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Presentation of the Content

In the first article we present *Commitment and quality of teaching, source of training for professional teaching service*, by SALINAS-AGUIRRE, María del Consuelo, HERNÁNDEZ-CUETO, Jaquelina Lizet, CHARLESMEZA, Ángel Gerardo and SÁNCHEZ-CASTILLO, Diana Karina, with adscription in the Universidad Autónoma de Coahuila, second article we present *The influence of learning styles on educational quality in Higher Education*, by RAMIREZ-CERECERO, José Ricardo, GARCÍA-CONTRERAS, Laura Patricia and DIAZ-MURILLO, Fernando, with adscription in the Universidad Autónoma de Coahuila, next article *Low-cost conditioning amplifier based on operational amplifier array for Michelson interferometer*, by BERMUDEZ-MORALES, Valeria & ROJAS-RAMIREZ, Sergio Raul, from the Universidad Aeronáutica en Querétaro and Centro Nacional de Metrología, as fourth article we present *Perception of the quality of life of Higher Secondary Education Teachers*, by ARMENTA-ZAZUETA, Lizeth, LÓPEZ-JACOBO, Diego René, VILLEGAS-TARIN, Carlos Alberto and QUIROZ-CAMPAS, Celia Yaneth, with adscription in the Instituto Tecnológico de Sonora.

Content

Commitment and quality of teaching, source of training for professional teaching service

Compromiso y calidad de la enseñanza fuente de capacitación al servicio profesional docente

SALINAS-AGUIRRE, María del Consuelo*†, HERNÁNDEZ-CUETO, Jaquelina Lizet, CHARLES-MEZA, Ángel Gerardo and SÁNCHEZ-CASTILLO, Diana Karina

Universidad Autónoma de Coahuila, Departamento de Postgrado de la Facultad de Ciencia, Educación y Humanidades, Edificio "N" Campus Saltillo, Saltillo Coahuila, México

ID 1st Author: *María Del Consuelo, Salinas-Aguirre* / **ORC ID**: 0000-0002-6542-1813, **Researcher ID Thomson**: S92442018, **CVU CONAHCYT ID**: 615635

ID 1st Co-author: *Jaquelina Lizet, Hernández-Cueto* / **ORC ID**: 0000-0002-3728-7434, **Researcher ID Thomson**: S-8588-2018, **CVU CONAHCYT ID**: 322702

ID 2nd Co-author: *Ángel Gerardo, Charles-Meza* / **ORC ID**: 0000-0002-2158-2818, **CVU CONAHCYT ID**: 749215

ID 3rd Co-author: *Diana Karina, Sánchez-Castillo* / **CVU CONAHCYT ID:** 341697

Abstract

It is an analysis of the responsibility and commitment of teachers to achieve a constant update of the teaching profession with a philosophy of professional ethics, to provide quality formative teaching to students. The quality of teaching is lost when teachers lack work commitment and lose interest in their work performance. The non-experimental, quantitative research design, in data collection, an instrument of 9 complex and 136 simple variables is applied, validated with 0.93 Cronbach's alpha, has three axes: professional teaching service, teaching commitment and quality in teaching, of which the latter are explored in depth. It is measured with a randomly selected sample of 392 primary school teachers from a population of 12,640. The analysis is descriptive with percentages and measures of central tendency, correlational with a Pearson r² 0.50 and multivariate principal components method. Among the notable conclusions about the professional teaching service is not that it omits to evaluate the performance and commitment that teachers show in their professional work, which is the basis of the quality of teaching. Work commitment is reflected by being motivated to train to develop ideal learning environments, they conduct themselves ethically, they are professionals concerned about student learning, they use assertive communication, they prepare classes, they innovate teaching strategies, they allow performance evaluation as a source. of professional innovation, they also work collaboratively with shared leadership with colleagues in schools.

Commitment, Quality, Teaching professionalization

Resumen

Es un análisis sobre la responsabilidad y compromiso magisterial para lograr una actualización constante del magisterio con filosofía de ética profesional, para dar calidad de la enseñanza formativa a los educandos. Se pierde la calidad de la enseñanza cuando los maestros carecen de compromiso laboral y pierden el interés en su desempeño laboral El diseño de investigación no experimental, cuantitativa, en la recolección de datos se aplica un instrumento de 9 variables complejas y 136 simples, validado con 0.93 alpha de Cronbach, tiene tres ejes: servicio profesional docente, compromiso docente y calidad en la enseñanza, de los cuales se profundiza en los últimos. Se mide con una muestra seleccionada al azar de 392 maestros de primaria de una población de 12,640. El análisis es descriptivo con porcentajes y medidas de tendencia central, correlacional con un r² 0.50 Pearson y multivariado método de componentes principales. Entre las conclusiones destacadas sobre el servicio profesional docente no es que éste omite evaluar el desempeño y compromiso que los maestros muestran en su quehacer profesional, lo cual es la base de la calidad de la enseñanza. Se refleja el compromiso laboral al estar motivados a capacitarse para desarrollar ambientes de aprendizaje idóneos, se conducen con ética, son profesionistas preocupados por el aprendizaje de los estudiantes, emplean comunicación asertiva, preparan clases, innovan estrategias didácticas, permiten la evaluación al desempeño como fuente de innovación profesional, además trabajan colaborativamente con un liderazgo compartido con los compañeros en las escuelas.

Compromiso, Calidad, Profesionalización docente

* Correspondence to Author (e-mail: consuelo.salinas@uadec.edu.mx)
†Researcher contributing first author.

1. Introduction

Work commitment is a "recently researched dimension of professional development, which acts as a powerful support for identity and professionalism in times of change, revealing the way in which teachers and schools manage their actions and development spaces within a dynamic social reality". Fuentealba R. and Imbarack P. (2014). Since 1992, the "teaching career" program (SEP) was implemented to stimulate teachers' professional development in academic updating, performance evaluation and seniority in the educational service, but no measures were included to evaluate work commitment in the classroom. Authors such as Arias & Bazdresch, Guijosa, Murillo & González, Escribano, Fuentealba & Imbarack, Pellicer, Day and Gutiérrez, converge in that the quality of teaching resides substantially in the degree of work commitment shown in the performance and learning results crystallized in developing the necessary competencies for the life training of elementary school students.

The evaluation of teacher performance should be focused as a formative and summative process of knowledge construction based on the commitment to real teacher performance, with the objective of developing and motivating axiological transformations towards teaching quality. Manzi J. & Sclafani S. in "Report on In-service Teacher Evaluation and Development Practices in Comparative" (2010) state that "International research agrees that the quality of learning depends on several factors, but fundamentally on the quality of teaching and, therefore, one of the relevant factors for improvement is the existence of a well-prepared and committed teaching staff". Since 2003, Ana Bazdresch of Boston University observed the need for the education system to "foster a responsible and committed attitude of education workers" and to consolidate the profiles of education professionals.

As the writer Day Torres said "passion for teaching is not a fortuitous luxury, it is a quality that only a few teachers possess" (2009) and it is the heart of the quality of teaching and learning.

The research objective is to study the factors of teaching quality and commitment to work performance measured in the evaluations of the professional teaching service.

2. Methodology

The research has a non-experimental design Quantitative of transactional application with a validated instrument with a Cronbach's alpha of 0.93 taking a margin of error of r^2 0.50, which contains 136 simple variables within 9 complex variables immersed in three axes: professional teaching service, teaching commitment and teaching quality, the first contains three complex variables: teaching with 16 attributes, teacher evaluation with 15 items and perception of teacher performance" with the same number of elements.

Teaching quality is subdivided into three complex variables: teaching in the classroom with 11 items, teaching in the school with eight items and quality of teaching performance" made up of eight simple variables. It is applied to 392 active teachers out of a population of 12,640, belonging to the primary education system of the State of Coahuila.

3. Results

In the Descriptive Analysis with percentages and readings of central tendency, it was found that most of the teachers are young women with an average of 2 and 3 years of service, graduated from teacher training, a third of them have a university degree, more than half practice sports, read frequently, have skills for the use of school information and communication technologies. Regarding the correlational analysis using Pearson's method ($r^2 = 0.50$), it shows that teachers committed to teaching develop suitable learning environments for it, present an ethical conduct in the exercise of their work, are concerned and motivated and willing to constant professional training, present a positive interrelation with students and colleagues with whom they work in teams and share the shared decision making, perform daily lesson planning, practice effective didactic strategies, are willing to be evaluated for professional and student improvement.

They also manage ethical educational development and value culture, attend the school technical council, lead in teams, use the natural environment for learning, create motivating educational contexts, most of them present work identity as a mission and feel motivated by teaching.

The mission and teaching skills are present in aspects of the culture that are present in the quality of teaching in pedagogical and inclusive classrooms, orienting formative education by example, environmental sustainability, zero waste, reuse of materials and fostering the value of social responsibility. In the factorial analysis, the Principal Components method was applied, which provides an explanation in 21 factors, the four most important of which are: including evaluation as a teaching commitment, presenting behaviors with ethical values, developing competencies in educational practices and vocation of service.

The quality of teaching implies planning teaching work, generating positive learning environments, taking advantage of the natural resources of the environment and promoting inclusive collaborative learning. In terms of teaching skills, competencies refer to the mastery of theoretical content, selecting and applying didactic strategies and including continuous evaluations of teachers during teaching practice.

