the service of reconciliation, and the establishment of alliances with parents, involved in the educational process, without the directors, teachers and tutors, these steps will not be possible. In the same way, it will be the key piece that must foster alliances with parents at all times, since the responsibility of educating is not only; It falls on the school and the teachers, but on the family. Finally, those who educate are the parents: our task is to instruct, but the protagonists of education are the parents. Since we remember that the family is the cell of society and it is in it where our young people acquire most of the learning that will be useful for their lives. (Solares 1998).

The practice of mentoring can be exercised at different times and for other purposes. It must include a set of skills called generic, which must be covered by all teachers in their role as tutor. To contribute to the clarification of this practice, immediately establishes a characterization of the profile of the tutor teacher, as a generator of processes of accompaniment of the students during the different moments and situations, faced throughout their professional training, since as we all know it is not an easy task to do.

Academic tutorials have been instituted as one of the main instruments to strengthen the teaching-learning process, the new educational models conceive that it is convenient to evolve the teacher-student relationship to enhance the skills of the latter.

However, in the tutoring action it is essential to interweave efforts with parents, tutors and teachers, promote talks with parents; since dialogue and communication between parents and children are essential. We must not forget that in adolescence, students face changes that cause demotivation in their schoolwork, and consider themselves more fascinated by what goes on around their classroom, (internet, friends, girlfriend and sometimes drugs), however, Young people are owed to offer autonomy, but this we have not educated them to practice it with commitment and that is where we are failing educational institutions and the family. Since we are not used to setting limits and above all we have not educated our young people that freedom is a right that is earned with commitment. (Contreras (2000)).

The tutoring work has repeatedly discovered that in the academic stumbling blocks of our young people there is, to a greater or lesser extent, co-responsibility of the parents. This observation is reinforced by the work of Dr. Di Segni, since our student population comes from social strata with limited resources (Di Segni, 2006). Likewise, one of the attributions that teachers of adolescents from families of low socioeconomic and cultural level make of poor performance and failure in school, are located exclusively at the family and adolescent level.

Unfortunately, few parents come to school to find out first-hand about the performance of young people. And although the resources available to the school could be improved, the fact is that parents do not take advantage of the support and guidance that the school personnel provide to address the academic problems of students. (Esteinou, 2010).

Although this seems obvious, one of the most frequent problems in tutoring work is that it loses sight of the limits of the function and, in some cases, it is about addressing problems for which most of the teachers are not trained and nor does it correspond to us.

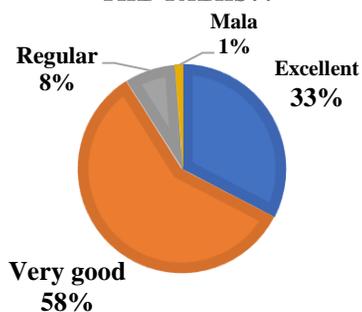
Another condition is that the material should contain essential, objective and clear information, avoiding the temptation to saturate the father of the family and, in this way, make it difficult for him to sustain her direct and determined participation.

Objective: To know the opinion of parents about the talks held during the 2020-2021 semester at the Colegio Primitivo y Nacional de San Nicolás de Hidalgo. This research aims to support the development of tutorial action programs and educational research.

Methodology

A quantitative investigation was carried out. Through a simple random sampling in the last meeting of parents, in the same way, a questionnaire of 15 questions on a Likert scale was applied under the following reasoning: Excellent, very good, regular and bad through Google drive where the more significant questions were:

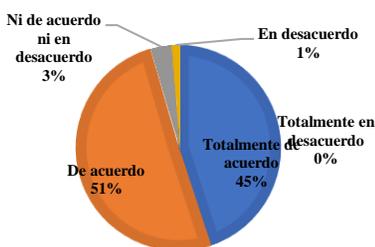
¿HOW WOULD YOU RATE YOUR EXPERIENCE IN PARTICIPATING IN THE TALKS??



Graphic 1

5.62% have primary, secondary 19.10%, Baccalaureate 35.96%, Technical career 5.62%, Bachelor's degree 21.35%, Postgraduate 10.11% and finally another 2.25%

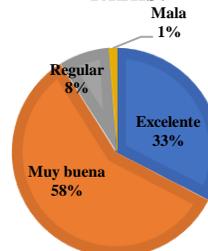
WAS THE PURPOSE OF THE TALKS CONGRUENT WITH THE CONTENT?



Graphic 2

In relation to the sex of the respondents, they are women 84.27% and men 15.73%.

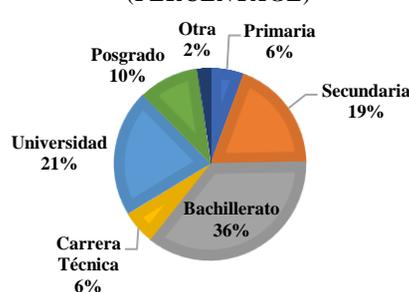
HOW WOULD YOU RATE YOUR EXPERIENCE IN PARTICIPATING IN THE TALKS?



Graphic 3

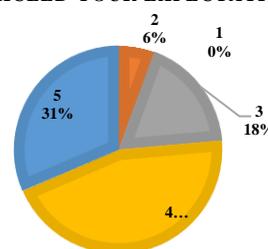
Regarding the questioning of How would you rate your experience in participating in the talks? Excellent 32.58%, very good 58.43%, Fair 7.87%, Poor 1.12%.

SCHOOLING OF RESPONDENTS (PERCENTAGE)



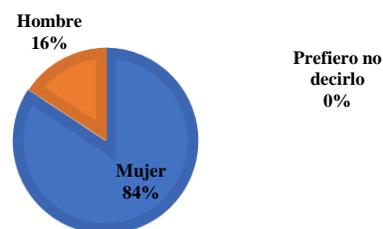
Graphic 4

FROM 1 TO 5 (WHERE 1 IS NOTHING AND 5 IS A LOT) TO WHAT EXTENT DID PARENT TALKS EXCEED YOUR EXPECTATIONS?



Graphic 5

GENDER OF RESPONDENTS (PERCENTAGE)



Graphic 6

Did the psychologist who gave the talk arouse your interest?	N°	Percentage
Too	18	20.22%
A lot of	51	57.30%
On average	18	20.22%
Little	2	2.25%
Nothing	0	0.00%
Totals	89	100.00%

Table 1

What topics would you like to see covered in parenting talks next semester?

Health issues in young people such as mental, emotional, physical health and nutrition.

Family coexistence.

About bullying, respect.

About abortion.

On identifying a drug addict.

Sexuality and drug addiction.

Social networks: risks and benefits

Results

Definitively, it is essential to continuously provide the student with words that motivate him to continue with his university education. Positive aspects to continue with their studies, constantly emphasizing their achievements and also support in relation to their setbacks. Within the tutorial action there are components that are key aspects, for the success of this, together with an appropriate training of the tutors (initial) the following actions:

It is important to know the problems that the tutors face, since if this is not available, it will be difficult to draw up a tutorial action plan. Coupled with the support of parents.

It was observed that the collaboration and responsibility of the parents are essential for the progress of the tutorial action activities.

Creating alliances with parents facilitated trust with students and tutors.

To the extent that there was trust, patience and respect for the time of the process in the solution on the part of each of the actors involved in the process, better results were achieved.

It is substantial to train parents among other urgent topics on Study Habits and Techniques, and substantial factors for the study would be sensible if they were to be represented in their home, these points are: the physical space in which the task is carried out, the distribution of time of study, the way in which it is studied, the elaboration of works and the way of answering an exam, the production of the task as part of a practice with a specific schedule, choosing an explicit place to carry out the work that has the convenient physical peculiarities that it is adequately lit, that they have the ability to work in a timely manner, have the materials used continuously at hand.

The exercise of tutoring must fall on a teacher who is assumed as a guide of the training process and who is permanently linked to the academic activities of the students under his tutelage, it is necessary to point out certain features that distinguish them from a teacher dedicated preferably to their activity regular in the classroom. The tutor guides, advises and accompanies the student during his teaching and learning process, from the perspective of leading him towards his comprehensive training, which means stimulating in him the ability to take responsibility for his learning and training, so that he can face the challenges that come your way.

Proposals

1. The importance of the collaboration of parents in academic processes is highlighted, so that teachers, principals and educational authorities support each other in the development of school tasks. Since there will be a decrease in the failure rates, educational lag and possible school dropout.
2. Corresponding to the fact that the National Educational System manages to learn their appropriate practices, retaking practices that have achieved success in different types of service in schools where they manage to favor the optimization of school management and processes.

