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Presentation of the Content

In the first article we present, *Proposal for a digital forensic investigation model in accordance with the legislation in Mexico*, by ORTEGA-LAUREL, Carlos, SANDOVAL-GUTIERREZ, Jacobo, LOPEZ-SAUCEDA, Juan and SERRANO-OROZCO, Adan Fernando, with ascription in the, Universidad Autónoma Metropolitana, as the nex article we present, *Reading in the era of globalization and information technologies in contemporary society*, by CRUZ-CRUZ, Irasema & GÓMEZ-SÁNTIZ, María Magdalena, with ascription in the, Universidad Autónoma de Chiapas, as the next article we present, *Bruxism, stress and anxiety in young people*, by CAPETILLO-HERNÁNDEZ, Guadalupe Rosalía, TORRES-CAPETILLO, Evelyn Guadalupe, OCHOA-MARTINEZ, Rosa Elena y FLORES-AGUILAR, Silvia Georgina, with ascription in the Universidad Veracruzana, as the last article we present, *Higher Education in a scheme of Social Responsibility towards the change of paradigm*, by MORÁN-BRAVO, Luz del Carmen, DE SAMPEDRO-POBLANO, Héctor Manuel, OSORIO-GÓMEZ, Ricardo and HERRERA-SÁNCHEZ, Gustavo with ascription in the Universidad Tecnológica de Puebla and the Instituto Tecnológico de Puebla.

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Article

Proposal for a digital forensic investigation model in accordance with the legislation in Mexico

Propuesta de modelo de investigación forense digital acorde a la legislación en México

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Abstract

In this paper we collect and observes the existing digital forensic investigation models, which are essentially the application of information systems and communications engineering for forensic purposes. In addition, a review of the federal criminal situation in Mexico is presented (through the revision of the regulations in the Federal Criminal Code), because the Code indirectly describes the reality of what can be prosecuted and admitted as evidence, criminally speaking, with the application of digital forensic investigation models in Mexico. This is due to the significant deficiency in the proposal of digital forensic investigation models, in which there is not enough emphasis on the potential admissibility of the evidence gathered through the models, to give attention to the need to provide "evidence" to Institutions responsible for the impartation of justice, as if doing digital forensic investigation to be a technological issue and not as it really is: a socio-legal-technological issue. Therefore, considering the criminal reality in Mexico, locating the practices of existing models that make sense in accordance with the norm, an abbreviated model is proposed that really helps successful prosecutions.

Custody Chain, Digital forensic investigation model, Evidence

Resumen

En este artículo se recoge y observa los modelos de investigación forense digital existentes, que son en esencia la aplicación de la ingeniería en sistemas de información y comunicaciones con propósitos forenses. Además, se presenta una revisión de la situación penal federal en México (a través de la revisión de lo normado en el Código Penal Federal), mandato en que se describe indirectamente la realidad de lo que puede perseguirse y admitirse como prueba, penalmente hablando, con la aplicación de modelos de investigación forense digital, en México. Esto en atención a la significativa deficiencia en la proposición de modelos de este tipo, en que no se pone suficiente énfasis en la admisibilidad potencial de la evidencia reunida a través de tales, para dar atención a la necesidad de aportar "evidencia" a las Instituciones encargadas de la impartición de justicia, como si el hacer investigación forense digital fuese una cuestión tecnológica y no como realmente es: una cuestión socio-legal-tecnológica. Por lo anterior, considerando la realidad penal en México, ubicando las prácticas de los modelos existentes que hacen sentido en atención a la norma, se propone uno abreviado que realmente ayude a enjuiciamientos exitosos.

Cadena de custodia, Modelo de investigación forense digital, Evidencia

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Introduction

Intuitively we recognize that when an act is committed that can potentially be constitutive of a crime, it becomes imperative to "preserve the crime scene." We have observed how in the streets of our cities, when a latent criminal incident occurs, the area is "cordoned off" to preserve the scene, which in the physically palpable world it is affordable to do, through the proper execution of the chain protocols of custody depending on the type of act, but few have stopped to think what happens in cases where the crime scene is not physical ?, but logical, because the crime has materialized not in the physical world, but in the digital world, in the world of computers, in the world of network networks such as the Internet or some other, technologies in which of course digital evidence plays a key role, given the ubiquity that enable.

This is how, given the need for the preservation of the digital crime scene, which will seek to reconstruct the facts, clarify the crime and point to the culprit, in this work a model is proposed, which meets the primary purpose of the preservation and prosecution of the evidence, such that such evidence manages to generate full conviction in the reasoning of the judge at the time of sentencing in a fact constituting a crime.