Factor	Total	% Variance	% Accumulated	Total
1°	31.926666	27.05649658	27.05649658	21.84379702
2°	8.70082114	7.373577234	34.43007381	1.695378207
3°	5.4233176	4.596031867	44.95168159	8.908551919

Table 1 Variance in Principal Components

4. Conclusions

Committed teachers are motivated towards continuous pedagogical preparation because they recognize the benefits of updating and development as responsible professionals in education. It is important to recognize that education is a process of integral social development of students for the formation of exemplary citizens, for which it is essential to have professional teachers, whose motivation and mission is constituted in a responsible and ethical performance for the learning of future generations with commitment to themselves and others, with a proactive attitude of education shown in their daily performance.

Positive actions in teaching reflect the commitment acquired with the educational work and other inherent actions such as class planning, promoting the diversity of interests of students to develop them.

Taking advantage of the natural environment and promoting lifelong learning with positive, innovative and challenging attitudes to technological, scientific and social changes that present the historical moment we live.

To be proactive and responsible for the future development of children in elementary school is to be a quality professional qualified for teaching, which implies formative evaluations and examples of values and motivation so that the teaching profession is shown in the development and formative learning of a committed, responsible and integrated childhood to society and that accommodates and responds to the vicissitudes of the future. The quality of teaching is a utopia that is pursued daily in the classroom, it is intended that each and every one of the students manage to develop one hundred percent or more of educational skills.

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The influence of learning styles on educational quality in Higher Education

La influencia de los estilos de aprendizaje en la calidad educativa en la Educación Superior

RAMIREZ-CERECERO, José Ricardo*†, GARCÍA-CONTRERAS, Laura Patricia and DIAZ-MURILLO, Fernando

Universidad Autónoma de Coahuila, Faculty of Science, Education and Humanities, Bachelor of Science in Education

ID 1st Author: *José Ricardo, Ramirez-Cerecero* / **ORC ID**: 0000-0003-4529-3399

ID 1st Co-author: *Laura Patricia, García-Contreras* / **ORC ID**: 0000-0002-9020-3762

ID 2nd Co-author: *Fernando, Diaz-Murillo* / **ORC ID**: 0000-0002-8594-7240

Abstract

In this research, the issue of education is addressed as an essential component for the transmission of knowledge. Education is a complex process that involves diverse challenges for both educators and students, which motivates the central research question: How do learning styles affect the education of higher education students? The research design was carried out with a sample of 60 students and a research instrument was developed consisting of 4 variables and 33 variables related to the phenomenon under study. These variables were evaluated using a scale ranging from 0 to 10, where 0 represents the total absence of an attribute and 10 its maximum presence. Among the most outstanding findings of this research is the relevance of regular class attendance as a critical factor in ensuring quality education. Likewise, it was identified that the quality of education is influenced by the learning styles promoted in the educational environment, especially those that emphasize the presentation of novel information. Teachers play an essential role in providing clear and understandable teaching on the topics addressed. Regarding the conclusions, it was determined that ease of teaching is manifested when learning styles are actively supported and applied by teachers. Clarity in the presentation of the contents is considered an essential element, and the active participation of students, including the study and research of topics outside the classroom, contributes significantly to the quality of education. Effective communication between teachers and students is a key factor, although it can be hindered when students are distracted during lessons.

Stress, Resilience, Mental health

Resumen

En esta investigación, se aborda el tema de la educación como un componente esencial para la transmisión del conocimiento. La educación es un proceso complejo que involucra diversos desafíos tanto para los educadores como para los estudiantes, lo que motiva la pregunta central de investigación: ¿Cómo influyen los estilos de aprendizaje en la educación de los estudiantes de educación superior? El diseño de la investigación se llevó a cabo con una muestra de 60 estudiantes y se desarrolló un instrumento de investigación que consta de 4 variables señaladas y 33 variables relacionadas con el fenómeno en estudio. Estas variables se evaluaron utilizando una escala que abarca desde el 0 hasta el 10, donde 0 representa la ausencia total de un atributo y 10 su máxima presencia. Entre los hallazgos más destacados de esta investigación se enfatiza la relevancia de la asistencia regular a clases como un factor crítico para asegurar una educación de calidad. Asimismo, se identificó que la calidad de la educación está influenciada por los estilos de aprendizaje promovidos en el entorno educativo, especialmente aquellos que enfatizan la presentación de información novedosa. Los docentes desempeñan un papel esencial al proporcionar una enseñanza clara y comprensible sobre los temas abordados. En cuanto a las conclusiones, se determinó que la facilidad en la enseñanza se manifiesta cuando se respaldan y aplican los estilos de aprendizaje de manera activa por parte de los docentes. La claridad en la exposición de los contenidos se considera un elemento esencial, y la participación activa de los estudiantes, incluyendo el estudio e investigación de los temas fuera del aula, contribuye de manera significativa a la calidad de la educación. La comunicación efectiva entre docentes y estudiantes es un factor fundamental, si bien puede verse obstaculizada cuando los alumnos se distraen durante las clases.

Estrés, Resiliencia, Salud mental

* Correspondence to Author (e-mail: mnieves@uadec.edu.mx)
† Researcher contributing first author.

Introduction

This research focuses on the study of learning styles in the context of Higher Education, a crucial area in the academic training of students. The results of this study have a significant scope that transcends the university community and benefits both students and teachers.

The importance of this research lies in its potential to improve the quality of education as a whole. The findings and recommendations derived from this study can be applied in various areas of knowledge, as learning styles are a universal variable in education. Identifying and adapting the teaching process according to individual learning styles can improve the effectiveness of teaching in any discipline.

This study will not only benefit the students and teachers directly involved, but will also serve as a model and guide for the entire university community. Incorporating the identification of learning styles and their integration into the educational process can become a university-wide best practice, leading to a widespread improvement in the quality of teaching and learning.

In summary, this research has a significant potential impact on the entire university community by promoting more effective teaching tailored to the individual needs of students, which will ultimately contribute to their academic success and the strengthening of the institution as a whole.

Rationale

The present research will focus on students in Higher Education, so the scope of this study transcends and benefits students and teachers at university level.

The relevance of this research lies in its potential to improve the quality of education as a whole. The results and proposals that emerge from this study can be applicable to students and teachers in different areas of knowledge, since learning styles are a universal variable in education. This means that by identifying and adapting the process of knowledge transmission according to learning styles, the effectiveness of teaching in any field of study can be improved.

In this sense, the research will not only benefit students and teachers, but will also serve as an example and a guide for the whole university community. The identification of learning styles and their integración into the educational process can be adopted as a recommended practice throughout the university, which will lead to a widespread improvement in the quality of teaching and learning.

In summary, this research has a significant potential impact on the entire university community by promoting more effective teaching tailored to the individual needs of students, which will ultimately contribute to their academic success and the strengthening of the institution as a whole.

Research question

How do learning styles influence the education of students in Higher Education?

General Objective

To find out how learning styles influence the education of students in Higher Education.

Specific Objectives

1.   To identify the way in which the student's learning is facilitated.
2.   To define the concepts that we seek to teach students according to their learning style.
3.   To base the previous preparation that leads to the preparation for this teaching method on the learning styles.

Research questions

1.   How to identify the best way in which the student learns?
2.   How to identify the best teaching strategy for the learner according to his or her learning styles?

Theoretical framework

Learning styles are the different ways in which each student approaches the process of learning a specific subject. In essence, each individual has their own approach to assimilating and understanding information (Gómez and Gil, 2018).

This may depend on their previous experience or prior knowledge (Algarra and Fernando, 2019; Izurieta and Villalva, 2019). Therefore, when a lesson is taught to a group of learners, some may understand it quickly, while others may find it difficult. In extreme cases, failure to adapt to individual learning styles can lead to academic failure, career change, dropping out or even dropping out of school. (Freiberg *et al*., 2017; Yacub *et al*., 2018).

From this perspective, it is crucial for educators to recognise and understand the learning styles of their students. This allows understanding that each individual is unique (Kolb and Kolb, 2005; Papadatou-Pastou *et al*., 2020) and that not everyone adapts in the same way to a specific teaching approach. Consequently, it becomes essential to redesign teaching strategies (Bernard *et al*., 2017; Camana and Torres, 2018; Cantú-Martínez and Rojas-Márquez, 2018; Felder, 1988), whether for individual or group instruction (Gordillo, 2020; Valdés and Sánchez, 2020), or even for tutoring (Franco *et al*., 2020).

Felder (2010) defined learning styles as the way an individual perceives and processes information. When these styles match the way a teacher delivers information, students tend to understand it better (Budiyanto *et al*., 2020; Felder, 1988; Papadatou-Pastou *et al*., 2020; Soflano *et al*., 2015). Furthermore, Pérez (2018) suggests that teaching strategies should favour students' cognitive development (Muñoz, 2020). To achieve this, it is important not to limit oneself to traditional methodologies, but also to take advantage of information technologies (Bravo and Arzube, 2017; A. Pérez *et al*., 2020) in both face-to-face and virtual learning environments. In both cases, it is essential to identify students' learning styles (Gomede *et al*., 2020).

Several authors, such as Labib *et al*. (2017), Vokić and Aleksić (2020), Chen *et al*. (2020) and Felder (1988), have investigated learning styles in higher education. They all agree that each student perceives and processes information in a unique way. Felder stated that "students tend to learn best when the teacher's teaching style matches their learning preferences" (1988, p. 23). Labib *et al*. (2017) highlight that learning styles have been successfully used to help teachers design effective instruction.