3. Promote, by the educational authorities, permanent training programs for tutors.
4. Encourage the tutee the need and desire to solve problems on their own part.
5. Promote the responsibility and participation of parents and guardians.
6. Promote talks with parents, in which they are able to guide them on how to carry out their role in support of the adolescent and not wait for a poor student result to summon the parents, if with an appropriate orientation they can be excellent guides for your children at this stage of their life.
7. Encourage the school for parents where workshops are held that allow them to solve their doubts about their role as parents and the dialogue between their children.

Conclusions

A guide for parents was developed to serve as an accompaniment during the educational process of their children, so that it involves assertive and timely participation, which was delivered in printed form and with the intention of providing information at least once a semester by this means, supplemented orally in parent meetings, at the beginning of each course, inviting them to come to the campus when they deem it necessary.

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Pedagogical leadership: an opportunity for teacher professional development in times of pandemic**Liderazgo pedagógico: una oportunidad para el desarrollo profesional docente en periodo de pandemia**

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Abstract

The objective of this article is to describe the pedagogical leadership exercised by teachers in times of pandemic, taking as a reference the Cadet Arturo Prat Chacón school in Chile and in what way this leadership can become an opportunity for teacher professional development. From the methodological point of view, the research is qualitative and descriptive, based on an intrinsic study of cases. The results allow us to establish in a situated way the qualities and attributes of pedagogical leadership, exercised by teachers in a pandemic period when they have to face the teaching-learning processes in a virtual way, and as despite their fears, challenges and uncertainties, They managed to overcome from a resilient pedagogical leadership, promoting collaborative work and co-teaching between teams. It can be concluded that the type of leadership displayed by the management team, facilitated the concurrence of efforts, facilitating collaborative work, co-planning and curricular prioritization, promoting autonomy and professional innovation, providing feedback and positive reinforcement among peers in a way constant, as confirmed by the teachers, who were able to stoically face adversity, safeguarding the quality of their classes.

Education, Pedagogical leadership, Professional development

Resumen

El presente artículo, tiene por objetivo describir el liderazgo pedagógico ejercido por los docentes en tiempos de pandemia, tomando como referencia la escuela Cadete Arturo Prat Chacón de Chile y de qué manera este liderazgo pudo constituirse en una oportunidad para el desarrollo profesional docente. Desde lo metodológico, la investigación es de tipo cualitativa descriptiva, sustentada en un estudio intrínseco de casos. Los resultados, permiten establecer de manera situada las cualidades y atributos del liderazgo pedagógico, ejercido por los docentes en periodo de pandemia al tener que enfrentar los procesos de enseñanza-aprendizaje de manera virtual, y como a pesar de sus miedos, desafíos e incertidumbres, lograron sobreponerse desde un liderazgo pedagógico resiliente, promoviendo el trabajo colaborativo y la co-docencia entre los equipos. Se puede concluir que el tipo de liderazgo desplegado por el equipo de gestión, facilitó la concurrencia de esfuerzos, facilitando el trabajo colaborativo, de co-planeación y priorización curricular, promoviendo la autonomía e innovación profesional, otorgando retroalimentaciones y refuerzo positivo entre pares de manera constante, tal como lo confirman las docentes, quienes fueron capaces de enfrentar de manera estoica la adversidad, resguardando la calidad de sus clases.

Educación, Liderazgo pedagógico, Desarrollo profesional

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Introduction

As of March 16, 2020, in the schools of Chile, the panorama of what they usually did changed. In effect, classes were suspended in all educational establishments, and on March 18 of this year, the State of Constitutional Exception of catastrophe began. In this way, the Cadet Arturo Prat Chacón school had to suddenly take on a set of challenges and tasks. It seems that the way the management team faced this situation, together with the type of leadership exercised by the management team and that of the teachers themselves in their classes, distributing tasks and functions, allowed them to advance as an educational community.

In this way, going from a face-to-face mode of classes to a totally virtual one, implied a great problem for the institution, since there were no previous studies or evidence on which to support its decisions and also because it did not have capacities installed in the school. However, it seems that the way the management team faced this process from the beginning and the empowerment of the teachers themselves, allowed them as a group to emancipate themselves.

However, the objective of this article is to describe the pedagogical leadership exercised by teachers in times of pandemic where their classes were all held in virtual mode, taking as a case the Cadet Arturo Prat Chacón school in Chile. In the same way, it is expected from the teachers' speeches, to delve into the characteristics of this leadership and how it can become an opportunity for the professional development of teachers.

Development of the topic

Studies by Sans-Martín (2016), Bolívar (2019), confirm the positive effects of the type of leadership exercised by management teams in educational organizations, particularly from the collaboration between members of the educational community, and as joint work among teachers, it usually has a positive impact on the pedagogical practice of the school. Similarly, Ahumada, González, Pino and Maureira (2017) emphasize the practice of distributive leadership among teachers, and the timely assignment of roles and tasks, thereby promoting school improvement.

Distributive leadership is understood more as a practice than as a style (Ahumada, González & Pino, 2016), since it requires a process of changes in beliefs and delegation of tasks in the levels that make up the educational community. What is confirmed by Weinstein (2016); the social character that occurs in the multiple interactions, is relevant for the improvement of educational centers and the various levels that comprise it. For their part, Montecinos, Aravena and Tagle (2016), refer to the need for a greater empirical deepening, regarding the leadership exercised in educational institutions, particularly in the classroom, in such a way as to achieve the required status of the practice school.

Referring to pedagogical leadership, is to convene a set of practices that are carried out at the school level, including the classroom, exercised by educational leaders and teachers as pedagogical leaders within their classroom, this with the purpose of promoting among their students, high levels of significant and quality learning. In this way, as expressed by Gajardo and Ulloa (2016), pedagogical leadership, in order to be effective, requires practices that make it possible to establish shared purposes and goals, promoting the professional development of teachers, generating conditions at the level of the schools that become true catalysts for a culture of collaboration.

As expressed by Gajardo et al. (2016), there are two approaches to significant pedagogical leadership, with different traditions. In this way, Bush and Glover (2014) refer it to the theories of instructional leadership (instructional leadership) of North American origin, focusing on the behavior of teachers and their relationship with activities that directly affect the quality of teaching. While, from English approaches, the notion of pedagogical leadership centered on learning (learning-centered leadership) is assumed, emphasizing the need to incorporate a variety of leadership actions that preferably promote quality and meaningful learning for students.

Rhodes and Brundrett (2009), refer to the criticisms that arise to instructional leadership, since it is articulated more to teaching than to learning. Preferably relieving the figure of the director as a center of expertise, power and authority, tending to ignore other leaders, such as teachers and other levels that make up the educational community. For its part, the concept of leadership for learning (learning-centered leadership) represents a mix between early conceptualizations of leadership, that is, instructional and distributive leadership (Hallinger, 2010; Hallinger and Heck, 2010). According to Hallinger (2010), both models emphasize that the educational director's focus should be:

- Propose and implement shared purposes in the school.
- Promote a climate of high expectations and a school culture focused on continuous improvement of both teaching and learning.
- Create incentive structures in the school, for staff and students.
- Generate and facilitate the implementation of a wide range of activities aimed at stimulation and intellectual development for staff.
- Make their actions visible, becoming a benchmark for the promotion of values in the establishment and in line with the institutional educational project.

According to Hallinger (2010), it is possible to appreciate in a school, a direct pedagogical leadership, which requires, on the one hand, that efforts be focused on promoting the quality of teaching practice, that is, it considers the quality of the curriculum, the teaching and evaluation, as well as teacher professional development, which involves not only the figure of the principal but that of the teacher himself as a pedagogical leader in his classroom, committed to the continuous improvement of his teaching practice.

While indirect pedagogical leadership focuses all institutional and personal efforts to create adequate conditions for good teaching and learning, ensuring that decisions at the institutional and personal management level support and enhance both teaching and learning, therefore what a harmonious combination of both pedagogical leaderships could promote better results in educational institutions.

Moral, Amores and Ritacco (2016), García (2017), García-Gárnica (2016), Rodríguez, Ordóñez and López (2020), confirm the influence of the management team on the pedagogical leadership exercised by teachers in the classroom. In effect, organizational decisions must be oriented towards enhancing the quality of the teaching-learning processes.