In addition, the aforementioned model to be proposed addresses the need for communication so that experts, judges, lawyers and police have knowledge about the best practice in the field of preservation and processing of evidence or evidence, in the digital field, related to an alleged criminal act, This is because those who are public servants, who in exercise of their powers come into contact with the evidence, are obliged to preserve the "digital place of the facts" and / or the finding and, consequently, to execute the processing appropriate, as provided in article 123 BIS of the Federal Code of Criminal Procedures.

It is not overlooked that any "corruption" of the evidence, in a digital crime scene, given its nature, can significantly alter the value of the evidence, with the corresponding consequences in the criminal judicial process, and the case may even occur that, given the "corruption" of the evidence.

The wrong person or persons are acquitted or condemned by the simple fact of not preserving the digital reality and / or processing it correctly, hence the relevance and importance of the model to be proposed.

Therefore, given the need detected, in this research work the proposal of a digital forensic investigation model according to the legislation in Mexico is made, for crimes with digital evidence, as an engineering application in which, as part of the forensic analysis practice, a structured investigation is carried out, while maintaining a documented chain of evidence, to find out exactly what happened and who was responsible for it, with a view that, once the forensic investigation is completed, it may be presented before the corresponding court of justice and the application of some or any of the criminal types provided for in the Mexican Federal Criminal Code is feasible.

Existing digital forensic investigation models

It is feasible to document in the literature various models of digital forensic investigation, since its appearance in 1995 with the model named "Computer Forensic Investigation Process" (CFIP), (Pollitt, 1995), (Selamat et al., 2008), the " Digital Forensic Investigation Model (DFIM) (Kruse II et al., 2002), the "Digital Forensic Investigation Workshop" (DFRW) (Palmer, 2001), the "Abstract Digital Forensic Model" (ADFM) (Reith et al ., 2002), the "Integrated Digital Research Process" (IDIP) (Carrier et al., 2003), the "Digital Research Process Improvement" (EDIP) (Baryamureeba et al., 2004), the "Model Extended Cybercrime Investigation "(EMCI) (Ciardhuáin, 2004), the" DFM case relevance information "(CRIDFM) model (Khan et al., 2016), the" Computer forensic field triage process "(CFFTP) model) (Beebe et al., 2004), the "Four Step Forensic Process" (FSFP) (Khan et al., 2016), the "Framework for a digital forensic investigation "(FDFI) (Rogers et al., 2006), the" Common process model for incidents and DF "(CPMIDF) (Freiling et al., 2007), the" Dual data analysis process "(DDAP) (Pilli et al., 2010), the "Digital Forensic Investigation Framework" (DFIF) (Khan et al., 2016), the "Two-dimensional evidence reliability amplification process model" (TDERAPM) (Khan et al ., 2016), the "Digital Forensic Mapping Process" (MPDF) (Rahayu et al., 2008).

The "Digital Forensic Model based on the Malaysian Investigation Process" (DFMMIP) (Perumal, 2009), the "DFM generic forensic network" (NFGDFM) (Khan et al., 2016), the "Digital forensic model for digital forensic investigation" (DFMDFI) (Ademu et al., 2011), the "systematic digital forensic model" (SDFM) (Agarwal et al., 2011), the "structured and consistent DFM" (SCDFM) (Khan et al., 2016), the "proactive and reactive DFM" (PRDFM) (Khan et al., 2016), the " Forensic Model generic informatics "(GCFM) (Yusoff et al., 2011), the" Common phases of computer forensic investigation models "(CPCFIM) model, (Khan et al., 2016), the" Comparative digital forensic model "(CDFM) (Dhananjay et al., 2013), the "event reconstruction model" (MER) (Carrier et al., 2004), and other very specific purposes that more than models represent techniques for specific technologies.

After collecting and reviewing the already listed and cited models of digital forensic investigation, it is possible to mention that there are a series of phases that we can refer to as "often used" in its structure, which is visualized, seek to help researchers execute the due processing to obtain a conclusion at the end of the investigation. As a summary, the stages defined repeatedly in the aforementioned models are rescued:

Collection: in this step, one observes, collects, searches, confiscates and obtains digital evidence, it is a primary phase and has the goal of not ignoring absolutely anything as discrete as it seems, however, there is no relation of the models with the chain of custody established in any standard.

Examination: at this stage, various techniques are applied to recognize and extract data, there are some sophisticated and simple techniques, however, it is perceived in all cases that the techniques describe technical procedures for obtaining information derived from scrutiny, processing or inspection, without documenting with the due evidence, which allows to give certainty of the manipulation of the evidence, to at any given time reliably prove the facts.

