Journal of Teaching and Educational Research

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Definition of Journal

Scientific Objectives

Support the international scientific community in its written production Science, Technology and Innovation in the Field of Humanities and Behavioral Sciences, in Subdisciplines of methodology, sociology of education, language and culture, history of education, adult education, language science, compared education, special education.

ECORFAN-Mexico, S. C. is a Scientific and Technological Company in contribution to the Human Resource training focused on the continuity in the critical analysis of International Research and is attached to CONACYT-RENIECYT number 1702902, its commitment is to disseminate research and contributions of the International Scientific Community, academic institutions, agencies and entities of the public and private sectors and contribute to the linking of researchers who carry out scientific activities, technological developments and training of specialized human resources with governments, companies and social organizations.

Encourage the interlocution of the International Scientific Community with other Study Centers in Mexico and abroad and promote a wide incorporation of academics, specialists and researchers to the publication in Science Structures of Autonomous Universities - State Public Universities - Federal IES - Polytechnic Universities - Technological Universities - Federal Technological Institutes - Normal Schools - Decentralized Technological Institutes - Intercultural Universities - S & T Councils - CONACYT Research Centers.

Scope, Coverage and Audience

Journal of Teaching and Educational Research is a Journal edited by ECORFAN-Mexico, S. C. in its Holding with repository in Spain, is a scientific publication arbitrated and indexed with semester periods. It supports a wide range of contents that are evaluated by academic peers by the Double-Blind method, around subjects related to the theory and practice of methodology, sociology of education, language and culture, history of education, adult education, language science, compared education, special education with diverse approaches and perspectives, that contribute to the diffusion of the development of Science Technology and Innovation that allow the arguments related to the decision making and influence in the formulation of international policies in the Field of Humanities and Behavioral Sciences. The editorial horizon of ECORFAN-Mexico® extends beyond the academy and integrates other segments of research and analysis outside the scope, as long as they meet the requirements of rigorous argumentative and scientific, as well as addressing issues of general and current interest of the International Scientific Society.

Assignment of Rights

The sending of an Article to Journal of Teaching and Educational Research emanates the commitment of the author not to submit it simultaneously to the consideration of other series publications for it must complement the Originality Format for its Article.

The authors sign the Authorization Format for their Article to be disseminated by means that ECORFAN-Mexico, S. C. In its Holding Spain considers pertinent for disclosure and diffusion of its Article its Rights of Work.

Declaration of Authorship

Indicate the Name of Author and Coauthors at most in the participation of the Article and indicate in extensive the Institutional Affiliation indicating the Department.

Identify the Name of Author and Coauthors at most with the CVU Scholarship Number-PNPC or SNI-CONACYT- Indicating the Researcher Level and their Google Scholar Profile to verify their Citation Level and H index.

Identify the Name of Author and Coauthors at most in the Science and Technology Profiles widely accepted by the International Scientific Community ORC ID - Researcher ID Thomson - arXiv Author ID - PubMed Author ID - Open ID respectively.

Indicate the contact for correspondence to the Author (Mail and Telephone) and indicate the Researcher who contributes as the first Author of the Article.

Plagiarism Detection

All Articles will be tested by plagiarism software PLAGSCAN if a plagiarism level is detected Positive will not be sent to arbitration and will be rescinded of the reception of the Article notifying the Authors responsible, claiming that academic plagiarism is criminalized in the Penal Code

Arbitration Process

All Articles will be evaluated by academic peers by the Double-Blind method, the Arbitration Approval is a requirement for the Editorial Board to make a final decision that will be final in all cases. MARVID® is a derivative brand of ECORFAN® specialized in providing the expert evaluators all of them with Doctorate degree and distinction of International Researchers in the respective Councils of Science and Technology the counterpart of CONACYT for the chapters of America-Europe-Asia- Africa and Oceania. The identification of the authorship should only appear on a first removable page, in order to ensure that the Arbitration process is anonymous and covers the following stages: Identification of the Journal with its author occupation rate - Identification of Authors and Coauthors - Detection of plagiarism PLAGSCAN - Review of Formats of Authorization and Originality-Allocation to the Editorial Board-Allocation of the pair of Expert Arbitrators-Notification of Arbitration -Declaration of observations to the Author-Verification of Article Modified for Editing-Publication.

Instructions for Scientific, Technological and Innovation Publication

Knowledge Area

The works must be unpublished and refer to topics of methodology, sociology of education, language and culture, history of education, adult education, language science, compared education, special education and other topics related to Humanities and Behavioral Sciences.

Presentation of the content

In the first article we present *The compliance of the intellectual property rights and the citation methods in the process of doing a thesis research,* by OROZCO-OROZCO, José Zócimo, with adscription in the Universidad de Guadalajara, in the next article we present *Academic stress in new undergraduates entering the bachelor's degree program in nursing*, by ALVARADO-CRUZ, Laura, CORTAZA-RAMÍREZ, Leticia, ROSALES-PUCHETA, Aarón and DÍAZ-MORALES, Karina, with adscription in the Universidad Veracruzana; in the next article we present *Determination of the inclusion of the entrepreneurship program as an optional subject TecNM Campus Chihuahua,* by RAMIREZ-MORENO, Hilario, AGUIRRE-OROZCO, Mario Abelardo, DELGADO-MARTINEZ, Martha Lilia and HERNÁNDEZ CASTILLO, Martha Lucía, with adscription in the Tecnológico Nacional De México Campus Delicias, in the next article we present, *Neuroeducation and cognitive development in higher education: innovative approaches and effective practices,* by GONZÁLEZ-RAMÍREZ, Claudia Teresa, PALAFOX-MACEDO, Baltazar, RUIZ-GARDUÑO, Jhacer Kharen and HERNANDEZ-MARTÍNEZ, Joel, with adscription in the Tecnológico Nacional de México campus Zitácuaro and Universidad DaVinci.

Content

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The compliance of the intellectual property rights and the citation methods in the process of doing a thesis research

El cumplimiento de la propiedad intelectual y las formas de citar en la elaboración de la investigación de tesis

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Abstract

this article analizes the way of quoting the information by two of most important citation methods for consulting information for the thesis research. The author is responsible for the correct use of the intelectual property of another authors who are consulted in the tesis research. And the author is too responsible of the information research for the work development. Two most commonly used ways of quoting are American Psychological Association (APA) and National University of Mexico (UNAM). The author of this essay proposes a way of quoting. In those ways of quoting are extracted with author comments how to include the information in reference and content cards wich is done by a little part of the researchers actually. Besides quoting duty, it is acomplished the statement of the copyright law and the international agreements when the author of the information is recognized giving them their credit. It is very important for those who dedicate to research.

Intelectual property, Rights of individuals over their intellectual creations

Resumen

En este artículo se analiza la forma de citar la información que se consulta para la elaboración de la investigación de tesis, como parte de la responsabilidad de respetar la propiedad intelectual de los diversos autores que a los que se recurre y de la búsqueda de la información para el desarrollo de la tarea a emprender. Son dos formas de citar muy utilizadas: de la Universidad Nacional Autónoma de México (UNAM), y la forma APA; se agrega la propuesta del autor de este trabajo. En cada una de las formas de citar se rescata e incluye, con los comentarios del autor, cómo se debe depositar la información en las tarjetas de referencia y de contenido, labor que muy pocos investigadores realizan el día de hoy. Además de citar, se cumple con lo establecido por la Ley de Derechos de Autor y con los convenios firmados, cuando se le reconoce al autor que es el dueño de su información, citando sus datos consultados de su fuente. Es un conocimiento imprescindible para quienes emprenden la labor de investigación.

Propiedad intelectual, Derecho de las personas sobre sus creaciones intelectuales

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† Researcher contributing as first author.

Introduction

Are the rights given to persons over the creations of their minds

Compliance

Is the state of being acomplished with stablished guidelines or specifications.

Citation Methods

Methods of refering a source document in the text of an essay, thesis or assignment.

Thesis

Type of research paper based on an original research. Usually submitted as the final step of an academic degree.

Justification

It is very important to establish that the style of citation has two functions: first, it helps and strengthens us in the compilation of information, and second, it avoids committing the crime of plagiarism.

Methodology

The documentary research technique was used for the preparation of this article. The scientific method is applied, the deductive method, and the writing is approached from the general to the particular.

Forms of citation

The way of citing in the thesis work is an essential and meticulous activity that serves to respect the intellectual property rights of the authors consulted and thus avoid committing the crime of plagiarism.

According to article 11 of the Federal Copyright Law (2023), it is established that the copyright is the recognition made by the State in favor of all creators of literary and artistic works, according to article 13 of this law, by virtue of this prerogative has protection and privileges, of personal and patrimonial character (Federal Copyright Law, 2023).

The subject of the form of citation is the backbone of this article. It is a method and it is not easy to master this part of thesis writing, it requires work, unification of data once the information is obtained and written. The first rule that the thesis writer must know about citing is that each educational institution chooses the way of presenting the information consulted by the author of the research. Therefore, the criteria is established by the academic institution in which we carry out our studies; we cannot deviate from its rules for citing. The two predominant forms of citation are footnotes and APA.

A very frequent mistake made by the author is to cite with two different forms at the same time: footnote and APA and this is not appropriate, you have to choose one of the two. The comment that in APA the information for clarification of a citation is put in the form of a footnote, but it should not also be the references. It cannot also be the reverse way of citing in footnote and in APA. This will be the first correction that the thesis reader will make to the student.

Another important aspect that should be mentioned is that when we participate in an event with a paper, an article, a book chapter, or a congress, the convening institution establishes the guidelines that the information presented must contain.

There is a difference between citing a reference and putting a note of clarification. We have to know that citing is one thing and putting a note is another. In the case of the APA format, it is possible to

It is possible to cite within the text and make a footnote to the source and it is correct, but it is not possible to cite in two different ways, within the text and at the foot of the page, as we have already said about references.

To avoid making this mistake, we have to start by saying what is a reference or quotation and what is a footnote or footnote and what is the purpose of each one. Differences between a quotation and a footnote

Citation

A citation is the list of data that identifies a source consulted or also called a reference. There is a format to write the information of the consulted work, depending on its content, whether it is a book, article, magazine, pamphlet, electronic page, jurisprudence of the Supreme Court of Justice of the Nation. The data of each element is presented in a different way and it is also necessary to add that also within each element the information can be expanded or varied, for example, in books, if there are several authors, if there are subtitles, if some data is missing or what abbreviation should be mentioned in order not to repeat the information. Another example is what to do in articles if there are several authors, etc.

In this paper we present the two most commonly used ways of citing or writing references: the UNAM style and the APA format. I will also add the citation style of the author of this article, but we must not forget that if the educational institution unfortunately does not recommend it, it should not be used.

First we place the course where the citation is to be included. In our computer, at the beginning comes the References tab and then we go to insert a citation, then we choose the style (APA) and it provides us to add a source, that is, the format to deposit the information, without punctuation at the end of each part, so that the information is not repeated when accepting its registration. At the end of the paragraph we add the essential data of the work, if it is in APA, such as author, year of edition and pages and at the end we add bibliography, then insert bibliography, that is, edit the information and send us the references after the thesis chapters and before the annexes.

The styles that come, in that order, in the computer reference, are:

1.   APA.
2.   Chicago (UNAM format).
3.   GB7714
4.   Gost- name order.
5.   Gost- title order.
6.   Harvar- Anglia.
7.   IEEE.
8.   ISO 690. First element, date.
9.   Numerical reference.
10. MLA.
11. Sisto2.
12. Turabian.

Content of the chosen forms of citation:

1.   Citation form of the author of this article
2.   Chicago or Universidad Nacional Autónoma de México (UNAM) format.
3.   APA format.