From the contributions of Gómez and Medina (2015), the need in schools is revealed for leaderships that integrate management, human and technical competencies in the design and implementation of teaching-learning processes, creating environments that promote the comprehensive improvement of the educational community, with great commitment to personal and professional performance, for which transformational and distributive leadership must be consolidated, promoting empathy, teamwork, delegation of functions, active listening, the involvement of the community, the analysis of cases and the promotion of the institutional culture.

González, Gento and Orden (2016), endorse the need that the exercise of leadership within an educational institution must be eminently pedagogical. In this way, the leader profile is characterized by the presence of a series of dimensions, including the formative.

According to Bolívar (2015), the teacher manifests pedagogical leadership, when he is able to influence not only his students, but also in communion with his peers, it is a collaborative process, where collegiate capacities are mobilized, in a context of co-teaching. This situation provides structures that make it possible for teachers to develop their professional capital, individually and as teams of professionals (Hargreaves and Fullan, 2014).

In this way, in the Arturo Prat Chacón Cadet School, the pedagogical leadership exercised by its teachers in virtual mode, turned out to be one of the catalytic factors, to develop management and organization skills within the school and classroom, because despite Due to uncertainty and fear, teachers were able to innovate, work democratically and learn together with their peers (Bolívar, 2014; Contreras, 2016). Indeed, when teachers manage their pedagogical processes with the objective of achieving and guaranteeing quality learning for all students, we are facing a teacher who leads their pedagogical processes regardless of the teaching modality, based on a culture of equity, inclusion, participation and innovation, which promotes continuous improvement, as stated by Contreras (2016).

Methodology

The research is assumed from an intrinsic study of cases, following the postulate of Sandín (2003), with the purpose of investigating and understanding the concepts and networks of meanings that teachers perceive regarding pedagogical leadership experienced in virtual mode and how this has influenced in their professional teaching development. The sample was made up of six teachers who voluntarily wanted to participate, sending three questions to their personal emails, they had a week to respond and send their contributions through the same medium.

From the questions asked, we have:

1. In this period of pandemic and when facing the development of your classes in virtual mode, what have been your fears, challenges and benefits that it has meant for you as a teacher and pedagogical leader?
2. How do you characterize the leadership that you have exercised in the planning and development of your classes?
3. In what way could the pedagogical leadership that you have exercised have benefited your teaching professional development?

Later, these same teachers were summoned to a meeting, using the zoom meeting platform. The qualitative information was transcribed in textual form, the analysis was carried out from an inductive approach, through the constant method of comparison Glaser and Strauss (1967), using the qualitative analysis software Atlas T, following the proposal of Huberman and Miles (1994), safeguarding the criteria of credibility, transferability and confirmability.

Results and Discussion

From the qualitative analysis carried out, it was possible to deepen the knowledge and understanding of the interviewed teachers. Conforming four categories of descriptive analysis and 49 units of meaning relevant to the teachers interviewed, as illustrated in table I.

Descriptive Categories	Number of units of meanings
Role assumed	12
Fears	14
Challenges	15
Benefits	8

Table 1 Categorization and units of meaning relevant to teachers

Source: Own elaboration, (2021)

With the purpose of looking for similarities of content, structure and theory. From the descriptive categories, two meta-categories were formed, as illustrated in table 2.

Meta-categories	Coding	Definition
Pedagogical leadership exercised.	LP	Description of pedagogical leadership exercised in classes.
Contributions to Teacher Professional Development.	CDPD	Contributions to Teacher Professional Development.

Table 2 Meta-categories, codes and definition

Source: Own elaboration (2021)

From the meta-categories, which considers two qualitative domains, the teaching opinions were gathered, as an illustration in table 3 some of the opinions are transcribed.

Meta-categories / Domains (D)	Role	Fears	Challenges	Profits
Pedagogical leadership exercised.	<p>"Innovative, patient and trustworthy, the classes take place in a pleasant environment, of tenderness and kindness of the teacher towards her students and vice versa; classes prepared with dedication to achieve learning and participation to develop their activities; classes that present their beginning, development and closure and provide feedback to the children at the same time."</p> <p>"Participative and interactive. In addition to assuming this challenge, interns, intermediate level students were incorporated. I have been developing dynamic classes, through different resources such as interactive power points, incorporating sounds, online applications (quiz or worwall). I have allowed the interaction of students in practice and for the next meeting, I will give space for the realization of activity by the students in practice."</p> <p>"The role that is assumed in these circumstances is a role of protection, of care, where it is about managing the variables to protect the health and well-being of all. It is innate and natural, we protect ourselves, especially the most vulnerable, children and the elderly."</p>	<p>"My fears have been being criticized by parents in virtual classes, spending more time at work than usual, spending more time sitting in a chair in front of the computer and over-stimulating vision."</p> <p>"My fear in online classes is being a meme, or feeling that students are not motivated to participate in class. The challenge is always to be testing new strategies and to improve where we can. And the biggest benefit is that many students took online classes as a learning opportunity."</p>	<p>"The challenges are directly related to the fears since overcoming these fears implies entering a new learning environment, where most of the learning happens or should happen in a virtual context, without direct interaction, which means working with different strategies, use creativity, establish new habits and protocols and redesign the education model."</p>	<p>"My benefits of conducting personalized classes for groups of students, of supporting and helping parents to carry out the tasks and strengthen skills in the students."</p> <p>"Being inserted in a new educational context, it has clearly enriched my teaching professional development, I have looked for resources and applications that can support my virtual meeting and in this way enrich the learning experience with my students."</p>
Contributions to Teacher Professional Development.	<p>"This has been a learning period for everyone and in all circumstances. Undoubtedly, the acquired experience will last as part of the history of our country and its institutions, and it has allowed all education professionals to look away a little to observe our pedagogical work from another perspective. What is derived from this look are projections towards the future and questions, which makes possible an accumulation of specialized opinions analyzing the present and future of education in Chile. Without a doubt, that is professional growth and development."</p>			

Table 3 Meta-categories and qualitative domains
Source: Own elaboration (2021)

Additionally, figure 1, the semantic network formed from the four descriptive categories that arise from the analysis carried out is presented.

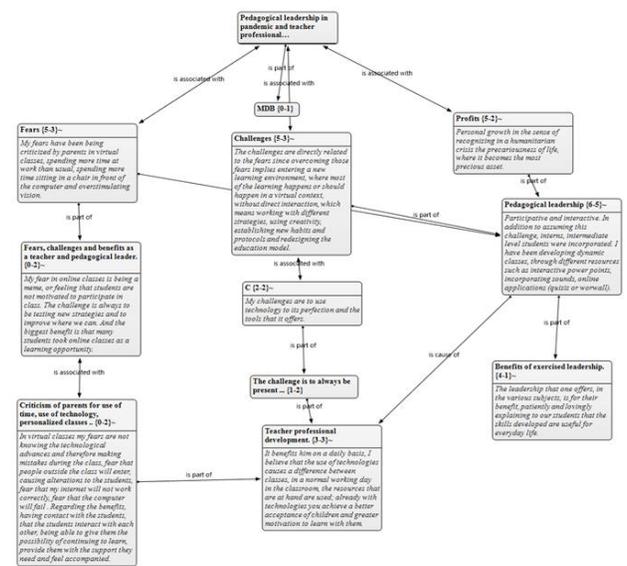


Figure 1 Semantic network of categories
Source: Own elaboration (2021)

From the results obtained, the findings of Moral et al. (2016), García (2017), García-Gárnica (2016) and Rodríguez et al. (2020), in that the leadership exercised by teachers in the school has been influenced by the type of leadership displayed by the management team. This highlight and confirms what was formulated by Bolívar (2019) and Contreras (2016), since teachers were able to innovate in the face of a virtual modality, making use of tics and other resources, preparing didactic material, working in co-teaching, prioritizing curricularly, thereby deploying organizational learning, supported by innovation, collaboration and resilience.

The findings of Gómez and Medina (2015) are confirmed, regarding the need to create environments that promote continuous and comprehensive improvement in the educational community, moving towards the consolidation of transformational and distributive leaderships. The emphasis on pedagogical leadership exercised by teachers according to the evidence, emphasizes the pedagogical and formative in their relationship with students, which agrees with the contributions of González, Gento and Orden (2016).

In the same way, based on the evidences of the present study, it is possible to confirm the proposals of Hallinger (2010), in the sense of coexisting direct and indirect pedagogical leadership, which in a primordial harmony allowed teachers to face their classes resiliently.