Analysis: in this phase the ilation is sought, the consequences are sought, the probable causes, inferences are made, it is deduced, it is hung, it is adduced, it is derived, it is deduced, and everything properly through using data and resources collected for Prove the case. The analysis is subject to rigor in terms of examining data and resources, however, there is a subjective part in that the conclusion reached is derived from the expertise in the analysis, and it is clear that there is no link with the chain of evidence custody.

Reports: in the last step, of the revised models, all the information obtained is presented in court. Here it is appreciated that there is an overflow of information, certainly not necessarily processed for the understanding of the audience to which it is delivered (normal people and learned in legal matters). In this phase in the common it is appreciated that the results are what the technical tests yield without an interpretation being made, so that what is communicated without the need for interpreters is plain, in practically all the referenced models, it is assumed that there is a generalized understanding of the digital and the interpretation is ignored in normal (non-technical) language, as if all citizens were natives or digital scholars.

Based on this review, a digital forensic investigation model is proposed in accordance with the legislation in Mexico.

Criminal reality in Mexico

Since 2008, the criminal justice system in Mexico has been gradually transforming into an accusatory one (Ornelas-Anguiano, 2015), with which the work of the experts in general, and especially the experts in forensic informatics, acquired great relevance, in fact the legal intervention of the experts and police officers, is the scientific basis of the investigation of the crime (Peña, 2016), without a legal intervention, no matter how sophisticated the forensic investigation model is, it will be before a scenario of illicit evidence.

The ninth title, on the revelation of secrets and illicit access to computer systems and equipment, in its chapter II, entitled "illicit access to computer systems and equipment" of the Mexican Federal Criminal Code, portrays the criminal reality, and indirectly the reality of what can be pursued with the application of digital forensic investigation model according to the legislation in Mexico (with the application of forensic computer science in particular). This is how, assessing the "criminal type" that can be reached is to prove "illegal access to computer systems and equipment", which is in the first instance from the Code punishable by such, and in the second instance, what from the forensic can be reached, for presentation before a federal court of justice and it is feasible to apply the penalties provided by the Code.

For this, that is, the presentation is feasible, there are two major stages: preservation and processing based on articles 2, section II; 3, fractions VI, IX, X, subsection e, and XIII; 69; 123 BIS; 123 TER; 181; 182; 208, second paragraph; 209; 210, 211 and 220, of the Federal Code of Criminal Procedures (PGR, 2012); and it is in this sense that it is elucidated, there is evidence that, especially of the digital type, the manipulation of these in many of the cases implies the modification or alternation of such, so in view of the importance of which they are coated, require certain protection requirements for authenticity known as "chain of custody", provided for in articles 227 and 228 of the National Code of Criminal Procedures (PGR, 2012).

Given that in Mexico, in accordance with the "Support Guide for the study and application of the National Code of Criminal Procedures" regarding Chain of Custody, the Attorney General's Office through Agreement A / 002/10 published in the Official Gazette of the Federation on February 3, 2010, issued a "Guide for the application of the General Code of Criminal Procedures in the chain of custody" (Ortega-Rosado, 2014), in order to establish and implement the processes, legal procedures and technical-scientists made by the members of the police institutions and the experts in aid of the Agent of the Public Ministry of the Federation, the protocols that integrate this chain (PGR, 2012), are:

– Knowledge of the commission of the crime by the Federal Public Ministry Agent (AMPF) or by the police.

– Preservation of the place of events by the police.
– Processing of the evidence or evidence by the authorized police units and / or experts directed by the Public Ministry (MP).
– Continuity of the Chain of Custody at the ministerial headquarters (integration in the previous investigation of the Chain of Custody).
– Continuity of the Chain of Custody in the expert headquarters (realization of the expert tests).
– Storage of evidence or evidence.

In this sense, it is reaffirmed, as documented by (Peña, 2016), that the legal intervention of experts and police officers is the scientific basis for the investigation of crime. Thus, in order to establish the guidelines that all public servants must observe for the proper preservation and processing of the place of the facts or of the finding and of the indications, traces or vestiges of the criminal act, as well as of the instruments, objects or products of the crime, since the protocols clearly state that the public servants referred to are those who in their actions must comply with the "chain of custody", the Attorney General issued the Agreement A / 078/12 published in the Official Gazette of the Federation on April 23, 2012, in which it indicates, the minimum information that should be available in the chain of custody for a specific case (PGR, 2012), (Ortega-Rosado, 2014), namely:

a. Record of Chain of Custody, where the main data on description of the indication, dates, hours, responsible for the indication, identifications, charges and signatures of who receives and from whom they deliver are recorded;
b. Personal receipts kept by each person responsible for the indication and in which the data similar to the Chain of Custody Records appear;
c. Labels that are attached or printed to the packaging of the signs, for example, to plastic bags, paper bags, paper envelopes, manila envelopes, jars, cardboard boxes, among others;
d. Record books of entrances and exits, or any other system (for example: computer), which must be kept in the analysis laboratories, in the offices of the Public Ministry and in the warehouse; and

e.   Registration of storage conditions (temperature, humidity, etc.).