1. How to cite the author of this article

All the elements are separated by a comma, in upper and lower case letters (upper and lower case), that is, the initial letter of each item is capitalized and it will only be capitalized in case there is a proper name in that element. The order of the data that we recommend is the following: (Orozco Orozco, 2018, pp. 71-72, 87-94).

1.   Author's name, noting first the last name separated by a comma from the first name, then a comma.

2.   Title of the work in italics, the initial letter is capitalized and all other words in lowercase, unless there is a proper name, as already noted, then the initial letter of the word will be capitalized and then a comma.

3.   Edition number with number, accompanied by the lower case letter and the abbreviation of the edition, ed, with a period and then a comma. It is recommended that the edition number be noted from the second edition onwards, with the abbreviation ed. Example: 2nd ed,

4.   The name of the publishing house that publishes the work is written immediately, without preceding the word editorial or its abbreviation Ed., and then the punctuation mark comma. It is no longer used to write the abbreviation mentioned above; mentioning the name of the publisher immediately identifies the publisher of the work, for example, Porrúa,

5.   Place of printing, refers to the place where the book is published, not where it is written and a comma (city and country).

6.   Year of edition and a comma.

7. Pages where the information consulted is located and a comma. It can be a page and in this case the abbreviation p. will be written in singular and if there are two or more pages, we will write the abbreviation of pages in plural pp., at the end a period.

The abbreviations of page or pages, with the forms pág. and págs. are obsolete. If they are continuous pages it will be 10-15, using a hyphen between each number; if we are going to register non-continuous pages, then we will write the number of pages separated with a comma and in the last page the Latin locution and to close the information. Example: pp. 7, 47, 49 y 50.

Example: 1. Sierra Bravo, Restituto, Tesis doctorales y trabajos de investigación jurídica, 4ª ed.., Paraninfo, Madrid, Spain, 1995, pp. 313-314. (Sierra Bravo, 1999).

Complementary data of the footnote citation and what to do in each case:

1. Author. There may be several authors. In this case, the first two authors are noted and after the third author, et. al. is noted in italics, or the form and others, continuing in the order mentioned, for example: Munch, Lourdes, Ángeles, Ernesto, et. al.

2. Title. The title may have subtitles. The subtitles are separated by a comma, e.g.: Elaboration of professional legal theses, protocol, topics and administrative aspects.

3. Edition number of the work. The edition number of a work is very important, as well as the year, for its location, besides the fact that its content can change, that is, be updated by the author. We recommend the example of citation or reference that we have mentioned, as it is more practical and useful.

At the end of the thesis, the references consulted in the research are listed in alphabetical order. The rule is that only the sources that have been consulted should be mentioned, not one less or one more. Do not mention what has been consulted or add what was not consulted.

The information is presented in alphabetical order, with French indentation, the first line of the work, without indentation and the others with indentation and so each of the sources used.

The term reference is more complete than bibliography, since a reference can be a book, a newspaper, magazine, pamphlet, jurisprudence, electronic page. On the other hand, bibliography would be only books.

Notes

A note is different from a citation. A note is a clarification made by the author about the text he/she is writing. Notes are preferably included at the foot of the page. A note can also go at the end of a chapter, book, part, and consists of the author expanding the information referred to in the text, it can be clarifying data or data that are not considered necessary in the main text. What can an author say in a note? We can mention that complementary information of a very diverse nature.

The note is a response to the call within the text with a raised number or also called voladito, without parentheses. It goes at the end of what is to be clarified and of all punctuation marks (Martínez de Souza, 1995, pp. 185-190).

It is no longer used to cite a normal number in parentheses, for example (1).

The size of the letter of a note is smaller, enhanced, one or two points, so that the reading of the text is pleasant and has a differentiation with the general letter of the book. Usually in 10 points.

Compilation of the information

The research step of gathering information for the thesis work must be done in an orderly manner, to be deposited in the thesis draft.

This activity includes the form of citation. When we find valuable information for our research it is necessary to write it down, because later it is very difficult to locate it again.

The traditional way of collecting information is done in two cards: one for work and the other for data. It is necessary to mention that when an author has a lot of experience, he/she can write down the content of these two cards on the same letter-sized sheet of paper.

Preparation of cards or cardsheets

In this part of the planning of the thesis, we will find the sources that contain information about the development of our thesis: books, codes, laws, newspapers, magazines, statistics, internet pages, etc.

Once the first piece of information that we want to write down is located, it is necessary to record it in writing in an orderly fashion and it is best to do so on cards called index cards. These are the most useful instrument for the research to grow harmoniously. They save time, allow a greater logical rigor, and we can use the information emptied in them at any time. It is necessary to order them as we advance in the research. The use of index cards is still very popular and important.

They are called bibliographic cards if they refer to books, hemerographic cards when they deal with newspapers or magazines, and work cards when they contain an author's ideas, data to clarify a situation, news to reconstruct a fact, arguments to defend a theory (Pérez Lobo, 1975, pp. 142-145).

Size of the cards

Information is recorded on two types of cards. On the first one, the content of the location of the book, magazine, or document is noted, and on the second one, the identification of the data found is placed.

The smallest card is 7.5 x 12.5 centimeters in size and is called bibliographic if it refers to books or hemerographic if it refers to magazines and periodicals, such as bulletins, newspapers, journals, etc. The second card is called bibliographic if it refers to books, periodicals, such as bulletins, official newspapers, pamphlets, etcetera. The largest card measures 12.5 x 21 centimeters and is called content or work.

In order to know the source of the content card, the small card of the document reference is located. Each card has an identification key, consisting of two capital letters, corresponding to each of the two surnames of the researcher and the number of the card. Example: MG 1 means that the M could be for Martínez, the G for González and the one corresponds to the card number. The property of the card, its spelling, the order of the cards and that the key does not coincide with that of another6 researcher are taken care of.

After many years, knowledge has evolved and in a single card we can record the document reference and content data. We do not have to locate the content card first and then look for the document reference card. We save time.

The data of one of the two cards cannot be left out, only the information of the two cards is added in the same card and this is more practical.

The content of the reference card can be placed in the upper left corner and the content card in lines below the mentioned data.

The content card has the data we consider necessary for the writing of our thesis and the reference card has the source identification.

The reference information for its order of annotation and content will be the same as that recorded in the citations. It is recommended, for a better understanding of the subject and in particular to leave it annotated, with the corresponding example for each case. The size of the content card can be 12.5 x 21 centimeters or on a letter size sheet. The type of paper of the card can be cardboard, cardboard or bond paper, which does not fold easily.

Example of a content card:

Witker, Jorge, Cómo elaborar una tesis de grado en Derecho, 2nd ed. pac, Mexico, 1986, pp. 73-77.

The work or content cards are the cards where the information found in the sources of information for the writing of the thesis is deposited. This is carried out when we have found the bibliography, consulted and read, we proceed to record the information on work cards.

The emptying of the information contains certain indications that have to be fulfilled, so that the writing of the thesis will be successful later on.

Writing the content or work cards

The content or work cards contain three elements: first, the location data of the source consulted, second, a subtitle on the aspect they deal with, and third, the content.

For each reference card where the main data is recorded, there can be as many cards as the researcher considers convenient to record the content of the information.

Guidelines for the content or work cards

1. The origin of the information is determined on the cards in a uniform and systematic manner.

2. The header of the cards should contain a title and subtitle or at least the key words indicating the general subject matter and the particular aspect to which the card refers.

3. It is not recommended to write information on the back of the card, it is complicated to handle this information later.

4. Uniformity of its elements, references, titles, subtitles, content.

5. Each card must contain key words of its title, subtitle, subtitle.

6. When the card contains information of more than one item and that cannot be divided, complementary cards should be drafted for these items and to refer back to the card containing the main information.

7. All information obtained through reading, conversation or the researcher's ideas should be noted as soon as possible on the card, so that it is not lost.

8. The cards should be legible, avoiding abbreviations, exact and concrete, and not too long.

9. The content of the cards in general should include the work for all parts of the thesis in a balanced and impartial way, according to the importance of the topics.

10. The task of depositing the information in files should be carried out with dedication and care, in order to facilitate the final writing of the thesis.

11. We must avoid accumulating unimportant cards, we must think about the importance of the information.

12. The books that we own and of which we have textual cards, can be used as reference material and summaries.

13. The classification of the cards is made by chapters of the thesis, in order to achieve a quick location and avoid wasting time.

Content of the content cards

According to their content, the content cards can be divided into textual, summary, mixed, cross-reference and personal cards.

Textual. These are those in which the content of the information is as it is found in the book or document.

Summaries. The cards contain syntheses of the ideas and information that we consider useful in the work of writing the thesis. They are the most commonly used in research.

Mixed. These cards gather the information of the two previous ones: complete information and the most used ones, they contain parts of data, useful in the writing of the problem. In the mixed cards we find synthesis of the book or article, quotations in quotation marks of the fragments, personal comments at the beginning, in the middle or at the end of the card, author's data, precise bibliographical or hemerographic indications.

Cross-references. Data that are referred to other records and references and instructions to be taken into account are established. These cards require a good organization of the researcher; at the same time, they help him/her in the development of the writing of the original.

Personal. These are cards that, because of their content, are considered reflections of the researcher in relation to the data collected, ideas, suggestions, clarifications, which may arise at any time and should be noted down, because it is very likely that their content will not be remembered in this way.

Contents of the basic book files

1.   Author's name, separating the first name from the last name by a comma, then comma.

2.   Title of the book in upper and lower case, in italics, comma. If it has a subtitle, it will be separated by a comma from the title and in italics and comma.

3.   Edition number, comma. It is necessary to add the edition number after the first edition, since the content changes substantially in a new edition. It is very difficult for a work to be published several times during a year. In case of doubt, the month of the edition should be added, in addition to the year.

4.   Name of the publisher, without including the word editorial or the abbreviation Ed. and a comma.

5.   Place of printing of the book, comma.

6.   Year of publication, comma.

7.   Number of pages consulted and period. Not the number of pages of the work.

Bibliographic records may have more data; their content will be dealt with in variables of book or complementary records (Fix-Zamudio, 2016, pp. 124-156).

Example of book data:

Schmelkes, Corina and Elizondo Schmelkes, Nora, Manual para la presentación de anteproyectos e informes de investigación (tesis), 3rd ed. (Schmelkes C. y., 2010).

Supplementary data of the book files

1.   Names of more than two authors: The number of authors of a work can be very large and their annotation and author registration is valid. The abbreviation et. al., Latin locution meaning "and others", should be added in italics after the surname and first name of the second author, separated by a comma from the first name. Example of a record with more than two authors: Hernández Sampieri, Roberto, Fernández-Collado, Carlos, et al., Metodología de la investigación, 5th ed. (Hernández Sampieri, 2010)

2.   Book published by an institution or a company: Example of institutional record: Gaceta de la Universidad de Guadalajara, Guadalajara, Jalisco, 2023.

3.   Codes and laws. Example of a code or constitution record: (Constitución Política de los Estados Unidos Mexicanos, 2023) Example of a law card: Ley de Amparo, Reglamentaria de los artículos 103 y 107 de la Constitución Política de los Estados Unidos Mexicanos, last amendment in the Diario Oficial de la Federación, June 7, 2021. (Amparo Law, June 7, 2021).

4.   Author registration of only one part of a collective work: Example of a collective author record, consulting a chapter: Orozco Orozco, José Zócimo and Valencia Salazar, Verónica, "La salud del docente en la reforma educativa de México", in López Fernández, Francisco Javier (director), El reto de la sostenibilidad del sistema sanitario, ACCI, Asociación Cultural y Científica Iberoamericana, Madrid, Spain, 2016, pp.149-155. (Orozco Orozco J. Z., 2016).