Conclusions

Undoubtedly, the study has confirmed that the teachers of the Cadete Arturo Prat Chacón school, despite the pandemic, made a qualitative leap in their professional teaching development, facing their fears, uncertainties and challenges. It could be said that teachers were able to overcome an extreme situation, such as the pandemic, and be confronted from one day to the next with a totally virtualized teaching-learning modality, which in all cases meant updating and innovating their way of teaching, learning and incorporating the use of virtual tools in their classes, training in virtual environments, working collaboratively, contributing all of the above to their own training and professional development. The coexistence of pedagogical leadership promoted by the establishment authorities is evidenced, facilitating the concurrence of efforts, collaborative work, promoting autonomy and professional innovation. In the same way, from the teacher himself we could refer to a new category of analysis, which originally emerges in this study, which is a resilient pedagogical leadership, which requires further investigation and deepening in subsequent studies.

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ICT uses in education. Theoretical framework proposal for its characterization and analysis**El uso de las TIC en la educación. Propuesta de marco teórico para su caracterización y análisis**

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Abstract

It is clear that during the last few decades, ICT use has considerably increased in education, and it has intensified over the last year as a consequence of an online approach because of the health emergency caused by COVID-19. Nevertheless, despite of the efforts made by schools for keeping updated on the technological equipment and the multiple teacher training processes on this subject, results has not been as expected. This is demonstrated by the higher grade-failure and school drop-out. In this regard, this work aims to propose a theoretical framework to guide characterization and analysis processes on the use of ICT in education. The above, from Vygotsky's sociocultural theory of human learning, which favors the social construction of learning, but also, from Edgar Morán's complex thought theory, who prioritizes pertinent thought for social problem solving. And, finally, from online education psychology, where Cesar Coll and Carles Monereo stresses the importance of building working environments that promotes meaningful learning. This work aims to offer a reference framework for the case study, for implementation of improvement processes in favor of the students.

Education, ICT, Use, Characterization, Theoretical framework**Resumen**

Es evidente que durante las últimas décadas el uso de las TIC se ha incrementado considerablemente en el ámbito educativo, intensificándose el último año, como consecuencia de la implementación de una modalidad en línea, ocasionada por la contingencia sanitaria provocada por la COVID-19; sin embargo, pese a los esfuerzos realizados en las escuelas por mantenerse actualizadas en cuanto a equipamiento tecnológico y los múltiples procesos de capacitación docentes en esta materia, los resultados no han sido los esperados, así lo demuestran los altos índices de reprobación y deserción escolar; en este sentido, en el presente trabajo se plantea una propuesta de marco teórico para orientar procesos de caracterización y análisis del uso de las TIC en educación, lo anterior, desde la teoría sociocultural del aprendizaje humano de Vygotsky, que privilegia la construcción social del aprendizaje; también desde la teoría del pensamiento complejo de Edgar Morán, que prioriza el pensar pertinente para la resolución de problemas sociales; y, finalmente, desde la Psicología de la educación virtual, donde César Coll y Carles Monereo destacan la importancia de construir entornos de trabajo que promuevan el aprendizaje significativo. El trabajo tiene como finalidad ofrecer un marco de referencia para el estudio de casos, que permita implementar procesos de mejora en beneficio de los alumnos.

Educación, TIC, Uso, Caracterización, Marco teórico

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Introduction

Although it is true that for at least a couple of decades there has been a very marked trend towards the use of information and communication technologies in education, seeking innovation in teaching processes and improvement of learning processes, based on the excellent results that have been achieved with its incorporation into other social areas, such as industry, it is no less true that this has been catapulted during the last year, as a result of the health contingency caused by COVID-19, and that, according to the policy report "Education during and after COVID-19", issued in August 2020 by the United Nations (UN; 2020), has caused the greatest interruption of the history in education systems, affecting 94% of students worldwide.

The foregoing, and also according to the UN (2020), has aggravated the pre-existing educational disparities, leaving those who have less opportunities without opportunities, and this is demonstrated by the high rates of reprobation and descent that educational institutions begin to report, about all those of medium and higher level, making it clear that what was said in this regard by various authors, years ago, is still valid, such as that the use of ICT in schools is peripheral and marginal, and that its imposition, when it is in Against the culture of an educational institution, it does not give the expected results, since teachers end up schooling innovations (Cuban, 1993); that it is practically impossible for schools to keep up with the accelerated pace of technological changes and with it the literacy of teachers (Edel; 2010); and that, today more than ever, new spaces and opportunities for learning must be built, such as e-learning, but redefining the roles of teachers and students, as well as the processes they carry out (Benabides and Pedró; 2007).

Current conditions then force us to think that perhaps education should not go back to being the same as before, and that for its own sake and that of the students, it should not return to "normality", but rather that it has to be rethought based on the needs imposed by the modern world and the potential that ICTs have to innovate the work of teachers and improve student learning, which forces those who carry out research in education, to characterize and analyze how the use of technological tools in this area during the last year, to be in a position to propose concrete improvement actions, which is not always easy if you do not have a frame of reference to carry out such research.

In this sense, this work presents a proposal for a theoretical framework that helps guide the efforts that are beginning to take place to measure the reality of education in times of the pandemic caused by COVID-2019, based on the statement that:

"We do not go to reality as a blank slate, we read it from our ideological and scientific perspective... social events and phenomena are not presented as flowers to be picked. It is necessary to know how we are going to orient ourselves to collect the data, facts and phenomena that occur in social reality. This is precisely the role of the theoretical framework: to guide the research process". (Ander-Egg; 1993: 154).

The theoretical framework, as a guiding element in a research process is, in the words of Ander-Egg (1993), the space where general and specific theoretical propositions are expressed, as well as the postulates, assumptions, categories and concepts that help as reference to the researcher, so that he can order the facts that make up the problem under study; adds the author, that even when the facts or social phenomena that are observed in reality, are the raw material to carry out a scientific investigation, one must be aware that it is not enough to observe them, identify them, collect them and interpret them in a way Empirical, on the contrary, there must be a general orientation, supported by theory, that proposes how to do it.

Two issues that must be borne in mind, according to the cited author, are: on the one hand, although the choice of the theoretical framework is an a priori decision, it must be done carefully, since it depends on whether the answer to the problem posed is the adequate or not; and on the other, that a theoretical framework cannot be abused in its empirical use, the application of the categories of analysis beyond the contexts for which they are valid should be avoided.

Theoretical alternatives for the analysis of the use of ICT in education, with the aim of achieving its characterization

Precise general aspects regarding the concept of theoretical framework, its importance as a guiding element in solving a research problem and the care that must be taken when choosing and using it, it is time to present a concrete proposal, through theoretical alternatives that allow the characterization and analysis of the use of ICT in education.

A) Sociocultural theory of human learning

"Each of the functions in cultural development ... appears twice: first, at the social level, and then, at the individual level; first, between people (interpsychological), and then within ... (intrapsychological). This applies to both voluntary attention and logical memory and concept formation. All higher functions originate as true relationships between individuals." (Vygotsky; 1978, taken from UNESCO; 2004: 31).

The sociocultural theory of human learning by Vygotsky (1978, cited by UNESCO; 2004), is an important reference to interpret the facts or phenomena object of an investigation on the use of ICT in education, the central elements that this theory contributes are the following:

- Learning is a social process, which takes place on two levels: first, through the interaction of one person with others; and second, in the integration of knowledge to the mental structure of each individual.
- The potential for cognitive development lies in the zone of proximal development, an area of exploration for which the student is cognitively prepared, but which requires support and social interaction.

- A teacher or a student with more experience, can provide another student with the scaffolding for the development of understanding of knowledge or complex skills.

From what has been said, we can see the importance of the social in the development of individual cognition, of work on the zone of proximal development, to take a subject from one cognitive level to another, and of the supportive scaffolding that can be provided among peers. to understand knowledge or acquire skills.

Now, it is clear that this has occurred throughout history without the use of ICT, and in practically all educational institutions whose modality has been face-to-face or mixed in recent years; However, the challenge today is how to achieve this social interaction, through technological resources; that is, social environments, directed by teachers, contribute to the development of individual cognition of students, on which UNESCO, based on this theory, affirms:

ICTs can be used to support this learning environment [socially rich environments] by serving as tools to promote dialogue, discussion, collaborative writing and problem solving, and by providing online support systems to underpin progress in learning. understanding of students and their cognitive growth. (UNESCO; 2004: 31).

From the above it follows that:

- Knowledge is not an element with autonomy and meaning apart from the subjects who learn, it is a permanent construction that makes sense based on their conditions and their context.
- Knowledge is not transmitted as a product, it is the result of a process of acquiring new meanings.
- You should always start from the students' previous knowledge, as they are the basis for contextualizing learning and making it meaningful.