Therefore, from the rescue, it is contributed that what is relevant in a digital forensic investigation model, according to the legislation in Mexico, is to establish bases for the legal intervention of the experts and police, which are the scientific basis of the investigation of the crime, such that from its intervention, it is possible to demonstrate that all the links of the chain of custody, which are basically the date and place in which the evidence was received and delivered, the way in which it was guarded, is what will give "recognition to the test ", being therefore the minimum protection requirements for its authenticity, and in view of the importance of the chain being coated, it also prevails for the digital, because if the chain is not followed for the tests in the various models of digital forensic investigation documented in the literature, no model will achieve the legitimacy and incorporation of the evidence, so that you can inquire about any information that s and detach from it, doing this the fundamental thing and therefore what is rescued in the proposed model.

Model proposed to the reality of the regulations in Mexico

In this section, the proposed model will be described. The model consists of 4 phases and the flow structure is illustrated in Figure 1.

Figure 1 Proposed model of digital forensic investigation according to the legislation in Mexico
Source: Self Made

A.   Inventory phase

The chain of custody according to the regulatory framework requires strict control over those who are involved in the lifting and manipulation of the evidence, without the completion of this stage, with due care and dedication, no proof as valuable as it may be. utility in no court. This phase is proposed as a stage of preparation of the evidence input, in fact, it is a period of time in the research model, where all the work and activities that allow the control and evidence of the evidence have to be carried out.

That will make it irrefutable, and must be done before the actual investigation is carried out, to strengthen the chain of custody. It obviously includes the study of the applicable forensic laws and guidelines, obtaining the investigation orders (to avoid the illegality of the evidence), the management support and the configuration of appropriate strategies and tools to avoid the corruption of the digital evidence, it can even be considered as a planning stage, but it should not be delayed but happen in the act, but in an organized manner, which is just what is proposed. This stage is completely lacking in existing models, but it is proposed because without it it is highly probable that no evidence is valid if it is not carried out.

B.   Collection and preservation phase

The collection and preservation phase is where the contact with the evidence begins, it is in fact where the beginning of the life cycle of the evidence is located. The tasks performed include securing the crime scene, identifying and collecting volatile and non-volatile evidence, all of this: labeling and packaging, transporting, acquiring, storing and preserving evidence, according to the chain.

In the digital case, at this stage you can even collect monitoring devices or information such as the Intruder Detection System (IDS), the Intruder Prevention Systems (IPS), the Honeypot / Honeynet and other similar tools, which Although they may be digital equipment, which is not directly involved with crime, they are equipment that contains information that can give traceability, since in most cases of use of this type of technology, they are used for detection and prevention, depending on the nature of the network in which it is instructed, but which may well contribute to the clarification of the crime.

This even though they are not of specific purpose to preserve details of crimes, they may at one time be decisive for having indirectly substantiated facts.

In general, it can be mentioned that this phase is where the relevant data must be captured, stored and made available for the next phase, absolutely everything, however inconsequential it seems, must be preserved intact.

Here, the consideration that must be untouched is highly relevant, because in digital the evidence is highly volatile, for example, if a computer equipment is seized, it is turned off and on again, each time this procedure is performed, it will be losing evidence, due to the nature of the digital system, hence it must be ensured that this does not happen.

Therefore, in this phase it becomes especially relevant, managing with the first phase, each element sought and seized, because each element is itself part of the evidence and hence it is increasingly important and essential (not physical, but logical element). These may be, to mention a few examples, access control, application control, operating system, network architecture, security infrastructure, and any others that are in the digital crime scene, which must be legally obtained., at all costs to avoid objection through the path of illicit evidence. For the above, in the specific case it is necessary to try to exist: the simple view, the search order, consent, and other protocols that are met for the evidence in the physical, but that must be executed in the digital field, with the intention that certainty be given, to what has already been highlighted, that it must be properly documented (keeping in mind the chain of custody), in accordance with the Mexican evidentiary norm.

As regards preservation, it is imperative to be cautious in the manipulation of evidence, it is reiterated: everything digital is highly ethereal, which can lead to the destruction of evidence without intention, and although scenario simulations offer An alternative to not directly manipulate the evidence, is not necessarily the best way because it can be objectionable, in this understanding, the cloning of the evidence to manipulate the evidence object, with all its attributes and limitations.