Therefore, even teachers can self-assess themselves after their classes (Castillo-Cabeza and Camacho-Marín, 2020) to improve their teaching strategies, drawing on their understanding of students' learning styles.

Education is a concept that encompasses much more than memorising facts from books. It goes beyond passing exams and obtaining academic degrees; it involves learning to perceive various aspects and being in direct contact with the environment.

Methodology

The research design involved working with 60 university students, 45 of whom were female, 14 were male, and one participant was identified who did not fall into any of these categories. An instrument was applied consisting of 05 signal variables corresponding to gender, age, degree being studied, personal hygiene and the comfort felt in the school in which they are studying, and 33 variables of the study phenomenon, using a scale of 0-10 where zero is the absence of the attribute and 10 its maximum presence.

The research participants are young people between the ages of 16 and 27. They all have different socio-economic backgrounds, most of them dress fashionably nowadays, most of them depend on their parents for their studies.

The pilot test was developed using Google Forms. The test was applied by means of a QR code that was scanned by the participants. In order to explain the behaviour of the variables, the statistical levels of univariate, characterisation and correlation were used to carry out an objective investigation.

Results

Frequency and percentage:

It can be observed that the majority of the students are distributed in two main groups, both with 12 students, which is equivalent to 40% each. These two groups comprise 19 year olds and 18 year olds. Another group of students with a majority is composed of 20 year olds, representing 18.3% of the total. This is followed by 17 year olds, with a total of 9, which is equivalent to 15% of the total.

Then we have the 21 year olds, with a total of 8 students, representing 13.3%. In the next group, 22 year olds, there are 4 students, equivalent to 6.6%. Finally, there is only 1 student in each of the following age groups: 28 years, 27 years, 16 years and 23 years. These individual groups each represent 1.6% of the total. It can be inferred, then, that students aged 19 and 18 are the most numerous in the sample.

Characterisation

In the analysis of the Z variable, it is noted that most of the variables are predictors ($Z>=1.96$), given that they have a margin of error of less than 5%. This suggests that these variables, having a high level of confidence, can be extrapolated to other populations sharing similar characteristics.

It is observed that the variables that obtain high values on the scale (7, 8, 9, 10) are the following: new information ($X=7.83$), socialising ($X=7.38$), empathy ($X=7.15$), improving ($X=7.17$), talking intimately ($X=7.38$), teacher as a profession ($X=7.27$), homework ($X=7.63$), attending classes ($X=8.70$), group as a means of gathering ($X=7.25$) and body as a means of communication ($X=7.47$). This leads to the conclusion that attending classes is fundamental to ensure quality education.

As for the coefficient of variation (CV), it is noticeable that most of the variables behave as a group of opinion ($CV<=51\%$). This suggests that the variables present an acceptable level of confidence and homogeneity from a scientific point of view. Finally, it is observed that the variable "formal communication" ($X=3.80$) is below the lower limit ($Li=3.99$, $Xx=6.38$, $Ls=8.77$). This leads to the inference that students who fail to achieve quality education might face difficulties due to problems in their level of communication with their peers.

Correlation

The correlation analysis involving 33 variables and a population of 60 subjects is presented below. It is relevant to mention that the correlation was determined using Pearson's correlation coefficient, with a significance level of ($P=0.01$) and a correlation level of ($r=0.33$).

The main correlation observed for the variable "New information" shows that university teachers generally teach students information that goes beyond their prior knowledge, which often helps students to resolve their doubts ($r=0.45$). This leads to the educational content being clear to them ($r=0.57$). In addition, it is noted that students show a great willingness to communicate with others ($r=0.46$) and to carry out an in-depth analysis of what they learn in class ($r=0.46$). It also stands out that learning is reinforced because teachers show great empathy towards the situations faced by students ($r=0.52$).

The correlation of the variable "Teacher Facilitates Teaching" reveals key aspects about the interaction between university students and their teachers. In general, teachers provide support during classes in order to facilitate their students' learning. This is reflected in the fact that students tend to study the topics and concepts taught in class ($r = 0.44$). Furthermore, students perceive clear teaching by teachers ($r = 0.59$). This supportive environment also motivates students to carry out self-initiated research on topics that interest them ($r = 0.37$). However, students who do not experience smooth teaching tend to lose interest in the class ($r = -0.36$) and may get stuck on a single topic ($r = -0.45$).

These findings suggest that teachers who succeed in facilitating teaching do so primarily through their ability to explain clearly and effectively. This, in turn, contributes to students' perceived ease in their learning process and in their overall educational experience.

Finally, it was observed that university students experience a high quality education and a conducive environment when the teacher shows empathy towards their personal challenges and situations, whether school-related or not. This empathy is reflected in several aspects, such as the effective accomplishment of tasks, like writing informative texts ($r = 0.49$) or presenting information through presentations made by the students themselves to the class ($r = 0.41$). In addition, it is facilitated when students provide each other with help when needed ($r = 0.39$) and when formal and respectful communication is established in the classroom ($r = 0.33$).

However, there is a challenge with students who tend to despair during lessons (r = -0.37). These findings suggest that teacher empathy towards the group is strengthened when students are able to accomplish educational tasks, such as writing texts that can be presented to the class, and when they create an atmosphere of mutual support and respect. This, in turn, contributes to an optimal learning environment for both teacher and students. From these results, it is inferred that educational quality is established when learning styles that focus on the presentation of novel information are promoted in the classroom, and when teachers encourage clarity in the content being addressed.

Acknowledgements

Conclusions

Of course, the conclusions are presented below, organised thematically:

In relation to the frequencies and percentages in the variable "Gender," it is observed that the majority of students in the sample are of female gender. This gender distribution may influence the interpretation of the results, and it is suggested to consider the reliability of the variables in populations with similar characteristics.

In relation to characterisation

– All variables examined in the characterisation of the sample show a high level of confidence, suggesting that the results are applicable to other populations with comparable characteristics. This supports the extrapolation of data to similar contexts.

Regarding the statistical treatment of correlation

– Educational quality is established by promoting learning styles that focus on the presentation of novel information in the classroom. In addition, the importance of teachers providing clarity in the presentation of content is emphasised, which creates an environment conducive to learning.

– Ease of teaching is related to the teacher's active support in the delivery of lessons, clarity in the presentation of content, students' commitment to study and research outside the classroom, and effective communication between teachers and students.

These findings highlight the relevance of promoting innovative learning styles and the importance of clear and effective communication in the educational process. They also underline the need for active student participation and the fundamental role of teachers in educational success.

Discussion

In research by Carrianzo *et al*. (2020), the importance of pedagogical leadership in the strategic planning of educational institutions is raised. It is argued that having highly trained pedagogical leaders is essential for designing and implementing effective strategies that lead to the achievement of short- and long-term goals, which ultimately translates into quality education. However, it is relevant to contrast this perspective with the findings of this research.

The results of this research indicate that educational quality depends not only on pedagogical leadership and strategic planning, but is also closely related to the promotion of learning styles that focus on the presentation of novel information and clarity in the transmission of content by teachers. In this sense, it is suggested that, although pedagogical leadership and strategic planning are essential components of educational quality, they are not sufficient on their own. Innovation in teaching methods and effective communication between teachers and students play an equally crucial role in shaping quality education.

In conclusion, educational quality is a multidimensional outcome that involves both pedagogical leadership and strategic planning as well as the promotion of innovative learning approaches and clarity in teaching. These factors work together to deliver high quality education and must be considered holistically to achieve significant improvements in education systems.

Intervention Proposals

– Carry out an intervention project that identifies students' learning styles.

– Establish an educational model focused on learning styles as a key element of educational quality.

– Prioritise learning styles in the curriculum to improve academic performance.

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Article

Electronic teaching: Cutting-edge devices that revolutionize pedagogy

Enseñanza electrónica: Dispositivos de vanguardia que revolucionan la pedagogía

MEJÍA-SALAZAR, Gilberto†, CARRILLO-BELTRÁN, Julio César Cuauhtémoc*, LLANOS-RAMÍREZ, María del Carmen and RAMÍREZ-JIMÉNEZ, Armando

Universidad Autónoma de Nayarit, Unidad Académica de Contaduría y Administración

ID 1ˢᵗ Author: *Gilberto, Mejía-Salazar* / **ORC ID**: 0000-0002-1879-1299, **Researcher ID Thomson**: S-1140-2019, **CVU CONAHCYT ID**: 871489

ID 1ˢᵗ Co-author: *Julio César, Carrillo-Beltrán* / **ORC ID**: 0000-0002-7932-8273, **CVU CONAHCYT ID**: 1298974

ID 2ⁿᵈ Co-author: *María del Carmen, Llanos-Ramírez* / **ORC ID**: 0000-0003-0885-2817, **Researcher ID Thomson**: IUO-4762-2023

ID 3ʳᵈ Co-author: *Armando, Ramírez-Jiménez* / **ORC ID**: 0000-0001-9903-3846, **Researcher ID Thomson**: U-2935-2018, **arXiv Author ID**: armandor7

Abstract

This work was carried out with a transversal quantitative descriptive approach, the objective being to know the effective integration of technological tools in the educational process in the dynamics of teaching and learning. In this way, build a more dynamic educational environment that allows educators and students to make the most of digital technologies and improve the quality and accessibility of the learning process. It was found that the majority of the students surveyed (99%) make frequent use of technological tools, such as the computer, Internet, computer programs, email, social networks, etc., as well as the services offered by the Internet, 43% are Chat sites, followed by web page services (42%). This technological innovation includes tools that allow students and teachers to improve their school activities. It is emphasized that this innovative inclusion is being consciously accepted by the vast majority of students, who consider it as a productive support within academic activities. In conclusion, technological innovation emerges in an insightful way, revolutionizing and projecting higher education in a positive way, having an impact on academic societies, and innovative inclusion allowing students and teachers alike to accept these tools as support in activities linked to school.