5.   If there is no author, the title should be used first and the person, group or institution that publishes it should be added, before noting the publisher.

Example of a record without author:

Guía de unificación editorial, Unidad Editorial, Secretaría General de Gobierno de Jalisco, Guadalajara, Jalisco, Mexico, 2016, pp. 25-27. (Guía de unificación editorial, Unidad Editorial, 2016).

6. File of a work of several volumes and each of them with a different title. The name of the author and the title of the volume consulted will be noted after the general title and the volume number will be added after the year of edition and pages consulted.

Example of a work with several volumes and different names for each one of them: O' Gorman, Edmundo, Historia de las divisiones territoriales de Mexico, 9th ed, "Sepan Cuantos, Mexico, 2000, No. 45, pp. 3-13 (O' Gorman, 2000).

7. Card with a translator. Example of a book with a translator:

Eco, Humberto, Cómo se hace una tesis, Spanish version by Lucía Baranda y Alberto Clavería Ibáñez, 19th ed., Gedisa, Barcelona, Spain, 1996 (Eco, 1996).

Content of the hemerographic files Newspaper and magazine index cards are called hemerographic index cards.

Contents of the newspaper index cards

The elements are written down separating each one of them with a comma:

1. Name of the journalist, separating by a comma the surnames of the first name, at the end comma.

2. Title and subtitles of the article in quotation marks and in ascending and descending commas, at the end of the comma.

3. Name of the newspaper in italics and the initial letters that form the name, ending with a comma.

4. Opening parenthesis, place, comma, and the date of appearance of the newspaper, closing parenthesis, at the end of the comma.

5. Number of pages and the section if any. Example of a newspaper file:

Mellado Rodríguez, Pedro, "Puntos y Contrapuntos. Conducta indigna", Mural, Comunidad, (Guadalajara, Jalisco, January 24, 2023), p. 8. (Mellado Rodríguez, January 24, 2023).

Variants of the hemerographic cards:

1. They may or may not include the name of the journalist. If they do not include it, the file will begin with the title of the article.

2. The name of the article will be one, and if there are one or more subtitles, they can be noted by separating the title with a period, colon or comma.

3. The name of the journal will not include its slogan because it is not necessary.

4. The place and date are noted in parentheses, comma. It refers to the town where the newspaper is edited and the date of publication, but not where the note originates.

5. The number of pages may vary from one section to another or start in one section and continue in another; in these cases, it should be indicated as follows: after the page number, note pp. 1A-7B. The letter of the section of the periodical or its name is added if it does not have an identifying letter.

Contents of the journal index cards

The elements of which the record is composed should be indicated, separated each one by a comma:

1. Author's surname, separated from the first name by a comma.

2. Title of the article in quotation marks and in ascending and descending commas.

3. Name of the journal in italics, comma.

4. Enclosed in parentheses, place and date of publication of the journal, year, number separating these data with a comma, after the closing of parentheses, comma.

5. Page numbers where the information is found.

Example of data of a journal:

Corona Nakamura, Luis Antonio, "El derecho al acceso a la justicia a través de la reparación integral del daño en víctimas de desaparición", Revista Jurídica Jalisciense, (Guadalajara, Jalisco, Mexico, June 2023, vol. 3, no., 6, pp. 263-286. (Corona Nakamura, June 2023, vol. 2023, vol. 3, no. 6, pp. 263-286.).

Variants

If there are several authors, et al is added, which means and others.

The work cards are the cards where the information of the author of the book, journal or magazine article is deposited (Arellano, 1976).

MG-1

CONTENTS

SUBTITLE

12.5 cm

References

The footnote reference is made by inserting a small number called voladito at the end of the paragraph from which the information is being taken. Sometimes it is necessary to write the number after the name of the cited author, and then the identification data of the source, book, journal, etc. are written at the foot of the page.

The technical annotation is achieved by adding the references section in the computer and pressing insert footnote. Which form of citation should we choose?

The answer is: the one recommended by our graduate program in the degree guide. What do I say as the author? That the best way is to footnote the reference. If a different   If a different form is chosen, the computer has in this same reference section pre-established formats for writing the information at the foot of the page, such as: APA, Chicago, Harvard, MLA and others, but we insist that the best system of annotating the data is the one proposed in this article, since it unifies criteria from various publishers, recognized authors and my academic and editorial experience.

Index cards

1. Periodicals A. Periodicals a. Elements - Name of journalist

- Title

- Newspaper

- Place and date – Page (s)

b. Variants -Name of journalist

- Article - Newspaper

- Newspaper

- Section

B. Magazines

a. Elements - Author

- Title - Title

- Magazine

- Place and date

- Page(s)

b. Variants - Epoch or volume

2. Bibliographic

A. Elements

- Author(s)

-Title

-Publisher

-Place and date

B. Variants

-Page(s)

-Authors

-Edition (Number)

3. Working

A. Elements

-Reference

-Transcription

-Personal commentary

-Summary

-Analysis

Difference between hemerographic, bibliographic and work or content files.

Size

Content

7.5 x 12.5 cm

12.5 x 21 cm

Abbreviation	Unleashed	Significance
ibid	*Ibidem*	on the spot
id.	*idem.,*	the same, the same
op. cit.	*opus citatum*	work cited
item		thus, in the same way
et. al.	*et. alteri y et. alii*	and others
loc. cit.		abundantly, in several places
i.e.	*locutrocitata*	quoted locution
passim	*id est*	this is
cfr. y vide	*confer*	see, confront
sic.		thus, textually
vi. y vide	*videtur,* véase	See
apud		in the work, based on
circa		around
señalar		for approximate dates
infra		Below
supra		Up
comp., comps.,		compiler, compilers
coord., coords.,		coordinator, coordinators
ed., eds.,		editor, editors
in fine		at the end
núm., núms.,		number, numbers
vol., vols.,		volume, volumes
t. ts.		volume, volumes
s.a.		no year of publication
s.e.		no publisher
s.f.		no release date
s.l.i.		no printing location
ss.		Subsequent

Table 1 Most common abbreviations in a legal thesis, with footnotes
Source: author's research, 2022.

Notes

Notes should be footnoted, ten point, Arial font. Their elements are separated by commas.

In the case of books

Each of the elements should be separated by a comma, in the following order:

First the surname(s) and then the first name(s), separating the surname(s) from the first name(s), title in italics or italics, with the initial letter in capital letters and in the initial of the proper names, edition number, after the first, translator if any, place of edition (city and country), publisher, year, volume or volume, pages. Example:

Kelsen, Hans, Teoría pura del derecho, 30th. ed., trad. by Eduardo García Maynez, Mexico, UNAM, 1969, p. 437.

When two authors of a work are mentioned, the names will be noted separated by the conjunction and, only in case of doubt will the and be followed by a comma.

When the work has more than two authors, the abbreviation et. al. It is recommended to consult the table of abbreviations in order to apply when dealing with volume, volume and other abbreviations. volume, volume and others.

Works in collective works: first the surname of the author of the book chapter is noted, the name of the work is added between quotation marks, then the title of the work, country, publisher, year, pages (with the abbreviation pp.). If the work has a coordinator, coordinators, compiler or editor, it will be en before mentioning the work.

When the work has several volumes and each of them has a title, the volume number is noted after the general title.

Citation of second and subsequent references to a work

When the work is cited for the second time and on other occasions, abbreviations should be used: op. cit,

If two or more works by the same author are cited and repeated citations are to be made, a part of the title of the work should be used followed by an ellipsis and only the word cit. should be used,

If the same work is mentioned, but on a different page, use ibidem and the number of pages. If it is the same work and the same page, the abbreviation idem, which means the same, should be used. Example: Idem.

References to journal articles

The order of the elements is presented in the following form: author or authors, separated by a comma the surnames of the name or names, separated by a comma, title of the article in quotation marks with initial capital letter, title of the journal in italics, with initial capital letter, place of edition, series or period, year, volume or volume, period covered by the journal and pages. Example:

Case law citations.

The order of the data is separated by a comma, in the following order: (Márquez Romero, 2013, pp. 3-18).

Number of thesis, publication (Semanario Judicial de la Federación, section or complement) (Appendix, Bulletin...) Epoch (with initial letters), volume (with lowercase abbreviated) date, page (abbreviated with lowercase).
Example:

Suprema Corte de Justicia de la Nación (2021a), "Buena Administración Pública. Constituye un derecho fundamental de las personas y un principio de actuación para los poderes públicos (Legislación de la Ciudad de México)", isolated thesis I.4o.A.5 A, Semanario Judicial de la Federación, eleventh period, Cuarto Tribunal Colegiado en Materia Administrativa del Primer Circuito.

CJ/15 Semanario Judicial de la Federación y su Gaceta, novena época, t. XVII, April 2003, p. 1020.

Suprema Corte de Justicia de la Nación, "Responsabilidad patrimonial del Estado. Su objetivo y fines en relación con la prestación de un servicio público", tesis I.4o.A.35 A (10a.), Semanario Judicial de la Federación y su Gaceta, (2013), décima época, libro XVIII, marzo, t. 3, p. 2077.

In these examples, the use of mostly low letters is unified, the use of high letters is only in proper nouns, and punctuation is also unified.

Citation of documents published on the Internet

The address of the internet page in italics and date of consultation of the information should be included. Example:

Basic manual for creating web pages. Electronic version consulted on February 23, 2021   from https://www.educacionbc.edu.mx/mieva/assets/media/libros/plan22/informatica/manual%20basico%20de%20creacion%20de%20paginas%20web/index.html

APA citation form

The form of citation in APA allows clarifying footnotes also at the bottom of the text; it can be a size of two points lower than the text, that is, 10 points and a different spacing; but these will be only to complement the content or substantially expand the explanation according to the seventh edition of the APA norms. It is recommended that they be relevant information and it is better to include within text the data if it is a discussion (APA Standards Guide, 2019).

Notes also at the end of the document, numbered, after the references. The page is numbered at the top right.

In APA standards, the author-date citation method is used. Each citation should contain, in parentheses, the last name of the author or authors, the year of publication of the source and the page number or pages. The complete reference of references will be at the end of the thesis. All citations should appear at the end of the references. The parenthesis is better at the end of a paragraph, it is more visible.

Textual citations

There is the textual quotation, which mentions the author's words as they are. The format changes according to their size. When they are less than 40 words, they are written in quotation marks and if they are more than 40 words, they are shown in a different way.

Paraphrased quotations

They are considered paraphrased quotations when the ideas of another author are told with other words, in case the information is summarized, that is to say, the words and their order are changed, but the source of the text must also be credited.

Narrative quotation

It is a quotation based on the author, the sentence begins and the author's name is added and in parentheses the year of publication of his work, as well as the page number or pages. The citation ends with a period after the parenthesis. There is some flexibility to present this information by narrating the sentence in different ways and you will be complying with APA standards. Example:

Quotation with more than forty words or long quotation.

Large quotations or quotations of more than forty words are written separately from the text, without quotation marks, italics or italics, double spaced and with a space of 1.27 cm. The left side of the text is indented 1.27 cm (half inch) and the first line of each paragraph is also indented. Double line spacing. We are talking about two spaces or indentations. The right side is not justified.

It is recommended that the citation be placed at the end, in parentheses the author's last name, year of edition and page or pages and a period after the parenthesis. A second recommendation is mentioned if the citation is at the beginning, that the number of the pages be added at the end. It is more practical to put the number of the page or pages next to the author's surname and year.

Up to 20 authors can be listed in the APA system.

References

They are added at the end of the research, they start on a separate sheet, the title in the references is added as the title of the chapters: centered, in bold, in tall or capital letters.