It is worth mentioning that the existing models, did not consider these activities, in a lot because it is not a technological issue, but it is in the techno-legal duo, and as it was already externalized to the problem it is treated as a purely technological issue.

C.   Research and analysis phase

In the investigation and analysis it is where qualified forensic experts and experts seek evidence, for the case in the digital, that gives certainty, certainty or security to a reality in the field of digital, where digital data, translated or interpreted as information strongly support, refute or contradict what is seen or said in theses or hypotheses of those involved in digital events. Basically, what is sought to clarify is the reason for the state of the digital data, the intangible data being the entity that seeks to know, examine and analyze, in terms of status, sign and content, such that it gives guidance to support what which is intended in the case, to be preserved by the multicited chain of custody, which operates for one or several digital devices that at a given time were legally seized and properly preserved through the chain protocols.

This is where the scientific, technological and technical work is carried out, in the highest feasible detail, always using approved guidelines, so that they are recognized by the courts (and the procedures that lead to such conclusions are even repeatable) and invariably accredited forensic tools (since, if they are not, they lose credibility), all to intelligently achieve the traceability of the whole event, that is, to outline the path from the source of the crime and finally track who committed it without giving rise to error or set the doubt.

The evidence that will be generated in this phase of investigation and analysis will depend on the scope of the available techniques, the nature and the means used to commit the crime. It is also worth mentioning that it will depend on the initial legal hypothesis, which is sought to administer with the evidence available to prove a certain "criminal type", since rather than prove what is technically or technologically available, the result sought is delineated by what the norms can punish, and hence the line, since even at a certain moment if the legally regulated does not elucidate the technological reach, that is, it can be done more than legally valid, then it can even be contradict what sensibly should be, or not of the initial hypothesis, with the development of investigation and analysis, in order to prove guilt in the court of justice.

D.   Presentation phase

The result of the investigation and analysis phase is compiled or summarized, and presented to the corresponding authority for consideration, this operates both in the case of digital tests, as in the case of physical tests. In the case of the presentation of the evidence, the guidelines for incorporating the evidence, described in the Criminal Procedure Code, which basically constrict to: the accreditation of the evidence, list as evidence (mark), give view to the counterpart, get the recognition of the test, achieve the incorporation of the test; So to bring the procedure to fruition, in the case of digital it is imperative to make prior preparation for the presentation.

It must be clear that this is the critical stage of the investigation, since all the evidence can be accepted or rejected, especially by the type of test, that is, digital, in which, if special care is not taken in what makes the chain of custody, can be widely questioned, objected and even discarded.

In this sense, the admissibility of the evidence before the court of justice, for example, depends on certain factors that include, among others, whether the evidence is conserved materially and adequately (in which cloning was already suggested, but such must be valid), if the evidence is relevant, duly identified and legally obtained, that is, if the procedure for obtaining it was missed, also if the language used in the presentation is simple and concise to be understood by the judge or jury, especially because in technical or technological jargon there are a number of technicalities that may be subject to interpretation and inaccuracies can lead to subjectivities that make you lose all objectivity, so this will require special attention, even in the presentation of evidence should consider if the prosecution and its team can put it into use in favor of the cause, that is, to defend and prove the intention, the motive, the identity tity or any detail against the challenges that may be presented to the test, given its digital feature, which is always objectionable, and the criticisms that are noticeable by the defendant's team or even the defendant himself, who generally pursue to undermine the validity of this type of evidence by its special nature.

It is relevant to state and always keep in mind that the critical point in this phase is to present the results to convince, since any evidence is a means of conviction, which will allow in any case to prove a case before the judge or jury in a court of justice and this is of all importance.

Recommendations for this tool to be applied in society

For the application of the proposal in society, or another model, it is recommended that experts, judges, lawyers and police, be trained in the matter through the communication of the model, as minimum guidelines to follow, for a first involvement and later, this in order not to violate protocols, and from this they are nourished by their experience using it, which is what will give them the inertia that will reach experts in the knowledge about the best practice in terms of preservation and processing of evidence or evidence, both from the digital and physical fields.

In this sense, although it is not feasible to certify the competence in the matter, given the diversity of scenarios, models, etc., if it is feasible that the lessons learned by those involved, at the time of use, in the practice itself , to the interaction, such feedback the model, to generate a knowledge base based on the practice, so that in a given breath, the evolution of the proposal is nourished by the practice of digital forensic investigation models, which is where it emerges the relevant It is absolutely clear that for the success of any model it is imperative to disseminate, share and use it, either to replicate it, standardize it or remodel it..

Conclusions

To date, the research models that have been proposed systematize the research work from the point of view of the application of engineering techniques, which is useful, but not essential. This is how such a design idea generates a large area of opportunity by being absent from what is really toral, which is: the legal framework adjustable from the model to be used.