Learning, Teaching, Educational innovation, ICT

Resumen

Este trabajo se realizó con un enfoque descriptivo cuantitativo de tipo transversal, el objetivo conocer la integración efectiva de herramientas tecnológicas en el proceso educativo en las dinámicas de enseñanza y aprendizaje. De esta manera, construir un entorno educativo más dinámico que permita a los educadores y estudiantes aprovechar al máximo las tecnologías digitales y mejorar la calidad y accesibilidad del proceso de aprendizaje. Se encontró que la mayoría de los estudiantes encuestados (99%), hacen uso frecuente de las herramientas tecnológicas, tales como, la computadora, internet, programas informáticos, email, redes sociales, etc., asimismo, de los servicios que ofrece Internet, el 43% son los sitios de Chats, seguido de los servicios de páginas web (42%). Esta innovación tecnológica incluye herramientas que permiten a estudiantes y profesores mejorar sus actividades escolares. Se enfatiza que esta inclusión innovadora está siendo aceptada conscientemente por la gran mayoría de los estudiantes, quienes la consideran como un apoyo productivo dentro de las actividades académicas. En conclusión, la innovación tecnológica surge de manera perspicaz revolucionando y proyectando la educación superior de manera positiva, teniendo un impacto en las sociedades académicas, y una inclusión innovadora permitiendo a estudiantes y profesores por igual aceptar estas herramientas como apoyo en las actividades vinculadas con la escuela.

Aprendizaje, Enseñanza, Innovación educativa, TIC

* Correspondence to Author (e-mail: doctorjuliocesarcarrillobeltran@uan.edu.mx)

† Researcher contributing first author.

Introduction

Today, technological tools have emerged as major players in the educational revolution, significantly transforming the traditional academic landscape. By enabling active participation, facilitating personalised learning and offering enriching educational experiences, these tools have transcended the conventional boundaries of teaching. This radical change has not only redesigned the way we access knowledge, but has also redefined the very nature of education.

Collaboration, in turn, goes beyond physical and temporal boundaries, connecting students and educators in a virtual space that transcends the traditional limitations of the classroom. In this new educational era, the impact of technological tools is not only limited to the acquisition of knowledge, but extends to the formation of critical skills and the development of fundamental attitudes. Thus, education is transformed into an experience beyond the memorisation of facts, becoming a dynamic process that nurtures curiosity, creativity and critical thinking.

That is, generating new knowledge tools for various fields of society, called education, business, the use of these technological tools in the educational process has aroused much interest in the educational community because it can bring good results among teachers and students (Sanchez at al., 2022). Therefore, critical thinking, which is fundamental for intellectual development, will be strengthened as students use technology to analyse, evaluate and synthesise information more actively. Teachers, for their part, will have the opportunity to design educational experiences that encourage reflection and critical thinking, taking advantage of the interactive and multimedia capabilities offered by technology (Vargas-Murillo, 2020).

Technology-based learning

Digital technology is the factor that has the greatest impact on today's education system due to the effectiveness, efficiency and attractiveness of digital technology-based learning. Future needs are not only competitive, but also closely related to various developments in technology and information.

The quality of the developed learning system should enable rapid improvement of existing weaknesses (Naibaho, 2022). Therefore, learning is directly linked to technology enabling the development of learning strategies and methods designed for student understanding, resulting in optimal achievement.

It is important to remember that the understanding of technologies offers paths towards digital literacy, since the present education is associated with learning in a systematic way, providing knowledge that somehow impact on the development and work of human beings, as they are tools that provide teaching, activate self-learning skills, collective work, communication between academic communities, establishing a critical sense in thoughts and ideas that transform conventional environments into automated environments in all fields of science and education, thus registering significant advances in pedagogical research.

Within this context, it is known that traditional classroom instructions fail to provide an instant learning environment, i.e. with the support of technology teaching emerges in a more fluid way without establishing boundaries between educators and students, it is considered that these tools are becoming popular within societies, being common for educational centres to rely on them to achieve benefits and complete with the objectives set out within the academic programmes.

In other words, digital learning tools and technology meet these objectives. As some of the efficiencies offered by these technologies become increasingly popular among the public, it makes sense for schools and educational institutions to make effective use of them by introducing technology into the classroom (Haleem *et al.*, 2022).

Likewise, access to the Internet can be another way to engage students in the learning process, just as a group learning environment can generate a positive learning environment through peer feedback, knowledge sharing and discussion, leading to deeper learning (Haleem *et al.*, 2022), while mobile devices become an advocacy tool (Rodríguez-Cardoso *et al.*, 2020).

ICTs also provide more information and educational resources. Students can explore a wide range of online content, access digital libraries, take online courses and use interactive tools to enrich their learning experience. This not only diversifies educational material, but also fosters autonomy and self-direction in the knowledge acquisition process (Amaya, 2021).

Digital technology

The reality is that all of this is changing the way we think, communicate, coexist and, ultimately, this technology is an essential part of human interaction. The result in the field of education is that everyone can play an active role as a user and producer, the so-called prosumer. The concept of tools is bringing about fundamental changes in the way we understand education and its design (García-Gutiérrez and Ruiz-Corbella, 2020). Likewise, this vast ecosystem of information corresponding to the digital environment requires open mechanisms to redirect this change. It is in this novel approach that transcripts are generated corresponding to various aspects encompassing everything related to digital skills (Levano-Francia et al., 2019).

Learning and knowledge technologies are therefore fundamental components of virtual environments, reflecting in their development, content and products, and have pedagogical elements that provide learners with opportunities to acquire new knowledge and develop skills and attitudes. Thus, counsellors find numerous materials that can be incorporated into the design of didactic resources and student learning activities (Sardi et al., 2021). Digital devices are tools through which students, with the guidance of teachers, use these technological tools in specific contexts to develop their qualifications, skills and abilities. Academics offer grants to improve teaching and learning processes (Betancurt-Loaiza and Cadena-Martínez, 2022).

These tools provide opportunities for the development of active participation, personalised learning and enriching educational experiences. In academia, interactive learning and collaboration are key factors in building a dynamic and enriching educational climate (Mejía and Kurita, 2023).

The integration of digital technology in education will not only facilitate communication between teachers and students, but will also transform the way academic concepts are approached. By leveraging digital tools, more interactive and personalised learning environments can be created (Vargas-Murillo, 2020).

Because of this, technology has the power to expand access to knowledge in ways previously unimaginable. However, this quote warns that this knowledge can be appropriate or inappropriate. In other words, technology facilitates access to large amounts of information, but it does not guarantee the quality or accuracy of that information. On the one hand, technology provides access to large amounts of data and educational resources, which can enhance the acquisition of knowledge in various fields. It promotes research, online learning and information sharing worldwide (Suárez-Álvarez et al., 2022).

Information and Communication Technologies (ICT) in educational settings

The implementation of technologies such as computers, tablets, digital whiteboards, among others, can generate enthusiasm and expectations of improvements in the educational process. However, the risk associated with this perception is that attention is diverted from the educational content itself.

It is important to realise that ICT is not an end in itself but a tool and a means to achieve educational goals. Their successful integration into educational settings requires careful consideration of the educational content conveyed through them (Valverde et al., 2010). It is sometimes tempting to adopt these technologies, believing that their presence will automatically improve the quality of learning. However, this approach can lead to an underestimation of the important role that educational content plays (Valverde et al., 2010). The central idea is that ICT, especially through Internet connectivity, can create a more flexible and personalised learning environment. Teachers can use online tools to tailor instruction to the individual needs of their students while constantly monitoring their progress to continuously adjust and improve the educational experience (Molina, 2012).

The importance of the Internet as a widely used technology in the field of education justifies an analysis of its relevance in terms of its impact on education. Here are some key interpretations:

– Importance of the Internet in education: The statement recognises the internet as one of the most prominent and commonly used technologies in education. This demonstrates that the global connectivity provided by the Internet is fundamental to the way information is accessed, shared and distributed in educational settings (Pariente, 2006).

– Possibilities for impact analysis: The Internet is a technology that offers a wide range of possibilities for analysing how it impacts on education. Because its applications are so widespread, it is a ripe area for research and evaluation in terms of how it affects teaching methods, access to information, collaboration among students and other aspects of education (Pariente, 2006).

– The 'network of networks' metaphor: Referring to the Internet as a 'network of networks' emphasises the interconnected and global nature of this technology. This metaphor highlights how the Internet connects people, resources and knowledge in a global network that has significant implications for the way education is conducted worldwide (Pariente, 2006).