Each reference is indented, that is, the first line is not indented and the other lines of the source are indented. Go to the paragraph tab, then under space and indents add special and there you will find the French indent. Example:

Fix-Zamudio, H. (2016). Metodología, docencia e investigación jurídicas, 16th ed.

Metodología, docencia e investigación jurídicas. 16th ed. Mexico: Porrúa: Porrúa.

Each of the parts are separated by a period. The title of the book is written in italics.

The information in the newspaper and magazine is based on the principle of separating the information with a period. It is better if all the information sources have all the data, in the case of not having certain elements, they are written in the order in which they exist.

Newspaper article

Each part is separated by a period, the title in normal font, the name of the newspaper in italics.

Journal article

Each part is separated by a period, the title in normal font, the name of the newspaper in italics.

Electronic page

Data separated with a period, electronic page, date of file retrieval.

Other references

Book chapters, laws and legal documents, such as jurisprudence, international documents, theses, etc., can be cited in the order of the elements mentioned.

Authors' contributions in the form of citing

The various authors of thesis preparation, in the topics related to information gathering, have a particular way of citing; although most of the time it is not precise, it coincides with some of the proposals presented in this article. We try here to include the most important aspects that are strengthened.

Roberto Zavala Ruiz, mentions that quotations of more than five lines should be separated from the body of the text, leaving a blank line before and after, in addition to indenting the entire transcription with five strokes (tab spaces). The text thus formed is distinguished from what is written by the author, the quotation marks are eliminated. (Zavala Ruiz, 1995, pp. 109,115,116,301,302)

Quotations must be exact, the reader deserves respect if he/she wishes to confront a quotation.

If quotations are less than five lines, they must be enclosed in quotation marks and ellipses are used to omit one or more words.

Quotations must be up-to-date. There are five important elements that must be contained and included in each bibliography card: authors, year of publication, title of the work, institution responsible for publishing the work and place where it is published (city, state, country), after each element a period and followed by a period should be noted. The cards will be placed in alphabetical order of the author's first surname.

It coincides with the APA form. (Schemelkes, 2006, pp. 71-79)

Other information about the author, which is taken for granted, but it is good to mention: The author's name does not carry the academic title in citations.

Titles and subtitles are separated by a period.

The collection of information is a method. Bernando Martínez Aurioles, presents an example of a worksheet in which we agree, first goes at the top the reference of the information and then the idea of the documentary information.(Martínez Aurioles, 2018, pp. 53-63).

Armando Zubizarreta, recommends a punctuation of the elements of the cards according to what has been pointed out. Knowing how to order the bibliography and collect the information is the first step that gives independence to the student (Zubizarreta, 1998).

Sergio T. Azúa Reyes mentions the importance of the worksheets. Once the sources have been detected, we must proceed to extract the information they contain, taking notes that will later constitute the material for our work. These notes are known as worksheets, without them we would get nowhere. Azúa Reyes points out that the information on the two cards goes on one sheet, first the bibliographic reference in the upper left margin and then the contents of the work card (Azúa Reyes, 1999, pp. 67-80).

In the information gathered here, we have not seen that an author says that acknowledging the work of other authors avoids the crime of plagiarism, a situation that is very careful in current times. Collecting information is very useful in research, but citing helps in the recognition of intellectual property.

Jorge Witker's work is very necessary in the elaboration of theses. The consultation of information with the authors of books, magazines is a dialogue of the student that must be constant and requires concentration, a technique to retain the information. The parts of the worksheet are threefold: 1. Data to identify the source; 2.

The sources must be the necessary and most recent ones and many documents are used for consultation and context, related in and context documents are used, directly related to the research topic.

Within the sources sometimes contain more data and sometimes lack some. Among the more data may be more than one author and should be noted all, the translator. Sometimes the sources do not have an author, date of publication. If they do not have an author, credit is given to the publishing institution (Schmelkes, 2010, pp. 101-102).

There is the Internet source, all kinds of information within reach, but it should be taken into account that skills are required to navigate the network, synthesize information, investigate the results, but the worst thing you can do is cut and paste, besides being illegal does not contribute anything, the student researcher is deceiving himself and the research will not serve you will be of no use to you.

Regarding the work cards, he mentions that some researchers still refer to these recording instruments in a derogatory way, as "the little cards". But making index cards is tantamount to knowledge construction. It will depend on the way in which the work card is elaborated whether our research makes progress and is finished from the first version, efficiently and promptly (Baena Paz, 2011, pp. 65-67) (Baena Paz, 2011, pp. 65-67).

Intellectual property is important in all areas of knowledge: Intellectual property regulation in universities should be strengthened (VAADE, (2023). 3 (5 part 2), pp. 81-85). Know plagiarism case studies in schools to avoid them (Dars, 2023). Intellectual property influences the production of companies.

Results

The results of the research are raised in the conclusions and proposals of this research.

Conclusions

It is very important to respect the intellectual property of the various research authors to avoid the crime of plagiarism and it is also part of the compilation of the research.

Each thesis research author makes a proposal of how to cite. It is very necessary that the student researcher chooses the proposal made by the institution where he/she did his/her studies.

The topic of intellectual property should be included in the thesis elaboration due to its importance.

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Academic stress in new undergraduates entering the bachelor's degree program in nursing

Estrés académico en universitarios de nuevo ingreso a la licenciatura en enfermería

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Abstract

Descriptive cross-sectional study. The main aim of this work is to know the level of the academic stress in students who has just entered to study nursing career in a public university of Veracruz. The population was 90 nursing students and the sampling had been for 71 students. We selected them by convenience sampling. We used a sociodemographic data, relatives, schooling, consumption cards, and the SISCO SV-21 instrument. Results show that 85.9% of college students expressed they had felt stressed during their semester. According to the levels of the stress intensity: 45.9% had a severe level, 29.5% had a moderate level and 24.6% had a minor level. The main academic stressors were overloading homework and scholar work ($\overline{x}$ =3.80). The principal symptoms which provoke stress were concentration problems ($\overline{x}$ =3.49) as well as anxiety, anguish, and desperation ($\overline{x}$ =3.18). The strategy of coping mechanism that predominated was to focus on or try to pay attention to the positive facts in any situation which university students are worried about ($\overline{x}$ =3.23).

Physiological stress, Nursing students, University students

Resumen

Estudio descriptivo y transversal, realizado con el objetivo de conocer el nivel de estrés académico en estudiantes de nuevo ingreso a la Licenciatura en Enfermería de una universidad pública de Veracruz. La población fueron 90 estudiantes de enfermería, la muestra quedó integrada por 71 estudiantes, seleccionados mediante muestreo por conveniencia. Se utilizó una cedula de datos sociodemográficos, familiares, escolares y el instrumento SISCO SV-21. Los resultados muestran que 85.9% de los universitarios refirieron sentirse estresados durante el transcurso del semestre. En la intensidad del estrés percibido 45.9% presentó un nivel severo, 29.5% moderado y 24.6% leve. El principal estresor académicos fue la sobre carga de tareas y trabajos escolares ($\overline{x}$ = 3.80). Los principales síntomas que provocó el estrés fueron problemas de concentración ($\overline{x}$= 3.49), ansiedad, angustia o desesperación ($\overline{x}$ = 3.18) y sentimientos de depresión y tristeza ($\overline{x}$ =2.90). La estrategia de afrontamiento que predominó fue la fijarse o tratar de obtener lo positivo de la situación que le preocupa ($\overline{x}$ =3.23).

Estrés, Estudiantes de enfermería, Universitarios

* Correspondence to the Author (E-mail: leticortaza@hotmail.com)
† Researcher contributing as first author.

Introduction

Stress is a common expression in higher education students, which can influence physical, psychological and emotional well-being. It is considered to be the beginning of a series of illnesses that, without being the direct cause, usually contribute to its development (Silva et al., 2019).

It is a phenomenon that involves a wide range of interrelated variables: academic stressors, subjective experiences of stress, moderators of stress, and finally the effects of stress. Emphasising that these factors are shown in the same environment, which is the university (Martín, 2007).

It is also considered a systemic, adaptive and mainly psychological process that has an important presence in three fundamental moments: first, the student is subjected to academic situations and a series of demands for attention that are considered stressors; second, these stressors cause a systemic imbalance that has symptomatic manifestations and third, this imbalance forces the university student to seek and carry out coping strategies to rehabilitate the systemic balance (Silva et al., 2019).

Thus, academic stressors are considered as all those factors or stimuli in the educational environment that pressure or overload the student in some way. Specifically, it focuses on the university environment, analysing as possible sources of stress aspects such as problems of adaptation to university, exams and evaluations of academic performance, conflict, overload and ambiguity that affect the student's role performance or the student's lack of control over their own educational environment, stressors that are all derived to a large extent from the university teaching system (Muñoz, 2015).

According to national figures, Mexico is the country with the highest rate of stress, and of the 75,000 heart attacks registered each year, 25% are associated with illnesses derived from fatigue and work pressure (El universal, 2015).

A study conducted in Mexico estimates that 60% of students suffer from some degree of stress, and that it develops more frequently during the first four semesters of the degree programme (Delgado, 2017).

Stress is generally a phenomenon that is present in all students in different degree programmes, but it is concentrated in specific groups of university students, who according to the characteristics of the degree programme and the study plan have a greater academic load than the rest, as is the case of health careers.

In addition, academic stress in university students is at a point of great relevance for their academic training and for this reason they are subjected to high workloads, long school days, limited time for the preparation of work, not to mention the fact that their social role is affected by entering the university, distancing from the family and adapting to a different lifestyle (Cabanach, 2010).

Particularly university health science students are a very vulnerable group as, in addition to the stress burden of being students, they must also be competent in the practical part in order to be able to demonstrate their skills and theoretical knowledge. The main sources of stress in these students are associated with academic, psychosocial and economic events (Gupta, 2015; Meyer, 2013; Polo, 1996).

The physical and behavioural reactions exhibited by university students are indicators of the presence of academic stress and its impact on health. It is important for students to be able to identify these reactions in order to receive timely attention and allow them to successfully complete their professional studies.

It should also be noted that this affects a variety of variables such as emotional state, physical health and interpersonal relationships, all of which are coped with in different ways by users. Three main types of effects can be distinguished: behavioural, cognitive and physiological, each of which in turn has short- and long-term effects. If these effects are addressed in a timely manner, it is possible for university students to have an improvement in academic performance and/or a decrease in failure and dropout rates (Martín, 2007; Huanaco, 2014).

Thus, the entry into a new educational level establishes a drastic change in the life of the university student, involving a series of substantial modifications in their student context and in the level of coping with new situations.

ALVARADO-CRUZ, Laura, CORTAZA-RAMÍREZ, Leticia, ROSALES-PUCHETA, Aarón and DÍAZ-MORALES, Karina. Design of an adaptive hypermedia system to strengthen algebra learning skills of high school students. Journal of Teaching and Educational Research. 2023

These types of situations give rise to a period of vulnerability in the university student, which gives rise to stress, as a response to the new entry, first exams, greater demands than at the upper secondary level, and the change in their social environment (Marín, 2015).

From the above, and given the vulnerability of university students to suffer periods of stress, the objective of this research was: To know the level of academic stress in new university students entering the nursing career.

Methodology

The study was quantitative, descriptive and cross-sectional, the population consisted of 90 students of both sexes, new entrants to the Bachelor's Degree in Nursing at a public university in the south of the state of Veracruz, Mexico. The sampling was by convenience and the final sample was 71 students. The inclusion criteria were to be new to the university, to be enrolled in the first semester of the Bachelor's Degree in Nursing and to agree to participate in the study.

For the collection of information, a personal data form was used, which included socio-demographic and academic data such as: age, sex, place of residence, marital status, occupation, number of days and hours of work, whether they have internet service and a personal device to maintain a connection with school activities.