And it is that without proper understanding of the applicable legal framework, for example the Mexican: how it is intended to apply the laws of the procedure, and in the same way the application of the Codes that rescue the criminal types of cyber crimes, which is certainly punishable, creating a vacuum for the proper application of research models, with a view to substantiating evidence for judicial proceedings, because since its design, they are not created to be connected with the legal framework in which they are going to use.

Certainly, given the lack described, in the execution of any inquiry with the use of existing research models, the need to properly process the chain of custody, that is to say according to the law, cannot be forgotten, as any " contamination "of the evidence in a crime scene, however sophisticated the investigation model may be, can significantly alter the final result in a criminal proceeding and thereby condemn or acquit the wrong person or persons, maximally the legal intervention of Experts and police officers, is the scientific basis of crime investigation.

With the proposed model, the entire investigation is justified, the areas of improvement are identified and the considerations are established for each stage, ranging from the beginning of the investigation to the preparation for presentation in judicial proceedings. One characteristic, which we describe as excellent in the proposal, is that it is a model of a legal techno nature and, therefore, will help the investigation to be successful since it takes special care of the legal forms, which if not saved could be used as arguments that will prove faults to the procedure, arguing the illegal intervention of the experts and police.

A future work that can be raised for this investigation is the ideation of a digital forensic investigation observatory, which would focus the details of the investigations and their results, this to serve as a repository of experience to be used for future cases or instrumental improvements to peers, all with due handling of the evidence and the permissible display of sensitive information. It is a fact that the experience acquired and the lessons learned with digital forensic investigation models could well be knowledge that is relevant to share and use, whether to replicate, standardize, model or even train new stakeholders in the subject.

The cases could also be classified according to their status in the judicial procedure, and the observations made regarding whether the case is complete, suspended, pending and ongoing, this to have a timely follow-up start-effect-conclusion. In addition to the above, it can be mentioned that it would even be useful, in judicial proceedings in which they are made to run through all possible judicial instances, such that, at any given time, if required, the knowledge and evidence obtained allows guiding the various instances until they are exhausted by the promoter, such as a judicial appeal, the amparo, among others, where there is no other case, but the same in another instance and from the observatory everything that is considered useful as a reference can be provided, contributing to cooperation and information exchange, which can effectively favor successful prosecutions.

Additionally, by making intelligence on the information that is possessed, it would be feasible to develop investigative capacities, such as obtaining methodologies, which would effectively equate law enforcement agencies, to develop forensic investigation strategies and techniques, which can also contribute effectively to successful prosecutions, all to cement the scientific basis of crime investigation.

References

Ademu, I.O.; Imafidon, C.O; Preston, D.S. (2011). A New Approach of Digital Forensic Model for Digital Forensic Investigation, *International Journal of Advanced Computer Science and Applications*, 2(12), 175-178.

Agarwal, A.; Gupta, M.; Gupta, S.; Gupta, S. C. (2011). Systematic digital forensic investigation model, *International Journal of Computer Science and Security*, 5(1), 118-131.

Baryamureeba, V.; Tushabe, F. (2004). The enhanced Digital Investigation Process Model, *Proceedings of the Fourth Digital Forensic Research Workshop*, 1-9.

Beebe, N. L.; Clark, J. G. (2004). *A Hierarchical, Objective-Based Framework for the Digital Investigations Process*, *Proceeding of Digital Forensic Research Workshop*, 2(2), 147-167.

Carrier, B.; Spafford, E.H. (2003). Getting Physical with the Investigative Process, *International Journal of Digital Evidence*, 2(2), 1-20.

Carrier, B. D.; Spafford, E. H. (2004). Defining event reconstruction of digital crime scenes. *Journal of Forensic Science*, 49(6), JFS2004127-8.

Ciardhuáin, S.O. (2004). An Extended Model of Cybercrime Investigations, *International Journal of Digital Evidence*, 3(1), 1-22.

Dhananjay, K.; Jain, N. (2013). Comparative Digital Forensic Model. *International Journal of Innovative Research in Science, Engineering and Technology*, 2, 3414-3419.

Freiling, F. C.; Schwittay, B. (2007). Common Process Model for Incident and Computer Forensics, *Proceedings of Conference on IT Incident Management and IT Forensics*, 19-40.

Khan, M.A.; Nasir, A.; Ali, M.N.; Farooq, U.; Malik, S.A., (2016). Crime Detection using Digital Forensic Technology, *International Journal of Computer Science and Information Security*, 14(10), 487.

Kruse II, W.J; Heiser, G. (2002). *Computer Forensics: Incident Response Essentials*, Addison- Wesley.