From the above, it is explained that the Internet has an impact on both students and teachers, thus, having the opportunity to enhance the teaching and learning of each person, experiencing changes that improve the integration of technology. Likewise, the Internet appears as a tool that provides options for the improvement of the quality of education, through online classes, interactive platforms, access to information through different media.

It is crucial to highlight that the internet not only has an impact on students and teachers, but also stands as an inexhaustible source of information. It also acts as a channel and medium for real-time communication.

Both of these facets are not only highlights of the digital age, but also assume significant relevance as educational objectives to be considered and consciously integrated into the learning environment (Peñalva, n.d.).

Acknowledging these features of the Internet as educational goals means not only recognising their impact but also consciously using these tools to improve the quality of teaching. By strategically integrating rich information and real-time communication in the classroom, we create a more dynamic, interactive and adaptive educational environment that meets the needs of contemporary society.

Main objective

To understand the effective integration of technological tools in the educational process in the dynamics of teaching and learning. In this way, to build a more dynamic educational environment that allows educators and students to make the most of digital technologies and improve the quality and accessibility of the learning process.

Research question

The following question arises from the above: What is the impact of the effective integration of technological tools in the educational process in terms of teaching and learning for university students?

Methodology

This work was carried out with a cross-sectional quantitative descriptive approach, a method that attempts to collect quantifiable information to be used in the statistical analysis of the sample population. In other words, it aims to describe the nature of a demographic segment, without focusing on the reasons why a certain phenomenon occurs (Muguira, 2023).

To determine the sample, the non-probability convenience sampling technique was used, i.e. it allows for the selection of accessible cases that agree to be included (Otzen and Manterola, 2017). To better illustrate convenience sampling, it is the one with which the sampling units are selected according to the convenience or accessibility of the researcher (Tamayo, 2001).

Taking the above into consideration, a sample of 100 students was determined. The information obtained was processed under the Statistical Package for the Social Sciences (SPSS) version 19. It is worth mentioning that for the treatment and analysis of the information, frequency tables were created, where the results are presented together with their respective graphs.

Results

It is observed that 68% of the students surveyed are female and 32% are male, which shows that female students are more immersed in the frequent use of technological tools, which in some way allows them to have a better performance and knowledge about technologies, which allows them to have a support with the subjects (Graph 1).
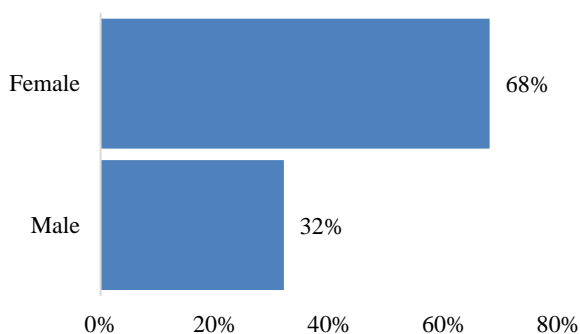

Graph 1 Female and male students

From the above, a positive relationship is perceived between women's participation in the use of technologies and their academic performance, highlighting the importance of considering this data when designing educational and technological strategies.

Continuing with the results, it was found that the majority of the students surveyed (99%) make frequent use of technological tools, such as the computer, internet, software, email, social networks, etc.

Also, students have a variety of electronic equipment, including desktop computers (31%), Laptop (31%), Tablet (5%), Smartphone (23%), and other electronic equipment (4%), only a minority do not have any computer equipment (6%) (Graph 2).
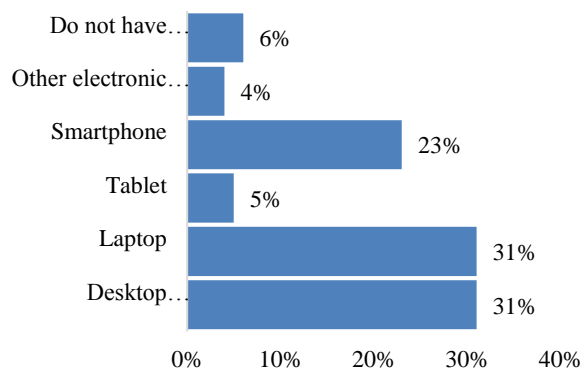
Graph 2 Use of technological tools

Thus, this information highlights the importance of understanding the diversity of technologies that students use, which can be fundamental to designing educational strategies that adapt to different platforms and devices.

Furthermore, students were asked what kind of electronic devices they have associated with their computer equipment, 80% of students had USB, 5% had a printer, 3% a webcam, 1% a DVD recorder, 1% a microphone, 10% said they had no associated devices (Graph 3).
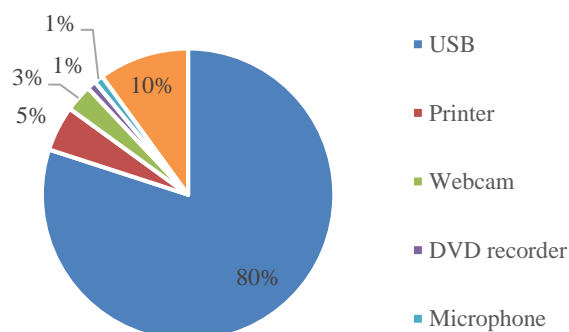
Graph 3 Electronic devices associated with their computer equipment

The above provides a detailed overview of the electronic devices associated with students' computer equipment, which can be useful for understanding technological needs and guiding educational strategies that take advantage of the availability of these devices.

Similarly, when asked what type of operating system they use, 66% use Windows, 21% use Android, 2% use Mac OS, and 11% do not know what type of operating system they use (Graph 4).

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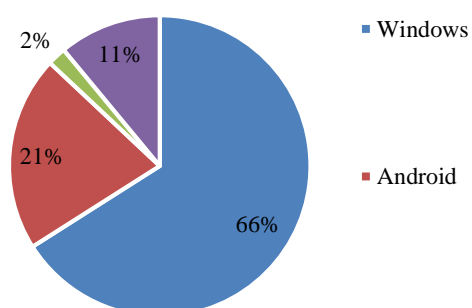
Graph 4 Different operating systems used by the students

It is worth noting that most of the students are familiar with the Windows operating system, which demonstrates their knowledge and mastery of the applications available in this system, facilitating the way they work.

Of the services offered by the Internet, which one do you use frequently? 12% use e-mail services, 43% use chat sites, 42% use web page services, 3% use download services (Graph 5).
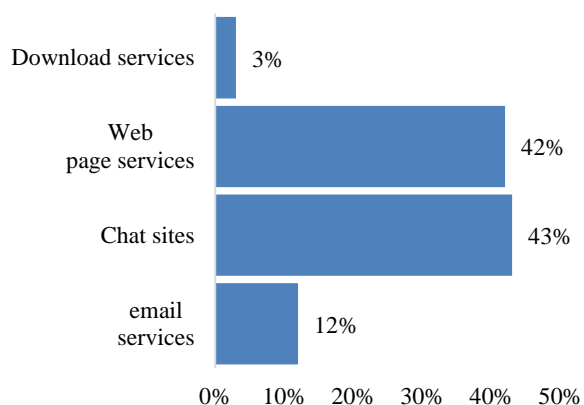
Graph 5 Use of Internet services

The interpretation of this data underscores the importance of understanding students' specific preferences in relation to Internet services. This allows educators and programme designers to tailor their approaches to take advantage of the online tools and platforms that are most relevant and effective according to students' needs and preferences.

What is the level of knowledge and use of technologies within your academic institution? 15% consider the level to be high, 62% consider it medium, 8% low, and 15% do not know the level (figure 6).
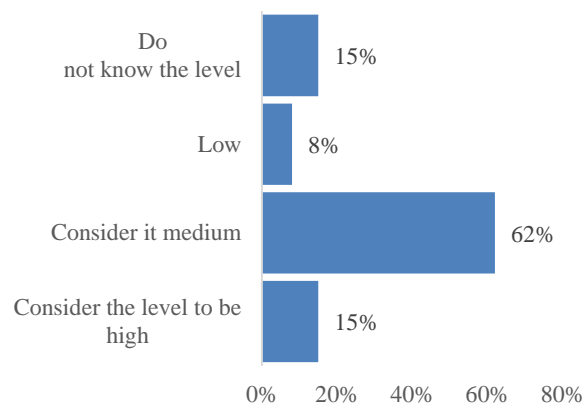
Graph 6 Level of knowledge and use of technologies

The results show a varied distribution in the respondents' perceptions of the level of knowledge and use of technologies in their academic institution. While the majority perceive a medium level, there is a diversity of opinions highlighting the importance of continually evaluating and improving technology integration in educational contexts.

Discussion

The following results show that there is a great influence and interest in technologies and digital learning on the part of female students, which highlights their participation in the academic field, with favourable results in terms of their learning and performance. Technologies are instruments that have come to favour the activities that people carry out on a daily basis.

Likewise, it is known that students in general make frequent use of the computer, Internet, office programs, social networks, etc., it is understood then, that the relationship that exists with the technology described, is a prop to the universal knowledge that allows exploration in unimaginable magnitudes.

The finding that students in general make frequent use of computers, the Internet, office software and social networks reinforces the idea that the relationship with technology is integral to the student environment. This multifaceted relationship is perceived as a fundamental building block for universal knowledge, enabling exploration on unimaginable scales.

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Technology is presented not only as an educational tool, but as a medium that expands the possibilities for exploration and understanding of the world.