- Relevant educational actions, contextualized and loaded with content and significance, should be promoted through conducive environments that transfer the emphasis of teaching-learning from the teacher to the students.
- The generation of knowledge should be promoted according to the needs of the environment.

From this approach, the implementation of collaborative work should be promoted, where students carry out activities that allow them to build knowledge, first in the social sphere, and then individually, that is significant for them, contributes to their professional training, and to the solving problems of the environment; this, in diverse and flexible learning environments, allowed thanks to the use of technologies.

Thus, generating socially rich learning environments, to promote interaction between people, then the integration of knowledge to the mental structure of students, acting on their zone of proximal development and providing them with the necessary scaffolding for understanding, but also for the acquisition of Complex skills, through the use of ICT, is a first reference element to guide a research process on the use of technologies in education.

B) Complex thought theory

"Complexity is ... the fabric of events, actions, interactions, feedbacks, determinations, hazards, that constitute our phenomenal world ... complexity is presented with the disturbing features of the entangled, the inextricable, of disorder, ambiguity, uncertainty ... Hence the need for knowledge to put order in phenomena by rejecting disorder, to discard the uncertain, that is, to select the elements of order and certainty, to remove ambiguity, clarify, distinguish, rank." (Morán; 1998: 32).

A second element for the integration of a referential framework and from which the facts object of an investigation on the use of ICT in education can be explained, is Morán's theory of complex thought (1998), where it is discussed complexity as what is woven together, and that, in that sense, the great challenge for educational institutions today consists of intertwining the parts with the whole, having as an aspiration to relate, at different levels, the school with its environment, and with the reality that they are having to live, associate ideas with existing problems, and relate disciplines to address social conflicts from an inter-multi-transdisciplinary approach.

Based on the above, it is suggested that the challenge of learning based on complex thinking is the challenge of pertinent thinking, which must be understood as thinking that relates and articulates ideas based on their applications in daily life. It is also stated that the association between ideas and their practical application seeks to reconcile the disjunction between experience and reason. (Morán; 1999).

Thus, one of the main elements of academic models today is to promote the association of the knowledge obtained by students, with their immediate social environment and their reality, through learning based on problems, projects and case analysis.

This last part will be relevant for the analysis of problems detected with the use of ICT in the teaching-learning processes, especially when it is sought, in practically all educational institutions, a coherent articulation between disciplines, which allows the approach of the existing problems in the environment through an inter-multi and transdisciplinary approach, starting from the need to recognize that knowledge can be divided into disciplines, but reality cannot, so it seeks to overcome the tendency that currently exists to fragmenting knowledge, promoting the necessary conditions for the generation of multidimensional knowledge, which can establish links between the different areas of knowledge, to address in a pertinent way the problems that exist in a given context.

In conclusion, to know the way in which, through the use of technologies, teachers promote pertinent thinking; that is, articulating knowledge with the problems of an environment, in order to find viable solutions to them, in an inter, multi and transdisciplinary way, is another referential element in an investigation.

C) Psychology of virtual education

"The mediating capacity of ICT as psychological instruments is a potential that, as such, becomes effective or not, and becomes effective to a greater or lesser extent, in the educational practices that take place in the classrooms depending on the uses that the participants make of them." (Coll et al; 2011: 85).

A third alternative for the characterization and analysis of the use of ICT in education comes from the psychology of virtual education, where Coll et al (2011) have stated, as a result of the incorporation of technological tools into formal educational systems, that the argument to continue believing in the technology-education relationship, and in the potential of the former to innovate the training processes of students, despite the results obtained up to this moment, is that digital resources can really become tools that encourage students to develop skills to think, feel and act alone and with others.

The importance of the above, then, lies in identifying to what extent teachers, recognizing the potential of information and communication technologies, have the skill to use them in a way that guides their students in carrying out both collaborative training activities as individuals.

The previous argument is supported in turn, according to the aforementioned authors, in that technologies give users real possibilities to search for information, access it, represent it, process it, transmit it and share it; but they add, that for this to happen, and in their case, to a greater or lesser degree, it again depends on the role played by each teacher; namely:

The novelty of the new ICTs ... does not lie in their nature as technologies "for" information and communication ... rather, it resides in the fact that ... they allow the creation of environments that integrate known semiotic systems and extend the human capacity to (re) present, process, transmit and share large amounts of information with less and less space and time limitations, almost instantaneously and at an ever lower economic cost. (Idem: 84-85).

As can be seen, once a first problem of access to technologies by teachers and students has been solved, the use made of them will determine if they are really innovating and to what extent and, without any room for doubts, the greater responsibility remains in the hands of the teacher.

The aforementioned authors also point out that it should not be forgotten that ICTs only constitute psychological instruments, when their semiotic potential is used by teachers and students to carry out planning, regulation and orientation activities, Well, in his concept, that is precisely what introduces modifications in the intra and inter-psychological processes that are involved in teaching-learning.

In conclusion, planning, regulating and guiding one's own activities and those of others, creating environments that integrate semiotic systems and expand the capacity of the actors involved, to, with less space limitations, more quickly and with lower costs, promote search, access, represent, process, transmit and share information, in order to develop in students skills to think, feel, act alone and with others, through technologies, is a third referential element that can guide an investigation on the use of ICT in education.

Typology of ICT uses

"... Established and justified the principle that the effective uses that teachers and students make of ICT depend both on the technological design of the teaching and learning activities in which they are involved, and on the recreation and redefinition they carry out of the procedures and norms of use of the tools included in this design, it is appropriate now that we return to the question of how we can identify and describe these uses." (Idem: 87).

It enriches the proposal made by Coll et al (2011)¹, the possible categories of use of ICT in education, and which is of the following tenor:

Information and communication technologies as mediating instruments between teachers and content. The purpose is to help search, select and organize content.

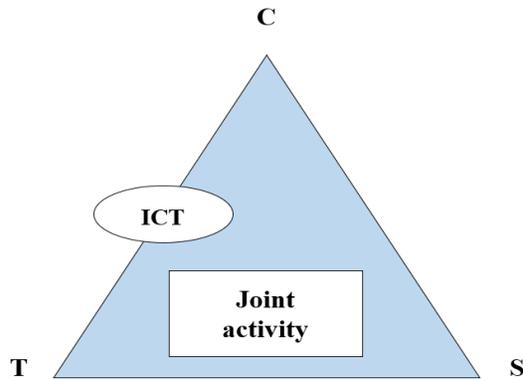


Figure 1 Category 1

ICT as mediating instruments between teachers and students. The objective is to help maintain communication between the process actors.

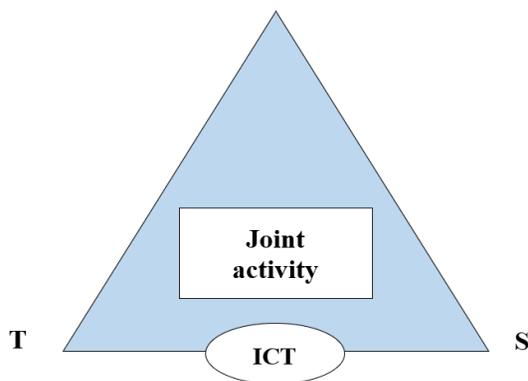


Figure 2 Category 2

ICT as mediating instruments between students and content. In order to allow them to explore, deepen, analyze, assess and choose content.

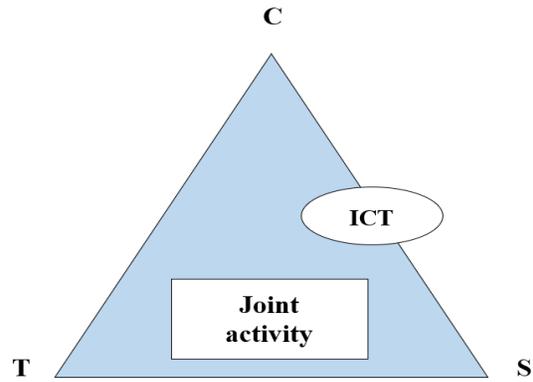


Figure 3 Category 3

ICT as instruments of the joint activity of teachers and students in the realization of teaching-learning activities. Technologies are an amplifier of activities.