To assess the level of stress, the Systemic Cognitive Inventory (SISCO) for the study of academic stress was used in its second version of 21 items, developed by Barraza 2006, which consists of 23 items and establishes three cut-off points from 0 to 48% mild level, from 49 to 60% moderate level and from 61 to 100% severe level of stress. It lasts between 20 and 25 minutes and has a Cronbach's Alpha reliability coefficient of .85. In this research the instrument showed a reliability of .82.

To carry out the research and due to the COVID-19 contingency, strategies were sought for the application of the instrument virtually, using tools such as institutional mail and social networks as a means of dissemination.

The students were sent an informative video in which the objective of the study and the option of participating or not was made known, and they were guaranteed anonymity and the option of withdrawing at any time from the research.

In terms of ethics, the research adhered to the provisions of the General Health Law on health research using articles 13, 14, 16 and 17, protecting the privacy of the students at all times. The research also had the approval of the research and ethics committee of the nursing faculty of Minatitlán with protocol number CIEE-SM178.

For data analysis, SPSS version 22 was used, using descriptive statistics and measures of central tendency.

Results

Seventy-one new nursing students, 73% female and 26% male, participated in the study. With a minimum age of 17 years, maximum age of 23 years and a mean of 18.7 years. 100% indicated that they were single, 93% were studying only and the majority indicated that they lived in the Coatzacoalcos-Minatitlán area. (67.8%).

As part of the school activities, it was asked whether the new students had access to an electronic device and internet connection for their school activities, indicating that the majority (93%) had this service, however, 7% of the students did not have a personal device or internet connection for their academic activities, which made it difficult to enter classes that were at that time 100% virtual. Compared to the average of the previous period (baccalaureate), an average of 8.8 was obtained. In terms of the load of educational experiences, the average number of subjects taken by the students was 7.

Table 1 shows that 85.9% of the participants reported having moments of worry or nervousness (stress) during the course of this semester, perceiving themselves as stressed. As this was a filter question to continue with the application of the SISCO, the sample was reduced to 61 participants.

Data	Description	ƒ	%
During the course of this semester, have you had moments of worry or nervousness (stress)?	Yes	61	**85.9**
	No	10	14.1
Total		71	100

Table 1 Moments of concern or nervousness in new nursing students
Source: Own elaboration

We also investigated the difficulties that students had in entering their virtual classes, finding that 95.1% of the students stated that they had difficulties in entering their virtual class sessions, stating that this problem generated stress (Table 2).

Data	Description	ƒ	%
Do you find the difficulties of accessibility to the virtual classroom sessions stressful?	Yes	58	**95.1**
	No	3	4.9
Total		61	100

Table 2 Difficulties of accessibility to classes for new nursing students
Source: Own elaboration

With regard to the levels of stress perceived by the students, it is emphasised that the majority of young people (45.9%) are at a severe level of stress (Table 3).

Data	Description	ƒ	%
Clasification of SISCO SV-21	Mild level	15	24.6
	Moderate level	18	29.5
	Severe level	28	**45.9**
Total		61	100

Table 3. Stress level in new nursing students
Source: Own elaboration

Table 4 shows that of the stressors that reported a higher mean were the overload of tasks and work (3.8), having limited time to do the work (3.59) and the lack of clarity I have about what the teachers want (3.8). (3.3).

Stressors	x̄	σ
The overload of homework and school work I have to do every day.	**3.8**	1.276
The personality and character of the teachers who teach me.	2.25	1.445
The way my teachers assess me (through essays, research papers, internet research, etc.).	2.46	1.397
The level of demand of my teachers.	2.59	1.442
The type of work I am asked to do by my teachers (topic consultation, worksheets, essays, concept maps, etc.).	2.82	1.443
Having limited time to do the work that teachers ask me to do.	**3.59**	1.189
The lack of clarity I have about what teachers want.	**3.3**	1.606

Table 4 Dimension of stressors in incoming nursing students
Source: Own elaboration

Table 5 shows that when students were stressed, they reported a higher mean for the symptoms of concentration problems (3.49), followed by anxiety, anguish or despair (3.18), as well as feelings of depression and sadness (depressed, anxious or hopeless (3.18), and feelings of depression and sadness (depressed, anxious or hopeless (3.17), and feelings of anxiety, anguish or despair (3.18).) (2.90).

Symptoms	x̄	σ
Chronic fatigue (permanent tiredness).	2.61	1.552
Feelings of depression and sadness (downheartedness).	**2.9**	1.48
Anxiety, anguish or despair.	**3.18**	1.565
concentration problems	**3.49**	1.445
Feelings of aggressiveness or increased irritability.	2.74	1.712
Conflict or tendency to argue or quarrel.	1.8	1.59
Unwillingness to do school work	2.7	1.542

Table 5 Symptom dimension in incoming nursing students
Source: Own elaboration

About the coping strategies that reported a higher mean, they were to focus on or try to obtain the positive aspects of the situation that worries me (3.23), to establish concrete solutions to resolve the situation that worries me (3.13) and to analyse the positive and negative aspects of the situations thought of to resolve the situation that worries me (3.05) (Table 6).

Symptoms	x̄	σ
Concentrate on resolving the situation that worries me.	2.97	1.437
Establishing concrete solutions to solve the situation that worries me.	**3.13**	1.348
Analysing the positive and negative aspects of the solutions thought of to solve the situation that worries me.	**3.05**	1.271
Keeping control over my emotions so that I am not affected by what is stressing me.	2.84	1.356
Remembering similar situations that have happened in the past and thinking about how to solve them.	2.95	1.371
Making a plan to deal with what is stressing me and carrying out its tasks.	2.95	1.454
Focusing on or trying to get the positive out of the situation that is worrying me.	**3.23**	1.322

Table 6 Coping strategies dimension in incoming nursing students
Source: Own elaboration

When comparing the distribution of stress levels according to sex, it was found that stress predominated in women in all three levels, in contrast to men (Table 7).

Datos	Description	Sex			
		Man		Woman	
		f	*%*	*f*	*%*
Clasification of SISCO SV-21	Mild level	6	9.8	9	14.8
	Moderate level	6	9.8	12	19.7
	Severe level	2	3.3	26	**42.6**

Table 7 Relationship of stress level to gender in incoming nursing students
Source: Own elaboration

Discussion

The main objective of this research was to find out the level of academic stress in incoming university nursing students at a public university in the south of the state of Veracruz, Mexico. The findings show that more women than men participated, with an average age of 18.7 years and 100% of the population declared to be single.

Similar results to those found in the research conducted by Montalvo et al., 2020; Pérez et al., 2020 and Marco et al., 2022, in which the female sex predominated (66.2%) and the average age of the students was 18.4 years and 98.5% of the population were single.

In relation to the level of stress according to the SISCO instrument, it was found that 85.9% of the students presented stress during the course of the current semester, as well as moments of worry or nervousness, data that also coincide with the results of Montalvo et al. in 2020, where 88.7% of the students presented these moments of stress.

In the classification of stress levels, it was found that the severe (45.9%) and moderate (29.5%) levels predominated, results that differ from the studies conducted by Silva et al., 2019; Pérez et al., 2020 and Cortaza et al., 2020 where the moderate stress level predominated, data well below that reported by the students who participated in this study.

In the analysis carried out in the dimensions of the SISCO inventory, the main stressor was the overload of tasks and work that I have to do every day, a similar result to that reported by the studies carried out by Álvarez et al., 2018 and Cortaza et al., 2020, where the participants also indicated task overload as the main stressor. This same data differs as the studies by Pérez et al., 2020 and Rodríguez, 2020, who point out as the main stressor the way teachers are evaluated. In relation to the most frequent symptoms, students indicated as the main symptoms problems with concentration and feelings of anxiety, anguish or despair, a finding similar to the research carried out by Álvarez et al., 2018, who similarly indicated that anxiety, anguish or despair predominated in their study.

In the coping strategies, the predominant coping strategy was to focus on or try to obtain the positive from the situation of concern, a result that differs from the findings of Rodríguez, 2020 and Cortaza et al., 2020, who indicate that assertiveness was the predominant coping strategy in the participants of their research.

ALVARADO-CRUZ, Laura, CORTAZA-RAMÍREZ, Leticia, ROSALES-PUCHETA, Aarón and DÍAZ-MORALES, Karina. Design of an adaptive hypermedia system to strengthen algebra learning skills of high school students. Journal of Teaching and Educational Research. 2023

Finally, when comparing the level of stress according to gender, the present study found a higher level of stress in women as opposed to men, a result similar to the findings of Marco et al., 2022 and Rodriguez, 2020.

Conclusions

The findings of this research reflected that the majority of the students affirm that, during the course of the semester, they have suffered moments of worry or nervousness, and the stress level that predominated in this studied group was severe stress. This was more prevalent among women. The results also indicate that the main stressors presented by the students are: the overload of homework and school work; having limited time to do the work and the lack of clarity about what the teachers want. Understanding the main stressors in university students will help to improve their well-being and school performance, and thus prevent the adverse effects of academic stress.

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Determination of the inclusion of the entrepreneurship program as an optional subject TecNM Campus Chihuahua

Determinación de la inclusión del programa de emprendimiento como materia optativa TecNM Campus Chihuahua

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Abstract

Currently, higher education faces challenges due to generational evolution and differences in the qualities and numbers of students. The need to adapt educational systems to this changing reality is recognized. The 72-year-old Tecnológico Nacional de México Campus Chihuahua offers eight undergraduate and five graduate programs. Despite its history, entrepreneurship is an emerging topic in the institution. According to the results of the National Occupation and Employment Survey (New Edition) of INEGI Mexico, the unemployment rate was 5.5% in June 2020. Therefore, the inclusion of factors is decisive to carry out the implementation. of entrepreneurship programs in higher level institutions. In response to this need, an entrepreneurship program has been implemented in collaboration with the Wadhwani Foundation, consisting of two courses: fundamentals and advanced entrepreneurship. The research approach adopted was exploratory-descriptive, using a qualitative methodological design. Various data collection techniques were used, such as participant observation in the pilot group, focus groups, and participant follow-up, beginning in January 2020.

Resumen

En la actualidad, la enseñanza superior se enfrenta a desafíos debido a la evolución generacional y las diferencias en las cualidades y cantidades de los estudiantes. Se reconoce la necesidad de adaptar los sistemas educativos a esta realidad cambiante. El Tecnológico Nacional de México Campus Chihuahua, con 72 años de antigüedad, ofrece ocho programas de licenciatura y cinco de posgrado. A pesar de su trayectoria, el emprendimiento es un tema emergente en la institución. Según los resultados del levantamiento de la Encuesta Nacional de Ocupación y Empleo (Nueva Edición) del INEGI México, la tasa de desocupación fue de 5.5% en junio del año 2020. Por lo que es determinante la inclusión de factores para llevar a cabo la implementación de programas de emprendimiento en las instituciones a nivel superior. En respuesta a esta necesidad, se ha implementado un programa de emprendimiento en colaboración con la Fundación Wadhwani, compuesto por dos cursos: fundamentos y avanzado de emprendimiento. El enfoque de investigación adoptado fue exploratorio-descriptivo, utilizando un diseño metodológico cualitativo. Se emplearon diversas técnicas de recopilación de información, como la observación participante en el grupo piloto, grupos focales y seguimiento de los participantes, comenzando en enero de 2020.