That is to say, the users of these technologies use services offered such as chat sites and web pages, this with the aim of being in communication with teachers and schoolmates, having the need to resort to this type of elements, which in the end help for a better development towards technological literacy, from this results that, within the institutions, a level of understanding and use of technological tools is considered. Therefore, the future of digital education is growing rapidly to the point of having an innovative education that allows students to have a close relationship to knowledge and science, thus establishing links that allow a continuous training to higher education.

The need to use these technological elements for communication in the academic environment suggests that digital networking has become an essential component of education. This connection not only facilitates communication, but also contributes to the development of technological skills that are essential in today's digital age.

Conclusions

Thus, technological innovation emerges in an insightful way revolutionising and projecting higher education in a positive way, having an impact on academic societies, and innovative inclusion allowing students and teachers alike to embrace these tools as a support in school-related activities. Thus, with the benefit of these technologies in teaching and learning, student performance improves. In this way, it is established that the use and knowledge of the tools in conjunction with electronic devices is at a medium level, which indicates that the vast majority of students consciously adopt these tools as a productive support.

Furthermore, this technological innovation includes tools that enable students and teachers to improve their school activities. It is emphasised that this innovative inclusion is being consciously accepted by the vast majority of students, who consider it as a productive support.

Furthermore, it is indicated that the use and knowledge of these tools in conjunction with electronic devices is at a medium level, suggesting that most students are consciously adopting them to improve their academic performance.

Finally, it is established that the introduction of technologies in teaching and learning is improving student performance in higher education. The assertion that technologies are tools that support everyday activities reflects the perception that these technological resources not only have an impact in the educational sphere, but also influence various facets of everyday life.

It is suggested that technologies have become beneficial tools that facilitate and enrich people's daily tasks. In other words, the projection of digital education is constantly growing and developing. This suggests that this growth is occurring rapidly and that digital education is evolving towards an innovative approach. This innovative approach seeks not only to provide students with knowledge, but also to establish a close relationship with science and knowledge, thus generating a lifelong learning that extends into higher education.

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Perception of the quality of life of Higher Secondary Education Teachers

Percepción de la calidad de vida de los profesores de Enseñanza Secundaria Superior

ARMENTA-ZAZUETA, Lizeth*†, LÓPEZ-JACOBO, Diego René, VILLEGAS-TARIN, Carlos Alberto and QUIROZ-CAMPAS, Celia Yaneth

Instituto Tecnológico de Sonora, Unidad Navojoa

ID 1st Author: *Lizeth, Armenta-Zazueta* / **ORC ID**: 0000-0002-9073-2461, **CVU CONACYT ID**: 290599

ID 1st Co-author: *Diego René, López-Jacobo* / **ORC ID**: 0000-0001-6872-6658, **CVU CONACYT ID**: 991653

ID 2nd Co-author: *Carlos Alberto, Villegas-Tarin* / **ORC ID**: 0009-0003-2164-7380, **CVU CONACYT ID**: 1238645

ID 3rd Co-author: *Celia Yaneth, Quiroz-Campas* / **ORC ID**: 0000-0002-6068-1552, **CVU CONACYT ID**: 281305

Abstract

In the present study, we try to understand the relationship that exists between the dimensions of perception towards the work team, satisfaction with their work and colleagues, and working conditions with the quality of life of upper secondary education teachers. Based on the methodology used, it is indicated that it was a quantitative, non-experimental, transactional and descriptive study. SPSS Statistics version 23 (Statistical Package for the Social Sciences) was used to interpret the data. The instrument was applied to 38 teachers, most of the participants being men. The application was virtually, through a Google form, which was carried out with the authorization and informed consent of the teacher participating in the study, as well as the authorities of the educational establishment. As a result, it was found that in the perception of the subjects, they are strengthened in the indicators with a feeling of belonging, in the same way as the relationship they have with their colleagues, and satisfaction with the work they do, with working conditions being the dimension that It had the lowest score with respect to the three participating institutions.

Resumen

En el presente estudio, se trata de entender la relación que existe entre las dimensiones de percepción hacia el equipo de trabajo, satisfacción con su trabajo y compañeros, y condiciones laborales con la calidad de vida de los maestros de educación media superior. En base a la metodología utilizada, se indica que fue un estudio cuantitativo, no experimental, transaccional y descriptivo. Para la interpretación de los datos, se utilizó SPSS Statistics versión 23 (Statistical Package for the Social Sciences). El instrumento se aplicó a 38 docentes, siendo la mayor parte de los participantes hombres. La aplicación fue de manera virtual, a través de un formulario de Google, mismo que se llevó a cabo con la autorización y consentimiento informado del docente partícipe del estudio, así mismo de las autoridades del plantel educativo. Como resultado se encontró que a percepción de los sujetos se encuentran fortalecidos en los indicadores con sentimiento de pertenencia, de la misma forma que la relación que tienen con sus compañeros, y la satisfacción con el trabajo que realizan, siendo las condiciones laborales la dimensión que menos puntuación tuvo con respecto a las tres instituciones participantes.

Quality of life, High school, Eorking condition

Calidad de vida, Media superior, Condiciones laborales

* Correspondence to Author (e-mail: diego.lopez173185@potros.itson.edu.mx)
†Researcher contributing first author.

Introduction

When talking about matters related to labor and employment issues, they have been topics of study for years, authors such as Mayo (2003) explain in their studies that labor was not considered a resource capable of creating competitive advantages in a company. organization, because, the leaders were more concerned with increasing the return on capital, leaving aside the work and personal development of the workers according to.

However, the above brought with it a series of organizational problems such as boredom, routine work and job dissatisfaction. Causing workers to fight for their rights in order to improve their working conditions, but they were unsuccessful.

Job dissatisfaction was increasing, but it was not until the 1960s when positions such as Herzberg's emerged, which demonstrated that an important factor for the organization was motivation, which is related to the feeling of well-being and personal self-realization Madero (2019).). In addition to the above, with the Hawthorne experiments, improvements were implemented in the organization, resulting in a new concept: quality of life at work.

With the above, organizations realized that factors such as colors, temperature, humidity and work hours varied productivity, and any change had a positive effect on the interest that workers showed in their work.

With these new contributions made by the researchers, new paradigms were created, for example, that factories were a new house, and that work was the most important activity of man. In addition, the government created new social programs in order to support families in various issues, which supported the idea that the worker should work to live better by improving their quality of life.

Quality of life has reached all organizations, and the educational field is no exception. Over the years, we have witnessed all the changes that have arisen in education, these changes have repercussions on the way of life of teachers, according to Giraldo (2022), the quality of work life (CVL) is a topic of interest for public and private institutions, because it focuses on the employee's work well-being.

According to Gutiérrez (2003), a person's sense of well-being is manifested based on the personal experience of each individual, and evaluates their quality of life by combining their experiences, dreams, achievements, obstacles and emotions. Income, health and values are imperfect, income helps create happiness, but unfortunately it decreases due to various factors and the health and values of all teachers depend on them.

In their research on quality of life in public higher education teachers in Mexico, Romero and Laborín (2016) mention that although there are various studies on the subject, it is still unclear what the conditions of their quality of life are. , as well as resources to face stressful situations that arise in your work area. Likewise, Peñaherrera et al. (2015), point out in their study to teachers, in an engineering school in Ecuador, since they considered that recently the (CVL) was a relevant part to measure productivity in their work, resulting in the negative points being workload and support. managers arguing that they cannot be considered a determining factor but rather an opportunity for improvement so that teachers have better conditions in their perception of the activities they carry out.

According to Gómez and Salas (2018), a person's quality of life increasingly covers more aspects, for example, individuals seek their own well-being, whether physically, emotionally or mentally. According to the Pan American Health Organization (PAHO, 2016), the workforce in Latin America represents 50% of the total population of the region (460 million), therefore, it is important to ensure productivity with working conditions healthy and satisfying.

In this sense, the quality of work life is important to find a balance between work and daily life. Furthermore, according to the Organization for Economic Cooperation and Development (OECD, 2022), one of the aspects that influences the quality of work life is the number of hours worked. Regarding the above, Mexico has the highest rate in the OECD (2022), because 27% of employees have a paid job with very long hours, causing Mexicans to work more hours per year and dedicate less time to aspects such as personal care and leisure; which has caused the balance between life - work to become complicated, affecting the quality of life.

Although many studies at the Latin American level between 1990 and 2017 have shown that teachers' exposure to precarious working conditions is a common factor among professionals involved in primary, secondary and high school education. A hostile learning environment characterized by overwork, overcrowding, long and often unrecognized or unpaid hours, low wages, social discrimination, little or no recognition, violence and drug trafficking Canales-Vergara et al (2018).

Another aspect that impacts quality of life is salaries. According to data from the National Institute of Statistics and Geography (INEGI, 2020), there is job insecurity in teachers' salaries, because teachers work an average of 32.3 hours per week and earn an average of 8,502.00 per month. However, according to the World Bank (2018), in the case of upper secondary education teachers, the salary amounts to 7,020.00 pesos per month, placing teachers in a lower range of the salary received by the middle class in Latin America.

Situations related to salary, hours worked, as well as work-life balance have affected the quality of life of teachers. Although there is empirical evidence that relates these factors to CVL, it has not been entirely clear how it affects teachers who work in higher secondary education.