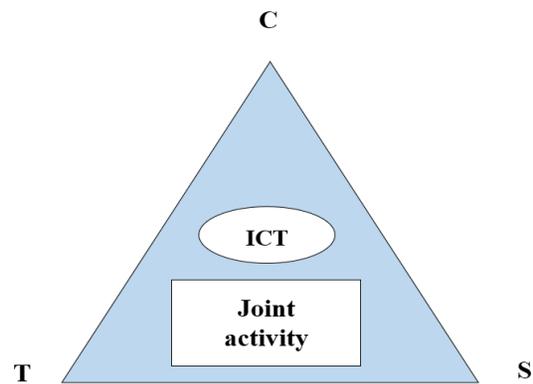


Figure 4 Category 4

ICT as instruments that configure work and learning environments. The purpose is to create individual and collective work spaces, and other parallel ones that promote autonomous and collaborative learning.

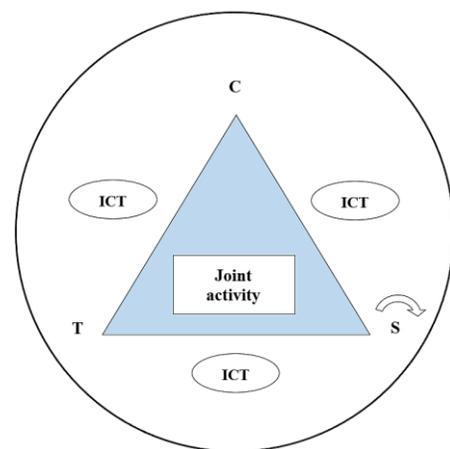


Figure 5 Category 5

¹ Typology proposed by Coll C., Mauri T. and Onrubia J., in the book chapter entitled: "The use of information and communication technologies: From techno-pedagogical design to practices in use". In Coll César and Carles Monereo (Coordinators) (2011). "Psychology of virtual education". Edited by Morata, second edition. Spain. Pp. 91, 92.

In general terms, it is a typology, according to its authors, where it is considered that it is in types four and five where the potential of ICT to modify and improve educational practices is most intensely manifested.

Finally, the proposed typology can be considered as a frame of reference for the characterization and analysis of the use of ICT in a specific case, defining in which Category they are located; at the same time, it will be useful for the construction of a proposal that allows improving said use for the benefit of teachers and students, being necessary to evaluate, provide feedback and adjust the processes as many times as necessary, in search of approaching the ideal categories.

Conclusions

Undoubtedly, the health emergency caused by COVID-19 has come to modify the way we interact, and with it, all social activities, especially those of an educational nature, passing in most cases of the modality traditional-face-to-face to online mode, supported by the use of ICT; However, in a very short time it has been possible to see the damage that this has caused and whose tip of the iceberg is the high rates of school failure and dropout, especially at the middle and higher level, urging researchers to carry out case studies on the use that has been given to technological tools to carry out the teaching-learning processes, which help in decision-making to lessen the impact of the change that the educational system has had, for which in this work we do the proposal of a theoretical framework to guide the work.

The theoretical framework is one of the most important elements in a research process, as it is the space in which the theoretical propositions that will guide the process of collecting data, facts or phenomena that have been identified in a study are made explicit. given context and constitute a problem or point of tension, because even when these are considered the raw material within a scientific study, the truth is that in order to analyze and interpret them, a general orientation must be counted, supported by theory, that propose how to do it and avoid empirical interpretations; therefore, the construction of the theoretical framework must be careful, to guarantee that the answer to the detected problem is adequate.

Thus, when what is intended is the characterization and analysis of the use of information and communication technologies in education, a theoretical framework proposal can be made up of the following propositions:

From constructivism, which proposes the realization of diagnostic tests by rescuing the students' previous knowledge, the generation of a cognitive conflict in it, and then taking it to another level of understanding, helps in the interpretation of the sociocultural theory of human learning from Vygotsky (1978), who establishes that learning is a process of social construction, which occurs first in an inter-psychological and then intra-psychological; and, in this sense, the elements to be located in the practices in the use of ICT, would be the capacity of teachers to, through them, generate socially rich learning environments, which promote interaction between students, and then the integration of knowledge to their mental structures, acting on their zone of proximal development and allowing them to acquire complex skills; also determining, according to Coll et al (2011), to what extent teachers are able to plan, regulate and guide the activities necessary for students to seek, access, represent, process, transmit and share information, developing their possibilities of think, feel and act alone and with others.

A second theoretical proposition, for data analysis, is found in the theory of complex thinking and its scope by Edgar Morán (1998), under which the objective is to measure the way in which teachers promote, also through the use of the technologies, the pertinent thinking; that is, if they generate, and to what extent, the ability of students to articulate knowledge with the problems of the environment, in search of viable solutions, and in an inter, multi and transdisciplinary way.

For the above, use can be made of the typology proposed by Coll et al (2011), from which it is considered that ICT in education should be ideally used to configure socially rich work and learning environments that promote learning. collaborative and autonomous.

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The socio-labor implications in vocational training and its relationship with curriculum design and training**Las implicaciones sociolaborales en la formación profesional y su relación con el diseño y la formación curricular**

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Abstract

University professional training is the sum of individual and group efforts that are intertwined as students and teachers advance, semester or annually. It has its precedent in curricular designs and may or may not be spiced up with job training. The objective is to analyze the relationships of the elements of professional training, curriculum design and training from the university perspective. The present study is quantitative, cross-sectional and with a sample by availability. 18 variables that make up the axes of Vocational Training (8), Training (4) and Curricular Design (4) are analyzed, the results of which have been treated with Pearson's Product Moment Correlation analysis; the scale used is decimal ratio. The participants were 65 teachers and 138 students from different Academic Units. It is stated that the themes that allude to the social rights, rights, and obligations of the workers, the Afores, the educational-labor reforms should be considered as cross-cutting themes in any university career due to their socio-educational-labor implications.

Resumen

La formación profesional universitaria, es la suma de esfuerzos individuales y grupales que se van entrelazando conforme los estudiantes y docentes avanzan, semestral o anualmente. Tiene su precedente en los diseños curriculares y puede ser o no aderezado con la capacitación laboral. El objetivo es analizar las relaciones de los elementos de la formación profesional, el diseño curricular y capacitación desde la perspectiva universitaria. El presente estudio es de corte cuantitativo, transversal y con una muestra por disponibilidad. Se analizan 18 variables que integran los ejes de Formación profesional (8), Capacitación (5) y Diseño Curricular (5) cuyos resultados han sido tratados con el análisis de Correlación Producto Momento de Pearson; la escala utilizada es decimal de razón. Los participantes fueron 65 docentes y 138 estudiantes de diferentes Unidades Académicas. Se afirma que las temáticas que aluden a los derechos sociales, derechos y obligaciones de los trabajadores, las afores, las reformas educativo-laborales deben de considerarse como temáticas transversales en cualquier carrera universitaria por sus implicaciones socioeducativas-laborales.

Vocational training, Curriculum design, Training

Professional training, Curriculum design, Training

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1 Introduction

In University vocational training presents serious setbacks with its environment since the requirements for graduates to join and adapt to the different social, labor, and scientific-technological processes is not presented in a balanced way due to socioeconomic inequalities, the gap of scientific and technological advances between the university and the productive sector and, among others, to the demands that employers impose on applicants.

The debate is still ongoing around the characteristics that the processes of university education must have and gather to achieve and satisfy the social and labour demands; it is not an easy task and university training processes continue to be pointed out as responsible for the slowness of the entry of their graduates into the labor sector.

The article *the socio-occupational implications of vocational training and its relationship with curriculum design and training* is broken down into different sections which allow interaction with what has been presented; in section 2, the relationship between vocational training, curriculum design and training is addressed from the point of view of authors, institutions, and legislation in force. Regarding the Methodology, it is found in Section 3 that alludes to the type of research, the sample, and the integrating variables of the three axes analyzed; it also indicates the types of statistical treatments with which the data were analyzed. In Section 4, the demographic, and socio-educational results of the sample of the 203 university students who participated voluntarily in this study are presented, in addition to the correlational analysis of the 18 integrating variables of the three axes: *Professional Training, Curricular Design* and *Training*. Finally, section 5 presents the significant conclusions of the study; it also indicates whether the objectives were achieved, and the hypothesis accepted.

1.1 Formal object

Invariably, when vocational *training* is approached, the field of education and the labour market are related to the challenge that the incorporation of their future graduates into the productive sector means for universities.