Challenges, Entrepreneurship, Program   **Desafios, Emprendimiento, Programa**

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Introduction

The creation of new companies is considered to be one of the mechanisms promoting innovation and social development, consolidating entrepreneurship as one of the areas of research that has seen the greatest growth in recent decades (Busenitz, Plummer, Klotz, Shahzad and Rhoads, 2014). As a result of this, an entrepreneurship programme has been implemented at the Tecnológico Nacional de México Campus Chihuahua in agreement with the Wadhwani Foundation to promote and implement the entrepreneurial culture through two courses: Fundamentals of Entrepreneurship and Advanced Entrepreneurship. These courses are presented as electives available for all educational programmes of the institution, offering students the opportunity to develop fundamental and advanced entrepreneurial skills, regardless of their academic specialisation. This approach seeks to foster innovation, creativity and an entrepreneurial mindset among students, preparing them to face the challenges of the business world with confidence and strategic vision.

Entrepreneurship has been defined as the process of emergence in the creation of an organisation, carried out by individuals in order for it to come into existence; where the initial step of business establishment and consolidation has been attributed to entrepreneurial intentions; that is, these are seen as the basis for the foundation of new companies (Lee and Wong, 2002).

In this sense, and based on statistical data from the National Occupation and Employment Survey (New Edition) (ENOEN) of INEGI, in Mexico, the unemployment rate was 5.4% in July and 5.5% in June 2020; the inclusion of factors to carry out the above is decisive. A study conducted in Pakistan, with the participation of 197 university students, reveals that those who participated in an entrepreneurship education course have a greater intention to develop an entrepreneurial spirit than those who have not participated in such courses (Aslam, Awan and Khan, 2012).

Moreover, entrepreneurship is associated with initiative and optimism, which generally arise from the personal skill set that the potential entrepreneur believes he or she possesses (Álvarez & Urbano, 2011; Rueda et al., 2014).

In an industry as uncertain as high-tech, the existence of entrepreneurial opportunities responds to the fact that there are those who believe they have knowledge and skills that others lack and that could create value if combined with other resources (Shane & Venkataraman, 2000; Alvarez & Barney, 2002).

On the other hand, the positive impact on the entrepreneurial intention of students after taking entrepreneurship courses at university level has been analysed, where they develop creativity, innovation in ideas and the generation of business models, later showing a greater desire to start their own business (Bergmann, Hundt, & Sternberg, 2016).

To encourage and motivate university students towards an entrepreneurial attitude, some universities have chosen to develop entrepreneurship education programmes and courses. In response to this, the literature has addressed various studies aimed at determining the relationship between these programmes and entrepreneurship in university students (Torres et al., 2017). According to the results obtained in the institution's pilot programme, 60% of the students who completed the Entrepreneurship Programme have personal entrepreneurship and 50% of the students continued with the entrepreneurship generated in the programme.

Innovation in university education is crucial, and innovative skills, already present in other academic contexts, need to be integrated. The literature supports the idea that entrepreneurial culture is fundamental in the graduate profile of students.

The aim of this research is to identify the determining factors for including entrepreneurship in the Tecnológico Nacional de México Campus Chihuahua. The methodology used is qualitative through exploratory-descriptive research, using data collection techniques such as: observation of participants in the pilot groups, focus groups and monitoring of programme participants.

Methodology

Exploratory-descriptive research was conducted through a qualitative methodological design, employing information gathering techniques described below:

–   Student observation in the pilot group: The entrepreneurship pilot group was initiated in January 2020 with the participation of 31 enrolled students from the educational programmes of Bachelor's Degree in Management, Electronic Engineering, Materials Engineering, Chemical Engineering, Industrial Engineering, Electromechanical Engineering and Mechanical Engineering. They were invited to take part in the pilot programme due to their student characteristics as leaders and outstanding students.

–   Focus groups: Three focus groups were held with the main axes involved in the entrepreneurship programme: teachers with a profile related to entrepreneurship, student leaders and the institution's board of directors.

–   Monitoring of students and teachers: During the development of this research, the monitoring of students was carried out through the work on emotions and the competences developed during the entrepreneurship programme. Teachers interested in facilitating the programme were also involved.

The proposed methodological route proposes and illustrates the contextualisation of the research in a current problem, the construction of the research background at national level and in the institution, the argumentation of the problem that supports the research, the objectives that are described below are specified, as well as the operability of the methodological design and the construction of the research referents.

Several authors propose various typologies of qualitative designs, the present work was based on the one proposed by Hernández, Fernández & Baptista (2006) which, although it does not cover all the interpretative frameworks, it does include the main ones. We refer to grounded theory designs, narrative designs, action research designs and phenomenological designs.

We also analysed authors on university entrepreneurship worldwide, as well as the methodology of the Wadhwani Foundation for the implementation of the Entrepreneurship Pilot Programme.

The general objective is to implement and maintain an entrepreneurship programme at the Tecnológico Nacional de México Campus Chihuahua by determining the relevant factors for its inclusion. And the following specific objectives:

–   To carry out the first pilot group on the fundamentals of entrepreneurship.

–   To carry out a focus group with teachers with similar profiles to determine the factors for the inclusion of entrepreneurship as an optional subject.

–   Conduct a focus group with student leaders to determine factors for the inclusion of entrepreneurship as an optional subject.

–   Conduct a focus group with the board of trustees to determine factors for the inclusion of entrepreneurship as an elective.

–   Incorporate emotion work into the entrepreneurship programme.

–   Provide training courses for teachers.

Analysis of results o Development

In the following part, the analysis of results per specific objective will be discussed

1. The entrepreneurship programme began on 14 January 2020 with the training of one of the programme's teacher facilitators, Itzel Alejandra Palacios García, which was carried out in Mexico City by the Entreprenur programme of the Wadhwani Foundation. It is important to mention that the Foundation has a Latin American programme in which Mexico, Chile, Brazil and Peru participate. The Wadhwani Foundation is an organisation created in 2000, with the support of Dr. Romesh Wadhwani, which seeks to accelerate economic development in emerging economies through large-scale job creation. With a presence in Asia, Africa and Latin America in partnership with governments, corporations, mentors, investors and educational institutes. The foundation through its educational platform provided the content, materials, and activities for the formation of the entrepreneurial mindset of facilitators and students.

The entrepreneurship programme consists of two consecutive courses that can be conducted at the institution based on the agreement signed with the Wadhwani Foundation:

i. Fundamentals of Entrepreneurship: 9 lessons designed and developed by Wadhwani Foundation and provided through an educational platform.

ii. Advanced Entrepreneurship: 11 lessons designed and developed by the Wadhwani Foundation and provided through an educational platform.

The first course of Fundamentals of Entrepreneurship first generation started in February 2020, with 31 participants from the educational programmes of Bachelor of Management, Bachelor of Electronic Engineering, Bachelor of Materials Engineering, Bachelor of Chemical Engineering, Bachelor of Industrial Engineering, Bachelor of Electromechanical Engineering and Bachelor of Mechanical Engineering.

Career	Number of participants
B.Sc. Administration	10
Electronic Engineering	1
Materials Engineering	4
Chemical Engineering	3
Industrial Engineering	5
Electromechanical Engineering	6
Mechanical Engineering	2
TOTAL	31

Table 1 Number of students per degree programme participating in the first generation entrepreneurship programme
Source: Own elaboration

The students of the first generation were invited and selected on the basis of their academic record, their participation in innovation events, cultural events, student commissions and/or for being young entrepreneurs.

The methodology used in the first lesson focuses on self-discovery, so it is of utmost importance to manage emotions in this regard.

The theme of managing emotions was carried out with exercises and experiential activities that allow students to incorporate emotional management through techniques and exercises developed by teachers with innovative educational practices for the development of soft skills. As indicated by Argudo, 2017 in his study that tells us that innovation boosts business productivity and business performance helping the company to grow and improve its business; that is why the innovation techniques incorporated allow students to develop their ventures successfully.

Emotional and cognitive factors such as commitment to work, loyalty, solidarity, need for networks, family and personal support have a significant impact on entrepreneurship (Özsungur, 2019).

Entrepreneurship students are trained in Intellectual Property through workshops, conferences and advice given by the teacher Martha Lucía Hernández Castillo, who has three intellectual property titles granted by the Mexican Institute of Intellectual Property, and also has the support of the Patenting Centre of CRODE Chihuahua, which is one of the Patenting Centres that the National Technological Institute of Mexico has for the Institutes that make it up. It is important to stress that intellectual products represent one of the metrics in the Entrepreneurship Programme.

As commented by Pino, et al. 2020, it is necessary to give the right importance to generating educational programmes within the student environment for the training of engineers, who can capitalise the country with the development of intellectual property, as well as satisfying the needs of the environment.

Given the changes and the emergence of new technologies, student enterprises must introduce strategies and routes in the management and administration of both tangible and intangible resources, as it is not enough to manage only human, financial and technological resources, it is also necessary to manage market assets, intellectual property, those focused on the individual and infrastructure; this, in order to add value to the organisation that makes it special and different from the rest (Maya Toro, 2020).

Six ventures emerged from the first entrepreneurship fundamentals course, which are described below:

- Cre-Free: Company dedicated to the home service of favours, collection of dry cleaning, collection of super, its main objective is the personalised attention of customers who do not have time to perform all the tasks mentioned, for a low cost Cre-Free does it for you.

- Happy Tree: It focuses on the development of a methodology, which helps to discover the flow of people, whether they are children or young people. In this way, it solves some of the users' pains, such as a limited environment, which does not allow to take advantage of people's skills and talents.

- Terravita: A Chihuahuan company with the vision of bringing sustainability to every corner of Mexico through the creation of urban gardens, so that children, young people and adults can learn to cultivate a healthy lifestyle by creating a link with nature. They offer urban gardens with creative and indispensable materials and a didactic manual for their use, as well as offering a variety of services such as a guarantee for the plants and accompaniment through Terratips.

- Green Technology: A Chihuahua company dedicated to the production and sale of kits for home composting, providing the training, materials and tools necessary to make the experience of having your own compost at home.

- Centaury: Company dedicated to the production and handling of biodegradable plastic based on organic waste to be used in the production of biodegradable masks and urns.

- Fit Meals: Healthy fast food company, focused on customer service and attention in just a few minutes.

The aforementioned ventures participated in a regional event of the Wadhwani Foundation, called Pitch Fest. As a result, the Terravita, Centaury, Green Technology and Fit Meals ventures advanced to the next round.

In July 2020, the national stage of the aforementioned event was held, in which the students participated virtually, delivering a 5-minute pitch video in which they demonstrated their ability to sell their venture to national and international judges from the Wadhwani Foundation, basically consisting of presenting their venture and emphasising its differentiation with respect to those existing in the market; the participants. In the national stage, the finalists were Centaury and Terravita.

In October 2020, the teacher Itzel Alejandra Palacios García was awarded as the best facilitator in Mexico in entrepreneurship projects during the February-June 2020 semester, where she managed to convert a percentage of 80% to ventures with real potential to impact Latin America.

The first course of the first generation was successfully completed, and as the methodology of the Wadhwani Foundation requested in the signed agreement, the advanced entrepreneurship course follows. Only 23 students participated in this course, this is due to the fact that some of the students were in their last semester for their professional residency, likewise, as it is a methodology that has an impact on the discovery as a person, 3 students decided to follow their dreams.

From the advanced entrepreneurship course of the first generation (August 2020) four ventures emerged, which are described below:

- Happy Inc: Focuses on the development of a methodology that will be patented before the Mexican Institute of Industrial Property, which helps to discover the flow of people, whether they are children or young people. In this way, it solves some of the users' pains, such as a limited environment, which does not allow them to take advantage of people's skills and talents. To date, two modules of the methodology have been validated and sold through workshops and the others are in the process of being validated. They are a company dedicated to creating happy futures and have touched over 2000 lives.

–   Kawi Semati: These are two words that in Rarámuri mean Tierra Bonita (Beautiful Land). They seek to promote the recognition of Rarámuri culture, adapting to the current style of Mexicans and creating inclusive links to the Rarámuri ethnic group, as well as supporting them, employing them to transmit culture through modern handicrafts full of colour, love and tradition.