Ornelas-Anguiano, O. D. (2015). La Cadena de Custodia en el Proceso Penal Mexicano, *Estudios Forenses*, (1), 1-24.

Ortega-Rosado, A. P. (2014). *Guía de apoyo para el estudio y aplicación del Código Nacional de Procedimientos Penales*, Suprema Corte de Justicia de la Nación.

Palmer, G. (2001). A Road Map for Digital Forensic Research, *First Digital Forensic Research Workshop*, 27-30.

Peña, J. A. (2016). La prueba pericial en el nuevo sistema de justicia penal en México, *Gaceta internacional de ciencias forenses*, (20), 16-24
Perumal, S. (2009). Digital Forensic Model Based on Malaysian Investigation Process, *International Journal of Computer Science and Network Security*, 9(8), 38-44.

PGR, (2012).Protocolos de Cadena de Custodia. Dos grandes etapas: preservación y procesamiento. Instituto Nacional de Ciencias Penales.

Pilli, E. S.; Joshi, R. C.; Niyogi, R. (2010). Network Forensic frameworks: Survey and research challenges, *Digital Investigation*, 7(1-2), 14-27.

Pollitt, M. (1995). Computer Forensics: An Approach to Evidence in Cyberspace, *Proceeding of the National Information Systems Security Conference*, 2, 487-491.

Rahayu, S.; Yusof, R.; Shaib, S. (2008). Mapping Process of Digital Forensic Investigation Framework, *International Journal of Computer Science and Network Security*, 8(10), 5-10.

Reith, M.; Carr, C.; Gunsch, G. (2002). An Examination of Digital Forensic Models, *International Journal of Digital Evidence*, 1(3), 1-12.

Rogers, M. K.; Goldman, J.; Mislan, R.; Wedge, T.; Debrota, S. (2006). Computer Forensic Field Triage Process Model, *Journal of Digital Forensics, Security and Law*, 1(2), 27-40.

Selamat, S. R.; Yusof, R.; Sahib, S. (2008). Mapping process of digital forensic investigation framework. *International Journal of Computer Science and Network Security*, 8(10), 163-169.

Yusoff, Y.; Ismail, R.; Hassan, Z. (2011). Common Phases of Computer Forensic Investigation Model, *International Journal of Computer Science and Information Technology*, 3(3), 17-31.

Reading in the era of globalization and information technologies in contemporary society

La lectura en la era de la globalización y las tecnologías de la información en la sociedad contemporánea

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Abstract

We must analyze literacy in general and in particular the so-called digital literacy as a sociocultural problem linked to the formation of individuals. Every social or technological change has always demanded a profound transformation from humanity, due to the vertiginous advances that have occurred; Throughout history, man has seen the need to transform some practices. Reading has been one of the fundamental axes because the human being has required addressing and being able to face the challenges facing globalization and information technologies. The deep and rapid transformations in all fields of modern life are something that characterizes the world in which we live. The new forms of communication have accelerated, a revolution of wide scope that revolves around the transformation of the mechanisms of production, diffusion and access to information, as well as in the expressive and representative languages of culture and knowledge. In universities, they must identify the areas that need to be strengthened to support students in carrying out the readings responsibly.

Resumen

La alfabetización en general y de modo particular la denominada alfabetización digital, tenemos que analizarla como un problema sociocultural vinculado con la formación de los individuos. Desde siempre todo cambio social o tecnológico exige de la humanidad una transformación profunda, por los avances vertiginosos que han ocurrido; a lo largo de la historia el hombre se ha visto en la necesidad de transformar algunas prácticas. La lectura ha sido uno de los ejes fundamentales pues el ser humano se ha visto en la necesidad de atender y poder enfrentar los retos ante la globalización y las tecnologías de la información. Las profundas y rápidas transformaciones en todos los campos de la vida moderna es algo que caracteriza al mundo en que vivimos. Las nuevas formas de comunicación han acelerado, una revolución de amplio alcance que gira en torno a la transformación de los mecanismos de producción, difusión y acceso a la información; así como en los lenguajes expresivos y de representación de la cultura y el conocimiento. En las universidades deben identificar las áreas que requiere fortalecerse para apoyar a los estudiantes en realizar las lecturas de forma responsable.

Reading, globalization, information technocologies

Lectura, globalización, tecnologías de la información

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Introduction

Nowadays, many people have considered that reading is an unpleasant and sometimes dull activity; however, this should not be conceptualized as such because when encountering the printed and the unprinted, the reading subject acquires a lot of experience and knowledge. So reading is for: cultivating oneself, informing oneself of events that society is experiencing; furthermore, it allows for more significant enrichment in verbal expression, for which reason we could understand reading as an action to strengthen cultural and academic practice and social activity.