On the Cuban university the concept of *dimension* is incorporated, "To characterize the way in which a process can be studied, analyzed from different positions, approaches in correspondence with a particular purpose in each case" (Horroutine, 2009 p. 15) According to this proposal, there are three dimensions:

Instructive dimension, related to the idea that to prepare a professional, it is necessary to instruct him. This implies providing them with the necessary knowledge and skills of their profession, prepared to use them when performing as such in a certain job. Development dimension, where professional skills are divided to ensure their successful work performance and the educational dimension, that young person who is today in university classrooms lives in society, is a social being and the university also has the obligation to train him to live in that society (op.cit p. 16)

From the proposed study, the three dimensions explained by Horroutine (2009) can be adopted to any professional training process since the three are intertwined allowing to outline the professional training of active students and future graduates.

This study does not delve into the complex relationships between university and the labour market, but rather elucidates the underlying relationships between the elements of vocational training, curriculum design and training from the perspective of teachers and university students.

1.1.1 Objectives

a. General objective

Explain the relationships of the elements of vocational training, curriculum design and training.

b. Specific objectives

Describe the demographic and socio-educational profiles of the participants.

Analyze the relationships of the elements of professional training, curriculum design and training from the university perspective.

1.1.2 Hypothesis

It assumes that the elements of Vocational Training, Curriculum Design and Training present significant relationships given their characteristics and importance within university vocational training.

2 Relationships between vocational training, curriculum design and training

2.1 Vocational training and curriculum design: impact on the productive sector

University vocational training is linked to three dimensions that underpin it in the socio-educational, labour, scientific-technological and cultural fields; from the instructive, development and educational dimension, vocational training provides the knowledge, skills, abilities, and values that are necessary for insertion into the productive sector, as entrepreneurs and job creators, but also as employees with living wages. (Horruitine, 2009).

For his part, Llerena (2015) indicates that the integrality of professional training is based on the continuous review and improvement of the curricula and programs of study, which contemplate the inter and multidisciplinary of the subjects; likewise, "the effective application of pedagogical and didactic methods that favor an effective insertion of the graduates in their professional practice". (p.2) For Inciarte (2009) the integral formation alludes to the fact that:

... university education requires expanding its range of options by organically articulating transversal axes with the following planes: the understanding of the languages of diverse disciplines, the critical use of technology, the mastery of symbolic languages, the development of sensitivity to the humanities and the arts, and the cultivation of the body through physical activities. (p. 42)

What underlies in "the understanding of the languages of diverse disciplines" (op. cit), is adaptable to the inclusion of topics that address the laws that protect work and the worker, as well as to the reforms that in educational-labor matters that are being implemented in Mexico, because it provides the student with critical and reflective views of their future in the work environment.

Some thematic careers in the field of legislation and educational-labor reforms are topics "obliged" to know and analyze by students but it is necessary that they are transversal themes in any professional profile due to the socio-occupational implications of them.

It is therefore pertinent that issues of social rights, the rights and obligations of workers, legal forms of hiring, as well as what refers to informality, employment, underemployment... among other issues of equal importance, are addressed and analyzed in the different university careers; since it is not unknown that students even before graduating already work to help in their sustenance and, in many of the occasions, their hirings do not cover the minimum essential required by law.

As Inciarte (2009) comments, the new models require that curricular articulation be based on cross-cutting themes such as the promotion of values, student mobility, flexible programs, and the re-dimensioning of "disciplines around the fields of socially sensitive problems". (p. 43)

In this context, Sánchez (2014) points out that it is indispensable "... assume a critical and flexible curricular stance, committed to the network composed of academic knowledge and everyday knowledge that strengthens the sense of solidarity, dignity, responsibility and sensitivity in the human being. (p.71) **In addition, the trans-disciplinarity of the curriculum is proposed from the decentralization of ideas:**

... assume it from a rhizomatic position that admits gateways and multiple strategies to interconnect, interweave and transversalize both the organization and the programs, the knowledge, the management, where the training spaces become meeting points for the emergence of a citizenry that sprouts the recognition of diverse sources of reality. (op.cit., p. 71)

Vocational training is not only about the memorization and accumulation of information but rather about that information being meaningful that allows students to develop skills, abilities, values, attitudes to face and "... adapt to a changing, uncertain and complex world, which demands from people in training a process of transformation, necessary to live in today's society characterized by its permanent state of change at a global level..." ((Hargreaves, 2003). (Ap. Altuna, et.al., 2021, p. 198)

However, the OECD (2019) indicates that employers maintain the position that university graduates have deficiencies in required competencies, such as specific knowledge and transversal competences; likewise, the CIDAC (2014) reported that graduates lacked the skills related to written and oral communication in both Spanish and English and limited skills in synthesizing information, logical thinking, and little sense of responsibility. (pp.23-25)

But how Inciarte (2009) points out:

It goes without saying that higher education cannot be subordinated to the regularities imposed by market dynamics; on the contrary, it must continue to contribute to the definition of sovereignty and to the formation of being, identity, history, and the future, in a permanent definition of pedagogical and social utopias. (p.43)

2.2 Vocational training and training: their complementarity

What corresponds to training, employers insist on pointing out the deficiencies that graduates present to improve their performance, but the OECD (2019), points out that "Mexican companies do not have a training culture to increase or update the skills of their employees, and the incentives for them to do so are limited". (p. 151)

The culture of training is regulated in the Political Constitution of the United Mexican States (CPEUM, 2021), in article 123, section A Fraction XIII clearly states that it is the obligation of companies to train workers that would help to improve their professional skills.

The Federal Labor Law (LFT, 2021) identifies the different provisions in labor matters; specifically in Chapter III Bis on the Productivity, Training and Training of Workers (Added Chapter DOF 28-04-1978. Reformed denomination DOF 30-11-2012) are the different articles and fractions that indicate the mandatory training or training.

The purpose of the training is to improve the quality of life of the worker; increase productivity, prevent occupational risks; improve the skills and knowledge of workers and prepare them for new positions or fill vacancies. All this framed and endorsed by the Secretariat of Labor and Social Security (STyPS) in its forms, places, and delivery of training, as well as in the Law Organic of the Federal Public Administration (LOAPF,2021) and in the Internal Regulations of the Secretariat of Labor and Social Security (RISTyPS, DOF 23-08-2019), are addressed, regulated, and regulated labor training.

The OECD (2019) reveals that in Mexico some reforms were undertaken in terms of fiscal policy, deregulation of telecommunications which were successful, but not what alludes to:

... reforms in labor matters and the fight against informality, quality of education, anti-corruption and transparency, judicial processes and fiscal federalism have been less successful. Reforms in the areas of unemployment insurance, pensions and social benefits, the health system, urban planning, and agricultural transformation have made less progress (p.73).

The *relationships between professional training, curriculum design and training* are evident from the approach and proposals of the literature consulted; their relationships are complex due to the socio-educational-labor implications given the university contextual conditions where they develop.

3 Methodology

3.1 Type of research

The research *the socio-occupational implications in vocational training and its relationship with curricular design and training*, is quantitative, correlative-explanatory and transversal (November-March 2021).

The results are explored and analyzed from the teacher-student perspective since it is considered that this perspective better evidences the perceptions of professional training, curriculum design and training.

3.2 Scope of study and Sample

The study was carried out at the Autonomous University of Coahuila with the participation of students and teachers from different Academic Units (psychology, chemical sciences, nursing...). An exprofessal instrument was designed in Microsoft Forms© and sent via mass mail and relied on social networks for dissemination. The sample was by availability and whoever voluntarily wanted to answer the instrument; the characteristics for sending and possible responses alluded to undergraduate, graduate, and full-time faculty (PTC) students, part-time and/or PTC faculty and civil servant.

3.4 Variables

Three axes Professional Training, Curriculum Design and Training are analyzed, each one made up of 10 variables; However, for the present study, only the variables with the greatest significance were chosen for the case of the Curricular design and Training axes in relation to the Vocational Training variables. The scale used for the correlation statistic was a decimal ratio (0-10).

In addition to the simple variables that make up each axis, demographic and socio-educational variables were used to contextualize the questions-answers described above.

4 Results

4.1 Demographic and socio-educational characteristics

Of the 203 respondents ($n=65$ teachers and $n=138$ students) the majority are women (Table 1). The ages of students are between 17 and 25 years and that of teachers between 38 and 58 years.

Students were identified as ages from 35 to 58, representing graduate students; in the case of teachers, ages were identified from 23 to 29 years and even from ages 60 to 71 years, some of them are part-time teachers with seniority of 30 years.