–   APEM: A company that sells personalised home exercise kits, including thermoses, weights, sports clothing and everything you need to exercise at home in times of pandemics.

–   Terravita: A company from Chihuahua with the vision of bringing sustainability to every corner of Mexico through the creation of mini-terra gardens, so that children, young people and adults can learn to cultivate a healthy lifestyle by creating a link with nature. They offer urban gardens with creative and indispensable materials and a didactic manual for their use, as well as offering a variety of services such as a guarantee for the plants and accompaniment through Terratips.

In times of pandemic and to end the semester, in December 2020 the Latin American Hackthon of the Wadhwani Foundation was held in the city of Lima, Peru, in a virtual way, on that occasion it was the turn of Kawi Semati's enterprise to participate. In this event they won the "First Sales" category.

Similarly, in December 2020, the Innovation 2020 awards were held by the Wadhwani Foundation in Mexico City virtually. On that occasion it was Terravita's venture that was awarded in the "WE STUDENTS" category.

In the aforementioned awards, the teacher Itzel Alejandra Palacios García was also awarded as "Excellence Award 2020", for her excellence, leadership, integrity and innovation in facilitating the concepts of entrepreneurship to the first generation of the Tecnológico Nacional de México Campus Chihuahua.

It is also important to note that the Happy Inc and Kawi Semati ventures were selected for their high evaluations to participate in the Global Challenge event of the Wadhwani Foundation and will also receive the "Excellence Award 2020" for their excellence, leadership, integrity and innovation in facilitating the concepts of entrepreneurship to the first generation of the Tecnológico Nacional de México Campus Chihuahua.

It is also important to highlight that the Happy Inc and Kawi Semati ventures were selected for their high evaluations to participate in the Global Challenge event of the Wadhwan Foundation.

Career	Number of participants
BsC. Administration	3
Electronic Engineering	9
Materials Engineering	3
Chemical Engineering	2
Industrial Engineering	4
Electromechanical Engineering	4
Mechanical Engineering	6
TOTAL	31

Table 2 Number of students per degree programme participating in the second generation entrepreneurship programme
Source: Own elaboration

From the second generation, 6 ventures were generated and are described below:

i.   Naré Karé: An emotion felt is an emotion transcended. According to the WHO, every 40 seconds a person commits suicide, although this is related to mental disorders, a high percentage is due to not knowing how to react in moments of crisis. Naré Karé means learning to love, they develop the maximum potential of emotional intelligence with workshops, conferences, podcasts and reflection kits, they offer a better quality of life in a clinical and universal way, in addition, follow-up to locate disorders that need to be channelled with experts, complementing with psychologists and coaches.

ii.   Tech Food: a company that helps SMEs dedicated to the gastronomic sector to have the same competitive advantages of standardisation and quality that only large companies have so far, through the development of low-cost specialised devices and machinery. Their product is a machine designed to create hamburger patties quickly and efficiently, giving customers the option to customise the desired shape, size and thickness of the patties. They are currently working on branding and brand registration, as well as creating packaging and dosing devices for fluids such as sauces, dressings and other condiments.

iii. Eli: Mexico has 35 beaches endorsed by the navy, a natural paradise within our reach, but how many are known? Statistically it is unlikely that five are known. It offers the experience of planning people's travel at their leisure and without complications. Travel consultant where you are in total control of your destination, budget and style of travel.

iv.   Habral: Application for the exchange of used books at the Technological Institute of Chihuahua.

v.   Ecotaurus: Sale and production of a fire starter from waste from the region's cattle.

vi.   Automation: Implementation of an intelligent steering wheel in times of COVID-19.

It is worth mentioning that the Ecotaurus, TechFood and Naré Karé ventures were selected for their high evaluations to participate in the Global Challenge event of the Wadhwani Foundation and in turn will be participating in the Student Summit on Business and Technological Innovation for Economic Reactivation 2021 organised by the National Technological Institute of Mexico.

During the implementation of the Entrepreneurship Programme, three focus groups were held, which were aimed at student leaders, teachers with profiles related to the programme and the institution's board of directors.

The objective was to establish the determining factors for the inclusion of the Entrepreneurship Programme as an optional subject for students to live the experience with commitment and dedication.

During the entrepreneurship programme, work sessions on emotions were carried out by the teacher Martha Lucía Hernández Castillo, who has a master's degree in Emotional Coaching. Meditations were given by Itzel Alejandra Palacios García, master in meditation through quantum healing.

Results

The following results were obtained from this research:

1.   Four teachers interested in becoming certified as Faculty of the Foundation were detected.

2.   The training needs of the teaching staff were identified and, based on this, 15 teachers were trained during the inter-semester period in January 2021.

3.   The following factors were identified as important for the inclusion of entrepreneurship as an optional subject within the educational programmes:

     a.   Motivation of students

     b.   Timely detection of students with similar profiles.

     c.   Management of students' soft skills

     d.   Facilitators trained for the development of the entrepreneurship programme and with a similar profile and willing to incorporate innovative educational strategies, including the management of emotions.

     e.   Detection of problems worth solving in the educational, social and family environment.

     f.   Establishing alliances and/or linking agreements.

     g.   Management support of the institution

4.   60% of the students of the first generation did the meditation and emotion work exercises and in the second generation 90% of the students did it.

5.   Four first generation entrepreneurship foundation ventures (Terravita, Green Technology, Centaury and Fit Meals) were finalists in the Regional Stage of the Wadhwani Foundation Pitch Fest. June 2020.

6.   Two first generation entrepreneurship foundation ventures (Centaury and Terravita) were finalists in the National Stage of the Wadhwani Foundation Pitch Fest. August 2020.

7.   Master Itzel Alejandra Palacios García was selected as the best facilitator of the Foundation in Mexico with the highest percentage of ventures brought to reality. July 2020.

8.   Kawi Semati's venture won the "first sales" category at the Wadhwani Foundation's Latin American Hackthon. December 2020.

9.   Terravita's venture Terravita were winners of the "We Students" category at the Wadhwani Foundation's Innovation 2020 Awards. December 2020.

10.   Teacher Itzel Alejandra Palacios García was awarded best facilitator at the Wadhwani Foundation's Innovation 2020 Awards. December 2020.

11.   Happy Inc, Kawi Semati, Naré Karé, Ecotaurus and TechFood were selected for their high evaluations in the final presentation of their courses to participate in the Global Challenge of the Wadhwani Foundation. December 2020.

12.   Participation of several ventures in the Student Summit on Business and Technological Innovation for Economic Reactivation 2021 organised by the Tecnológico Nacional de México.

Discussion of results

The entrepreneurship programme implemented at the Tecnológico Nacional de México Campus Chihuahua, arises from the need to include the entrepreneurial spirit in students, however, to date there is no infrastructure necessary for its follow-up and continuation. It is therefore intended that in the future the Programme will have its own business incubation centre and will use the Hub of the institution's facilities, which could not be inaugurated due to the COVID 19 contingency. The Tecnológico Nacional de México has 254 campuses throughout the Mexican Republic, and represents a high degree of linkage to carry out entrepreneurship projects and is in turn a consolidated system with more than 72 years of experience.

It is important to mention that most of the projects generated by the institutions of the Tecnológico Nacional de México remain as school projects, projecting them towards a business vision would be the core part for the good functioning of the Entrepreneurship Programme and the inclusion of the factors that have been decisive in carrying out the programme. The facilities of the Tecnológico Nacional de México Campus Chihuahua have 3D printers, 3D scanners and an interactive space for the development of entrepreneurship projects.

According to a study by Abreu and Grinevich (2013), it is commented that the current focus of the academic literature on entrepreneurship is mainly centred on activities based on intellectual property protection and that it should be expanded to include other activities as well.

According to Theodorakopoulos, Kakabadse, and McGowan (2014) the incubation process does not offers the entrepreneur support in the early stages of developing their businesses by helping them in acquiring knowledge, skills, networking and raising finance (Vosey, Jones and Thomas, 2013). However, as an institution without a formalised incubation process, the methodology of the Wadhwani Foundation was chosen, and given the results obtained, it can be said that the objective set out in this research has been achieved.

At the same time, in recent decades, innovation policies in Mexico have recognised business incubation as an instrument to promote the creation of new companies, especially technology-based companies (Martínez-Martínez 2020), such as the work of the Tecnológico Nacional de México.

Another extremely important point is the incorporation of emotional work in the courses taught by the Entrepreneurship Programme. It has been shown that students who worked on their emotions during the semester that they took the subject of fundamentals of entrepreneurship or advanced entrepreneurship were more successful in their ventures.

A more holistic position of attention should be assumed, since the values and attitudes of those who lead the projects, i.e. the entrepreneurs, have not been considered (Carreón et al., 2017).

The results exceed expectations because they enable the positioning of the institution and the ventures; and Kawi Semati can be mentioned as an example.

The Kawi Semati venture had the opportunity to participate in the Wadhwani Foundation Hackathon on 12 and 13 December 2020, which was a spearhead and gave them the opportunity to compete with different countries throughout Latin America such as Peru, Chile, Guatemala and Mexico with more than 120 different projects. Being awarded as winners in the category of First Sales, which was the trigger for the venture to transcend borders. Currently, they are part of the National Business Network and also shared about the ethnicities of Chihuahua in the Mexican Committee of Cleveland, in this event were personalities from Germany, United States, Peru, Mexico and others. Finally, they are trainers of the Rarámuri community in their regional settlement in the locality, providing workshops on entrepreneurship and sales generation.

These data indicate that it was possible to implement and maintain the Entrepreneurship Programme at the Tecnológico Nacional de México Campus Chihuahua, and that, although it is true that it still needs to be strengthened, it is a fact that the programme is working. At present, there are more than 100 applications for the third generation of the Entrepreneurship Programme.

Furthermore, by determining the determining factors for the inclusion of entrepreneurship and carrying out the selection process, it will be easier to maintain the programme. Taking into account the study carried out by Vélez, et al. in 2020, in which the variables of entrepreneurial intention, perceived desirability, perceived viability, entrepreneurial parent, perceived entrepreneurial parent and perceived entrepreneurial parent are analysed, it will be easier to maintain the programme. Perceived viability, entrepreneurial father, entrepreneurial mother, work experience, entrepreneurial education, gender, age and public university, the entrepreneurial intention is highlighted.

Conclusions

The following conclusions can be drawn from this investigation:

1. The first group of entrepreneurship successfully graduated in January 2021. Having 50% of the ventures generating income and 60% of the students have personal ventures.

2. The second group of entrepreneurship successfully continues to the advanced entrepreneurship course in February 2021, to date with no drop-outs.

3. A selection process was implemented for the elective subjects, currently there are more than 100 applications for the entrepreneurship programme.

4. Happy Inc. has registered its trademark and intends to patent the entrepreneurship methodology.

5. Kawi Semati is in the process of registering its trademark.

6. TechFood is in the process of patenting its inventive.

7. Links with the business and education sector were established through the signing of two agreements (agreement signed with Valmak Ingeniería and an agreement in process with IT Superior de Ríoverde).

8.   The participation of experts as mentors in the ventures is necessary. 80% of the ventures have external mentors who are experts in the line of business of the venture.

9.   Emotional work with students is a determining factor for the success of the ventures.

10.   Two workshops on working on emotions were held at academic congresses of the institution.

11.   Teacher training for new facilitators is essential and the profile of teachers should be considered for certification.

12.   Work has begun to create a specialisation in entrepreneurship for all educational programmes, including postgraduate programmes.