The relevance of this study is due to the fact that, although there is vast evidence from quality of life studies, in the work context it is still not completely clear. The study that is proposed will help to understand this important aspect in the lives of teachers, that, as Moreno (2011) mentions, organizations should not only focus on the economic part, it is important to know other aspects such as health, interpersonal relationships. , work, personal growth, emotional and mental health.

On the other hand, through research, more empirical evidence will be developed on the quality of work life at the high school level. The study subjects will be able to question certain important aspects of their lives, which will be of support for educational institutions, because CVL can impact the performance of their teachers, directly impacting the students by not developing effectively.

Causing a problem in the technical knowledge of each one and in compliance with the principles of education in support of society in general, potentially generating students with little knowledge, making their development difficult.

Therefore, it is important that this phenomenon be investigated. Based on the above, the following research question was posed: What is the perception of higher education teachers about their quality of life? For this purpose, the general objective is to analyze the perception of higher education teachers about the quality of life. quality of life through a descriptive study to suggest strategies that help improve their current state.

Methodology

In the present study, a quantitative methodological design was used to carry it out. According to Rojas (2013), the quantitative aspects of a research are conceived as concrete expressions of the situation to be studied; Therefore, in order to fulfill the objective of the research, like Bernal (2016), mentions that its objective is the measurement and generalization of the variable. In addition to the above, its section is transversal because the information is collected once in time (Hernández et al., 2014). Likewise, its design is non-experimental, since no type of manipulation was used on the variables or in the selection of the subjects. And of a descriptive type because it is not about relating the causes in time with some other phenomenon Veiga et al. (2008).

In this study, three higher secondary education institutions are considered as the study population in a non-probabilistic study for convenience. It was made up of participants who were 38 teachers, of which 18 were male and 20 were female. The number of participants is determined considering 100% of the teachers who work in the institutions, although, in the same way, there is awareness of the refusal of some to be part of this study.

In the present study, an instrument called: Questionnaire to measure the quality of work life of high school teachers was applied. The purpose of the questionnaire is to know the teacher's perception of their quality of work life adapted from the instrument with a scale to measure the quality of work life in public hospitals in Tlaxcala (Hernández et al., 2017).

This is made up of two sections, in which personal identification and academic training are part of the first section with multiple choice answers, and later 55 Likert-type items with a rating scale from one to five, where five corresponds to always, four to almost always, the number three, occasionally, the number two corresponds to almost never and the number one corresponds to never, they build the second section which is an evaluation of the quality of work life.

The reliability of the questionnaire to measure the quality of work life of high school teachers was obtained through internal consistency with the Cronbach's alpha correlation matrix, applied to 38 participants, resulting in .847 in the matrix, for which was considered a reliable instrument (Tejedor and Etxeberria, 2006).

The instrument assesses three indicators, one of them is the perception of the work team, satisfaction with their work and camaraderie, and the third variable is working conditions.

Results

This chapter shows each of the results obtained with the conclusion of collecting and analyzing the quality of life study data, demonstrating in detail the most important characteristics of the indicators of the instrument applied to the teachers of the higher secondary education institutions. In order to show the most real state of the quality of life of teachers at the study level.

In the first reference item with the age of the upper secondary education teachers of 100%, in School 1 27.8% are between 25 to 35 years of age and 46 to 55 years of age, 38.9% between 35 to 45 years of age, lastly, 5.6 among those 56 or older, in School 2 there are 16.7% with ages between 25 to 35 years of age, from 35 to 45 years of age there are 58.3% , 16.7% are from 46 to 55 years of age and finally 8.3% are from 56 years of age or older, in School 3 25% of the teachers are 25 years old, also 25% more are aged from 35 to 4 5 years, 37.5% from 46 to 5 5 and 12.5% from 5 6 or more years (see table 1).

	School 1	School 2	School 3
From 25 to 35 years	27.8	16.7	25.0
From 35 to 45 years	38.9	58.3	25.0
From 46 to 55 years	27.8	16.7	37.5
56 or older	5.6	8.3	12.5
Total	100.0	100.0	100.0

Table 1 Age of the subjects

In the item that refers to the gender or sex of each participant in School 1 , of 100% of the teachers, 61.1% are male and 38.9% are female, likewise in School 2 41.7% They belong to the male gender and 58.3% are female. Likewise, there is School 3 which shows that 25% of the teachers are male and 75% are female (see table 2).

	School 1	School 2	School 3
Male	61.1	41.7	25.0
Female	38.9	58.3	75.0
Total	100.0	100.0	100.0

Table 2 Sex of the subjects

Referring to what was answered with the marital status of the participants of 100%, in School 1 16.7% of the teachers are single, 72.2% are married and finally 11.1% are divorced, in School 2 and 25% are single, 50% of the teachers are married, in common law there is a percentage of 8.3%, also 8.3% are divorced and like the previous percentage, 8.3% are widowed, in School 3 the 25% are single, 62.% are married and 12.5% live in a common law union (see table 3).

	School 1	School 2	School 3
Single	16.7	25.0	25.0
Married	72.2	50.0	62.5
Free Union	11.1	8.3	12.5
Divorced	0	8.3	0
Widower	0	8.3	0
Total	100.0	100.0	100.0

Table 3 Marital status of the subjects

In relation to the type of hiring of the participants, we can note that in School 1 88.9% are based on their jobs, while 11.1% are contracted, on the other hand, in School 2 100% are based, As in School 3, 100% of the participants are grassroots (see table 4).

	School 1	School 2	School 3
Base	88.9	100.0	100.0
Contract	11.1	0.0	0.0
Total	100.0	100.0	100.0

Table 4 Type of contracting of the subjects

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The data shown in terms of seniority are in School 1, 100%, 33% from 1 to 5 years, 16.7% from 6 to 10 years, 27.8% from 11 to 15 years, 5.6% from 16 to 20 years. , 11.1% from 21 to 2 5 years and finally 5.6 more than 25 years, in School 2 8.3 % from less than one year, 50% from 1 to 5 years, 25% from 6 to 10 years and 16.7% are 11 to 15 years old, in school 3, 25% less than one year and 75% 1 to 5 years (see table 5).

	School 1	School 2	School 3
Less than a year	0.0	8.3	25.0
1 to 5 years	33.3	50.0	75.0
6 to 10 years	16.7	25.0	0.0
11 to 15 years	27.8	16.7	0.0
16 to 20 years	5.6	0.0	0.0
21 to 25 years	11.1	0.0	0.0
More than 25 years	5.6	0.0	0.0
Total	100.0	100.0	100.0

Table 5 Seniority of the subjects

Related to the job, 100% of the teachers in School 1, 77.8% are teachers and 22.2% are administrative staff, in School 2, 100% are teachers, as well as in School 3 where 100% are teachers. % are teachers (see table 6).

	School 1	School 2	School 3
Teacher	77.8	100.0	100.0
Administrative	22.2	0.0	0.0
Total	100.0	100.0	100.0

Table 6 Subjects position

The results that were obtained for the salary are that of 100% of School 1, 22.2% have a salary between 4001 to 8000, 66.7% have a salary between 8001 to 12000 and 11.1% from 12001 to 16000, in the School 2 17.7% have a salary between 4001 to 8000, 75% have a salary between 8001 to 12000 and finally 8.3% have a salary between 12001 to 16000, According to the salary data obtained in School 3, 25% earn less than 4000, 12.5% earn between 4001 and 8000 and finally 62.5% have a salary between 8001 and 12000 (see table 7).

	School 1	School 2	School 3
4001 to 8000	22.2	16.7	25.0
8001 to 12000	66.7	75.0	12.5
1201 to 16000	11.1	8.3	62.5
Total	100.0	100.0	100.0

Table 7 Salary of the subjects

In the level of studies of the subjects, in School 1 16.7% have a bachelor's degree, 66.7% have a master's degree and 16.7% have a doctorate, in School 2 25.0% have a bachelor's degree, 33.3% have a bachelor's degree, have a specialty, the other 33.3 have a master's degree and 8.3% have a doctorate; finally, in School 3 87.5% have a bachelor's degree and the other 12.5% have a specialty (see table 8).
.

	School 1	School 2	School 3
Degree	16.7	25.0	87.5
Specialty	0.0	33.3	12.5
master's degree	66.7	33.3	0.0
Doctorate	16.7	8.3	0.0
Total	100.0	100.0	100.0

Table 8 Education level of the subjects

Based on the information collected according to the number of children of the participants, of School 1 of 100%, 16.7% do not have children, 55.6% have 1 to 2 children, 22.2% have between 3 to 4 children and 5.6% more than 4, in School 2 50% do not have children, 41.7% have 1 to 2 children and 8.3% have between 3 to 4 children, ending in School 3 100% of teachers do not have children (see table 9).

	School 1	School 2	School 3
None	16.7	50.0	100.0
1 to 2	55.6	41.7	0.0
3 to 4	22.2	8.3	0.0
More than 4	5.6	0.0	0.0
Total	100.0	100.0	100.0

Table 9 Number of children of the subjects

Subsequently, a summary of the basic data that determines the quality of educational life of Higher Secondary Education teachers is shown. Among the most relevant data are the following; perception of quality in terms of teamwork, job satisfaction, co-workers and working conditions.