Teachers			Students		
Variable	fr	%	Variable	fr	%
Women	35	53.85	woman	97	70.29
Men	30	46.15	man	41	29.71

Table 1 Sample description by sex

The majority are undergraduate students and only 7.88% study postgraduate studies; this refers to the 65 teachers, 8.87% are part-time and three serve two functions. (Table 2).

Variable	fr	%
Undergraduate student	122	60.10
PTC	44	21.67
Part-time teacher	18	8.87
Graduate student	16	7.88
PTC and official	3	1.48

Table 2 Sample description by occupation

From the analysis of the socio-educational data, it was identified that the teachers come from 24 Academic Units and the students from 32; when the database was reviewed, a balance was observed between participating teachers and students.

4.2 Axes Vocational training, Curriculum design and Training: Correlational Analysis

In addition to the demographic and socio-educational description of the participating population, a pearson *product moment* correlational analysis was performed to know the relationships that underlie the axes of Vocational Training, Training and Curricular Design using a correlation coefficient of $r^2=0.40$ with a probable level of error of 0.05.

The readings of Tables 3; 4; 5 and 6, are readn from the integrating variables of Vocational Training [top of the same] and the relationships that stand out from the variables that make up the axis Curricular Design and Training [first left column].

Variables	Socio-partner involvement Labour	Educational-labor reforms
Traits of the profile exit	0.14	0.24
Professional skills	0.14	0.21
Educational reforms	0.30	0.44
Policies public	0.31	0.42
Employment Sure	0.31	0.43
Professional preparation	0.50	0.49
Job opportunities	0.31	0.39
Success of the worker	0.33	0.42

Table 3 Correlational analysis of Vocational training, Curriculum design and Training

About the socio-occupational implication of issues related to employment (unemployment, informality, underemployment...) the respondents associate it with the training that replaces the university professional preparation to work (Table 3).

Both teachers and students agree in stating (Table 3) that the educational-labor reforms as implications in the socio-labor reality are linked to the elements of the Curricular Design that refer to the reforms and the educational public policies and shows that the Training intervenes as an aid to achieve a secure employment with good remuneration while replacing the university professional preparation to work and the success of the worker.

The topics that are addressed in the Vocational Training of the Academic Units such as training as an aid to have a decent job, the incidence of Professional Training in the socio-labor reality, the characteristics of decent work (human dignity, social security) find affinity with professional skills for the labor market, educational reforms and in public educational policies and are related to issues related to Training as a help to achieve a secure job with good remuneration, which improves job opportunities in the labor market and the success of the worker (Table 4).

Variables	Decent employment training	Incidence of vocational training	Work worthy
Traits of the profile exit	0.36	0.39	0.39
Professional skills	0.44	0.40	0.41
Educational reforms	0.41	0.37	0.31
Policies public	0.44	0.46	0.43
Employment sure	0.48	0.55	0.61
Professional preparation	0.37	0.33	0.39
Job opportunities	0.57	0.49	0.52
Success of the worker	0.52	0.54	0.57

Table 4 Correlational analysis of Vocational training, Curriculum design and Training

Table 5 shows that the rules and norms for effective communication and social rights (right to health, education...), are part of public educational policies and indicate that Training helps to achieve secure employment with good pay, improves job opportunities in the labor market, which results in the success of the worker.

Variables	Rules-standards	Social rights
Traits of the profile exit	0.35	0.33
Professional skills	0.39	0.39
Educational reforms	0.36	0.31
Policies Public	0.40	0.41
Employment sure	0.47	0.50
Professional preparation	0.32	0.39
Job opportunities	0.51	0.48
Success of the worker	0.53	0.50

Table 5 Correlational analysis of Vocational training, Curriculum design and Training

In Table 6, it is identified that for the participants what refers to the before and now of saving, the afores, pensions in the social educational reality of work only presents relation with public policies of the axis of Curricular Design. However, when vocational training addresses the issues of rights and obligations as a worker, legal conditions in terms of hiring, the before and now of savings, afores, pensions in the reality socio-educational labor, training replaces the university professional preparation to work and contributes to the success of the worker.

Variables	Rights and obligations	Legal conditions	Saving capacity...
Traits of the profile exit	0.28	0.21	0.20
Professional skills	0.33	0.22	0.21
Educational reforms	0.25	0.31	0.31
Policies public	0.32	0.39	0.40
Employment sure	0.48	0.37	0.33
Professional preparation	0.41	0.46	0.46
Job opportunities	0.46	0.34	0.28
Success of the worker	0.47	0.40	0.33

Table 6 Correlational analyses of Vocational training, Curriculum design and Training

5 Conclusions

The relationships that emerge from the elements of vocational training, curriculum design and training tend mostly to robust concordance between the variables of vocational training and training. And it was identified that the traits of the graduation profile (curricular design axis) do not present any significant correlation.

It is interesting to note that the relevance of training if it is clear in the university community as indicated by the Federal Labor Law (LFT,2021) which identifies the different provisions in labor matters, articles and fractions that indicate the mandatory training or training by companies for the benefit of their employees. Likewise, as indicated in the labor laws, *the purpose of training is to improve the quality of life of the worker; to increase productivity, prevent occupational risks; to improve the skills and knowledge of workers and to prepare them for new positions or fill vacancies.*

Teachers and students agree that the vocational training of the different university careers addresses issues related to social and labour incidences related to employment, types of recruitment, social rights, rights, and obligations and what refers to educational-labor reforms; at this point what remains to be investigated is whether these topics are transversal or are part of the curriculum design. Since it is observed that the correlations presented between vocational training and curricular design present, for the most part, values below the $r^2=0.40$; although it can be ventured to point out that they are transversal themes since the traits of the graduation profile (curricular design axis) with the variables of professional training and training did not find underlying relationships.

The above is seen in the relations with the rights and obligations as a worker and the legal conditions in terms of hiring and the Afores, savings, pensions... they are not topics considered in the traits of the graduation profile, professional competencies for the labor market, educational reforms and public policies, variables of the curricular design axis.

It is not only to wait for educational and labor reforms to take place, but also necessary to socialize them with students to encourage a critical and reflective attitude around it, since as indicated by the OECD (2019) "... reforms in the areas of unemployment insurance, pensions and social benefits, the health system... less progress has been made" (OECD, 2019 p.73).

According to the analyses presented, the hypothesis raised ... the elements of Professional Training, Curricular Design and Training present significant relationships given their characteristics and importance within the university professional training, it is not approved.

As discussed in previous paragraphs, vocational training is not only about the memorization and accumulation of information but rather about that information being meaningful that allows students to develop skills, skills, values, attitudes to face and "... adapt to a changing, uncertain and complex world, which demands from people in training a process of transformation, necessary to live in today's society characterized by its permanent state of change at a global level..." (Hargreaves, 2003). (Ap. Altuna, et.al., 2021, p. 198)

It is necessary that the authorities of the UA and the professors consider addressing these issues of importance for the university students since they are topics of transcendence for his future insertion to the labour market. All seem to indicate that the educational and labor reforms are not penetrating enough in the curricular designs; therefore, as Sánchez (2014) comments, it is indispensable "... assume a critical and flexible curricular stance, committed to the network composed of academic knowledge and everyday knowledge that strengthens the sense of solidarity, dignity, responsibility and sensitivity in the human being. (p.71)

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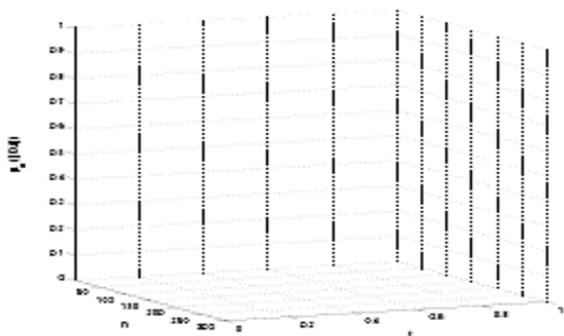
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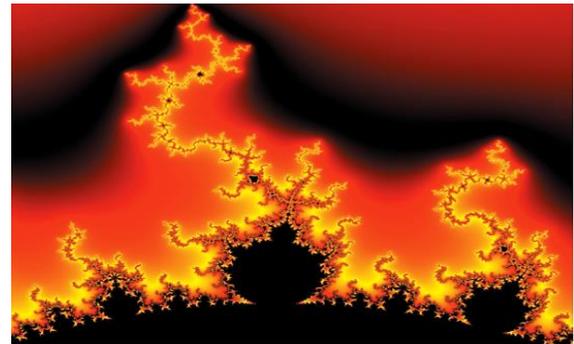


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