13.   From the focus groups it was concluded that it is crucial to include student motivation, timely detection of students with similar profiles, management of students' soft skills, facilitators trained to develop the entrepreneurship programme and with a similar profile and willing to incorporate innovative educational strategies, including the management of emotions, detection of problems worth solving in the educational, social and family environment, establishing alliances and/or linking agreements and support from the institution's management.

Acknowledgements

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Neuroeducation and cognitive development in higher education: innovative approaches and effective practices

Neuroeducación y desarrollo cognitivo en la enseñanza superior: enfoques innovadores y prácticas eficaces

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Abstract

The Neuroeducation and Cognitive Development project in Higher Education, supported by an instructional design based on neuroeducation principles, has demonstrated significant impacts. There is a 15% improvement in academic performance, reaching an overall performance of 45%. Long-term information retention has increased by 40%, highlighting the effectiveness of neuroeducational strategies. Student participation has seen an 80% increase, reflecting heightened engagement in the learning process. Furthermore, attention to positive emotional experiences has contributed to creating a more pleasant educational environment, with students showing increased interest and enthusiasm. Student satisfaction is reflected at 75%, according to surveys and positive feedback. In summary, this project aims to transform the educational experience by adapting it to diverse learning styles, stimulating intrinsic motivation, and fostering an inclusive atmosphere. Recommendations for effective implementation include continuous research, professional development, and close collaboration between neuroscience professionals and educators, ensuring a holistic and sustainable approach to neuroeducation in higher education.

Neuroeducational strategies, Cognitive development, Instructional design

Resumen

El proyecto de Neuroeducación y Desarrollo Cognitivo en la Educación Superior, respaldado por un diseño instruccional basado en principios de neuroeducación, ha demostrado impactos significativos. Se observa una mejora del 15% en el rendimiento académico, alcanzando un 45% de rendimiento total. La retención de información a largo plazo se ha incrementado en un 40%, destacando la eficacia de las estrategias neuroeducativas. La participación estudiantil ha experimentado un aumento del 80%, reflejando un mayor compromiso con el proceso de aprendizaje. Además, la atención a experiencias emocionales positivas ha contribuido a crear un entorno educativo más agradable, con estudiantes más interesados y entusiastas. La satisfacción estudiantil se refleja en un 75%, según encuestas y retroalimentación positiva. En resumen, este proyecto busca transformar la experiencia educativa, adaptándola a diversos estilos de aprendizaje, estimulando la motivación intrínseca y promoviendo un ambiente inclusivo. Recomendaciones para una implementación efectiva incluyen la investigación continua, desarrollo profesional y colaboración estrecha entre profesionales de la neurociencia y educadores, asegurando así un enfoque holístico y sostenible de la neuroeducación en la educación superior.

Estrategias neuroeducativas, Desarrollo cognitivo, Diseño instruccional

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Introduction

In the ever-evolving landscape of higher education, there is an urgent need to explore and apply innovative approaches that optimize student learning and cognitive development. This project aims to address this challenge by integrating fundamental principles of neuroeducation into university-level academic environments. Recognizing the complexity and diversity of educational experiences in higher education, the project aspires to identify effective practices and innovative strategies that enhance academic training, promoting more meaningful and lasting learning.

Higher education faces unique challenges in the 21st century, including diverse student populations, technological advancements, and the rapid evolution of academic disciplines. An educational approach is required that not only adapts to these changes but also leverages the growing understanding of neuroscience and learning psychology. According to Francisco Mora, the brain is the most complex structure in the universe, and comprehending it is key to improving our educational methods. Effective education must address both emotion and cognition, as they are intrinsically intertwined [Mora].

This project is justified not only by the need to address current challenges in higher education but also by the transformative potential of neuroeducation. Understanding how the brain processes, stores, and retrieves information allows us to develop pedagogical approaches that align more closely with the fundamental principles of human cognition. In agreement with the brain's plasticity, suggesting a constant potential for learning throughout life, the adaptability of the brain reveals that positive educational experiences can have a lasting impact on brain structure [Norman Doidge].

This will not only benefit students by improving their academic performance but also contribute to the development of cognitive and metacognitive skills essential for their long-term success. The main objective of the project is to investigate and apply innovative neuroeducation approaches in higher education, with a specific focus on the cognitive development of students.

Methodology

Given the complexity and diversity of factors that can influence the effectiveness of neuroeducational practices in higher education, a mixed research approach is beneficial. This approach allows for the combination of both qualitative and quantitative elements to obtain a more comprehensive understanding of the impact of interventions on learning and cognitive development.

Qualitative phase:

- Conduct in-depth interviews with professors and students to understand their perceptions and experiences with neuroeducational practices.

- Observe classes and gather qualitative data on the implementation of interventions.

Quantitative phase:

- Collect quantitative data on students' academic performance before and after the implementation of neuroeducational practices.

- Use surveys or questionnaires to measure specific variables related to learning and cognitive development.

Integrated analysis:

- Integrate qualitative and quantitative findings to gain a more comprehensive understanding of how neuroeducational practices affect students and professors.

- Identify patterns and relationships between qualitative and quantitative data to inform conclusions.

Continuous feedback:

- Utilize continuous feedback from participants to adjust and improve interventions as they are implemented.

- Ensure that the results obtained are practically relevant and applicable in higher education environments.

Instructional design

Integration of Neuroeducational Principles:

Effective instructional design in this project must incorporate principles and strategies based on neuroscience. This involves considering how the brain processes information, optimizing retention, and activating brain areas related to motivation and learning.

Adaptation to Learning Styles:

The instructional design should account for the diversity of students' learning styles. Neuroeducation emphasizes the importance of personalizing teaching to accommodate individual preferences and needs. Before starting the project, mapping the predominant learning styles in the student group is achieved through surveys and classroom observation.

Emphasis on Emotional Experience:

Neuroeducation recognizes the connection between emotions and learning. The instructional design can incorporate elements that generate positive emotional experiences, such as practical activities, constructive feedback, and connections to real-life scenarios, to enhance retention and motivation.

Use of Educational Technology:

Technology can play a significant role in instructional design, facilitating the creation of enriched learning environments. Interactive platforms, multimedia resources, and online collaboration tools can be leveraged to stimulate different areas of the brain and improve engagement.

Formative and Continuous Assessment:

The instructional design should include effective formative assessment mechanisms that provide continuous feedback. Well-designed assessments can help identify students' progress and allow real-time adjustments to improve teaching strategies.

Collaboration and Cooperative Learning:

Promoting collaboration among students, whether through group projects or class discussions, can activate brain areas associated with socialization and enhance learning. The instructional design can incorporate strategies that encourage cooperative learning.

Flexibility and Adaptability:

The instructional design should be flexible and adaptable. Neuroeducation emphasizes the importance of adjusting strategies based on student responses. The ability to adapt to changing needs enhances project effectiveness.

In the Technological Institute of Zitácuaro, which aims to improve academic training through innovative approaches, the decision is made to implement project-based learning (PBL) with a neuroeducational focus. The goal is to create a more participatory and stimulating learning environment that considers neuroscience principles and motivates students at both cognitive and emotional levels, specifically in the computer systems engineering program.

Results

Expected outcomes of a Neuroeducation and Cognitive Development project in Higher Education that incorporates an instructional design based on neuroeducation principles could include:

Improvement in Academic Performance:

A 15% improvement in students' academic performance is observed, as compared to a previous performance of 35%, measured through grades, pass rates, and deep comprehension of concepts. The current performance is 45%, demonstrated in their activities.

Increased Information Retention:

The application of neuroeducational strategies leads to increased long-term information retention. Students remember and apply learned concepts in practical situations by 40%, compared to 10% before the new practices.

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Boost in Motivation and Participation:

Neuroeducation-centered instructional design stimulates intrinsic motivation in students. There is an 80% student participation, showing increased engagement and participation in the learning process.

Enhancement in Emotional Experience:

Attention to positive emotional experiences contributes to a more enjoyable and meaningful learning experience. Students show greater interest and enthusiasm for the course content.

Student Satisfaction and Positive Feedback:

75% of students express satisfaction with the course, reflected in satisfaction surveys, positive feedback, and a positive classroom environment.

Appreciation

I express my gratitude to the National Technological Institute of Mexico, Zitácuaro campus, for their willingness to undertake the process of transition towards quality education

Conclusions

Neuroeducation and Cognitive Development project in Higher Education, supported by instructional design informed by neuroeducation principles, seeks to transform the educational experience for students. By integrating specific strategies based on understanding the brain and cognitive processes, significant and holistic results are anticipated.

The application of strategies tailored to diverse learning styles has the potential to improve equity and inclusion, allowing a broader spectrum of students to benefit from the educational process. Attention to positive emotional experiences aims not only to enrich learning but also to cultivate a more pleasant and motivating classroom environment.

The use of educational technology to stimulate attention and provide interactive resources aligns with the changing nature of contemporary education. Additionally, flexibility and adaptability in instructional design reflect an understanding that effective approaches must adjust to dynamic student responses and needs.

Ultimately, the project aspires to not only convey knowledge but also create an educational experience that nurtures the holistic growth of students. By prioritizing the connection between neuroscience and pedagogy, a more effective, student-centered, and adaptable higher education is sought, addressing the individual complexities of learning. This innovative approach aims not only to prepare students for academic success but also to equip them with fundamental cognitive and emotional skills for lifelong development.

Recommendations

Adopt a comprehensive approach to implementing the Neuroeducation and Cognitive Development project in Higher Education. First, prioritize continuous research, ensuring the educational team stays updated on advances in neuroeducation. Provide regular professional development opportunities for teachers, promoting the effective adoption of neuroeducational strategies.

Foster close collaboration between neuroscience professionals and educators to ensure precise application of neuroeducational principles. Establish robust systems of continuous feedback, allowing immediate adjustments based on the experiences of teachers and students. Personalize the learning experience to accommodate diverse student needs, strategically using innovative technology.

Design rigorous assessments that combine quantitative and qualitative data to measure impact. Promote a learning community among students to maximize the social benefits of neuroeducational strategies. Ensure inclusion and equity by adapting practices to address diversity in the classroom. Carefully document the project's implementation and share best practices with the educational community to facilitate continuous and collaborative learning. This holistic approach will ensure an effective and sustainable implementation of neuroeducation in higher education.

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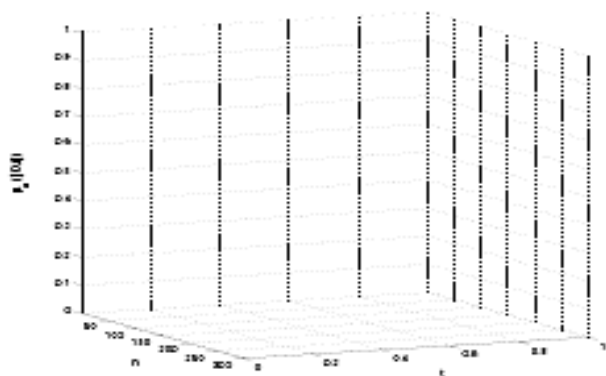
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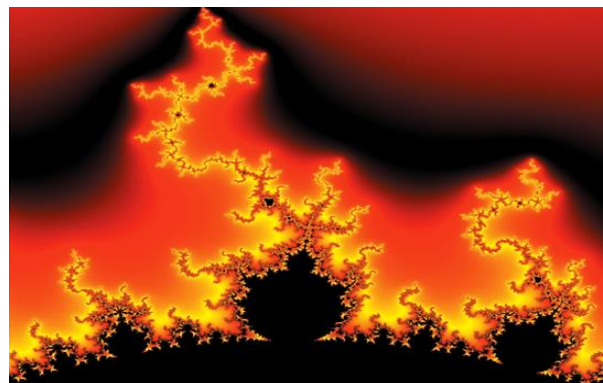
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