In the results by variables, in the so-called perception towards teamwork, in the item: I have well-defined functions and activities, there is a minimum of 3 and a maximum of 5, and an average of 4.66. The item environmental conditions guarantee my personal safety within the institution has a minimum of 3 and a maximum of 5, and an average of 4.76.

In the item of the institution's facilities they are clean and orderly where the minimum is 4 and the maximum is 5, and an average of 4.87. In the item I look for mechanisms to overcome the obstacles that I identified in achieving my work objectives and goals, the minimum is 4 and the maximum is 5, the average was 4.74.

The item identified me as an important part of my service, with a minimum of 3 and a maximum of 5, the average was 4.74. In the item, communication with my immediate boss is effective, 4 is the minimum and 5 is the maximum, the average obtained is 4.84. In the item I feel proud to belong to this institution, 4 is the minimum and the maximum is 5, as a result an average of 4.95 was obtained. In the item I can express what I think regarding the organization of work with my boss, 4 is established as a minimum and 5 as a maximum, an average of 4.74 was obtained.

It is easy for me to relate to the people to whom I provide a service, where a minimum of 2 and a maximum of 5 was obtained, the average obtained was 4.66. I enjoy using my skills in daily work activities, 4 is the minimum and 5 the maximum, an average of 4.79 was obtained. I consider myself part of my work team, where 4 is the minimum and 5 is the maximum, of the results obtained the average was 4.71.

In the item I feel identified and committed to the organizational mission, 4 is the minimum and 5 the maximum, the average obtained was 4.74. In the item, my work contributes to the image that the institution has before users, the minimum is 3 and the maximum is 5, the average was 4.66.

In the item I assume responsibility for the work I do, where the minimum is 4 and the maximum is 5, the average obtained as a result was 4.89. In the item I assume responsibility for the work I do, where the minimum is 4 and the maximum is 5, the average obtained as a result was 4.89 (see table 10).

Item	Min	Max	Half
I have well defined functions and activities	3	5	4.66
The institution's facilities are clean and tidy.	4	5	4.87
The environmental conditions guarantee my personal safety within the institution	3	5	4.76
I look for mechanisms to overcome the obstacles that I identify in achieving my work objectives and goals.	4	5	4.74
I identify myself as an important part of my service	3	5	4.74
Communication with my immediate boss is effective	4	5	4.84
I am proud to belong to this institution	4	5	4.95
I can express what I think about the organization of work with my boss	4	5	4.74
It is easy for me to relate to people to whom he provided a service	2	5	4.66
I enjoy using my skills in daily work activities	4	5	4.79
I consider myself part of my work team	4	5	4.71
I feel identified and committed to the organizational mission	4	5	4.74
My work contributes to the image that the institution before users	3	5	4.66
I take responsibility for the work I do	4	5	4.89

Table 10 Perception towards the work team

Therefore, in the next variable called satisfaction with colleagues, three items were selected, the first, in the relationship I have with my coworkers, I felt, a minimum of 4, a maximum of 5 and an average of 4.47, in the second item, the physical conditions of my work environment make me feel, gave a minimum of 3, a maximum of 5 and an average of 4.16; Finally, in the third item, with the opportunities I have to apply my creativity and initiative in my work, I feel that I reflect variables of a minimum of 2, a maximum of 5 and an average of 4.21 (See table 11).

Items	Min	Max	Half
In the relationship I have with my co-workers, I feel	4	5	4.47
The physical conditions of my work environment make me feel	3	5	4.16
With the opportunities I have to apply my creativity and initiative in my work, I feel	2	5	4.21

Table 11 Satisfaction with your job and colleagues

Finally, four of the items of the working conditions variable are taken into account, where the first item asks: my training is appropriate for the job I held, showing a minimum of 3, a maximum of 5 and an average of 4.42; then in the section of I consider that he carried out work that has social relevance, he had a minimum of 4, a maximum of 5 and an average of 4.68; Subsequently, the item I feel satisfied with the work done, obtains a minimum of 4, a maximum of 5 and an average of 4.68; Finally, the fourth item is: I am a beneficiary of a health institution where it has a minimum of 3, a maximum of 5 and an average of 4.29 (See table 12).

Items	Min	Max	Half
My training is appropriate for the job position held.	3	5	4.42
I consider that he did work that has social relevance	4	5	4.68
I feel satisfied with the work I do	4	5	4.68
I am a beneficiary of a health institution	3	5	4.29

Table 12 Labor conditions

A comparison was made between the variables of perception towards the work team, satisfaction with their work and colleagues, and working conditions, where it was observed that of the percentages obtained there is a minimal difference in terms of results.

The Perception towards the work team, the total result was 4.53, taking the values from highest to lowest percentage, in first place is School 1 with 4.62, consequently, School 3 is positioned with a percentage of 4.50 and finally we have to School 2 with 4.48.

Satisfaction with their work and colleagues shows a result of 4.03, in order of results obtained, the one that most predominates is School 1 with a variable of 4.15, later school 2 with a variable of 4.05, finally school 3 with a value of 3.90.

In working conditions it has the lowest general result of the variables of 3.93, where School 1 is the one that stands out the most with a value of 4.08, therefore, School 2 is located with a percentage of 3.90, finally, School 3 is placed with a value of 3.80.

According to the results obtained by the research instruments and referring to the comparison of educational institutions, it can be seen that school 1 obtained the most relevant general value of 4.28, with the most outstanding results being shown in the tables, in second place. , School 2 can be located with a total of 4.14, in third place, School 3 with a value of 4.07 (see table 13).

Dimensions	School 1	School 2	School 3	Total
Perception towards the work team	4.62	4.48	4.50	4.53
Satisfaction with your job and colleagues	4.15	4.05	3.90	4.03
Labor conditions	4.08	3.90	3.80	3.93
Total	4.28	4.14	4.07	

Table 13 Comparison of dimensions of quality of life

Conclusions

The objective of this study was to know the level of quality of life of the high school teacher, in order to propose strategies that support increasing their current condition, a study carried out in the high school schools of Sonora.

From the results obtained in this research, it was found that in the perception indicator towards the work team it can be observed that climate issues directly influence the quality of life as indicated by Moreno (2011), mentioning that commitment improves motivation and perception towards the requests made, also the assessment of managerial support will increase if cohesion, as well as teamwork, increases.

On the other hand, Peniche et al (2020) consider climate and stability as an external factor and only teaching commitments are considered internal factors that influence their performance, but they also mention that it is essential that the relationship between school community and teacher satisfaction to generate a positive climate.

In the Satisfaction with your job and colleagues dimension we can see that indicators of working conditions, as well as the feeling of camaraderie and feeling of freedom, influence the development that leads to job satisfaction, and as Mora and Mariscal (2019) mention, this generates a positive effect on performance, Peñaherrera et al (2015) also found that intrinsic motivation, as well as managerial support, generate favorable conditions to achieve job satisfaction.

Within the working conditions, it was found that adequate training, the feeling of performing the activities well, and the relevance of the social impact, are determinants to develop in a positive environment that encourages improvements for the CVL, and Valdés (2011), in their study of teacher training needs, explains that teachers show great interest in training, which refers to their perspective of better working conditions. Contrary to this, Romero and Laborin (2016) comment that they did not find a significant relationship that shows that the living conditions of teachers affect their way of facing problems and their perception affects their quality of life.

In response to the question: What are the quality of life conditions of the teachers of a high school?, it was found that the dimensions of perception towards the work team, satisfaction with their work and colleagues, and working conditions have a direct impact. in the quality of work life. Given the results shown, the necessary guidelines can be drawn for changes to achieve the impact on the perception of the work quality of upper secondary education teachers.

The quality of work life (CVL) is closely related to working conditions; it has to do with the individual perception obtained by the worker. It is related to any characteristic that may influence the appearance of risks for the safety, health of the worker and the work environment, reference is made to diseases, pathologies such as work stress or burnout and injuries suffered due to work (Moreno, 2011).

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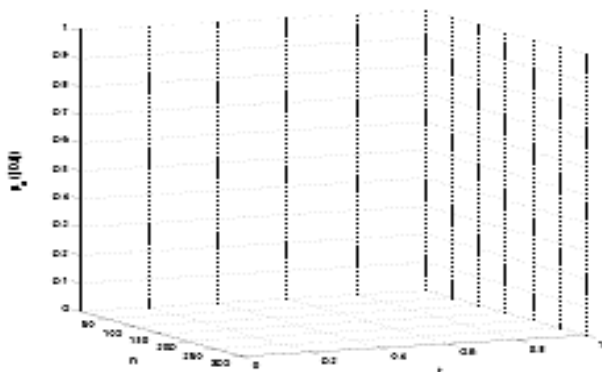
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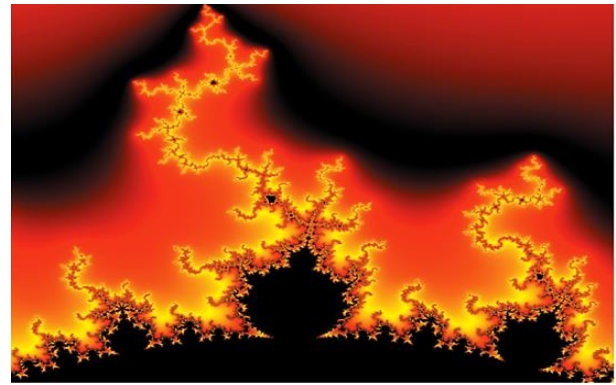
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