Reading and writing are not that personal, non-transferable act, or the opposite as an instrumental means, but rather it is the critical component of social communication. The supports have very much conditioned reading; the materiality, the way one writes and how one publishes, since what is written marks completely different forms of reading Barbero (2005) that is, they are socially and culturally diverse forms, with different political and economic conditions of reading; therefore, one cannot teach reading only so that people read alone in their room, at home, or in their bus seat etc; reading is much more than that.

In that sense, we could recover the historical practices that have not disappeared and that are superimposed to the more modern ones since previously reading was linked to reaching a certain age; even in the families in which books, letters, telegrams used to be read aloud, an activity that was done by grandparents or parents. However, today reading as a social activity and practice has had its variations. Viñao (2007), points out that, reading as an activity has a non-universal character that is changeable and unrepeatable and that currently offers a wide diversity of practices; such practices can refer, among other aspects, to the physiological implications of the body in reading, the environment or context in which is read, the character or status of what is read, the types of writing, the uses (contexts of use and purposes) and the position of the subject that reads in relation to the text. All of these, by themselves, or combined, determine and imply different practices for appropriating the reading.

The different ways of looking at research that made up the methods of qualitative research, among them life stories, based on giving people a voice as they construct reality, without the nuances of the researcher as regularly occurs from the positivist perspective. The life story is complemented with other testimonies and techniques where the participation of the researcher becomes more present in the interpretations that he makes when he joins the data from different sources.

Through dialogic exercise, two university students of 2nd and 8th semesters of the Pedagogy Degree in the Pijijiapan Extension of the Autonomous University of Chiapas are given a voice. Through the biographic technique, it was useful to know the reconstruction that the students do of their life trajectory giving special attention to the processes that they have lived in their reading formation.

Reading in the age of globalization and information technologies in contemporary society

Today it is possible to understand globalization as a series of multidirectional processes and not merely as the internalization of cultures and messages that used to be separated from one another. "Globalization presses not only upwards, but also downwards creating new pressures for local autonomy" (Giddens, 2009: 1082); these pressures have generated that globalization, among them the use of the internet, other forms of exchange maintain new modes of solidarity between subjects, from the chains of messages to the forms of isolation by the lack of face to face communication, but at the same time, approach by interactions through any technological device.

Reading is a human activity, where the reader comes into contact and communication with great thinkers; that is, it is an interactive process between the reader and the text. According to Oseguera and Chávez (1991), the term reading comes from the verb lectum, which is a nominal form of the Latin verb legere, the primary meaning of which is "to choose," "to select." Consequently, reading means the action of selecting, and the selection itself. Returning to the etymological origin of the term, we could say that reading is the interpretation and selection of a message that is received in writing.

The new information and communication technologies have provoked, or at least accelerated, a far-reaching revolution in our civilization that revolves around the transformation of the mechanisms of production, storage, dissemination and access to information; in the forms and flows of communication between people; as well as in the expressive and representative languages of culture and knowledge. The new times have generated new forms: internet, mobile telephony, video games and other digital items that are changing multiple aspects such as: in leisure, in personal communications, in learning, in work, etc.

The term new technologies refers to "all those technical equipment or systems, the set of tools, supports and channels for access to information" (Monereo, 2005: 17). It is for this reason that new technologies are used for pedagogical purposes, extending their possibilities of use in the processes of teaching and learning, allowing the elaboration of didactic materials, oriented to multiply the effects of training activities on the individual, they can motivate the eagerness to know, the desire to learn, create in the student skills for his self-preparation, through which the desire to learn is awakened, one learns to study, to use knowledge and to develop thought.

We must analyze literacy in general and, in particular the so-called digital literacy, as a socio-cultural problem linked to the formation of citizenship and as one of the most important challenges for the policies of educational institutions aimed at equal opportunities in access to culture. From this perspective, it should represent a process of developing an identity as a subject in the digital territory, characterized by the significant appropriation of the intellectual, social and ethical skills needed to interact with information. The possible goal of digital literacy is to develop in each subject the capacity to act autonomously, a right to a need of every citizen in the information society.

Every social or technological change demands from humanity a profound, transcendental transformation, that is to say, that for each one of the advances that have been presented throughout history man is changed according to his needs, which can be intellectual and psychological changes, leading him to be different perhaps from any previous model.

Likewise, it is important to establish that in every process of transformation that the human being has had, reading has been one of the fundamental axes because humans have seen the need to attend and be able to face the challenges before globalization and the information technologies.

The deep and rapid transformations in all fields of modern life is something that characterizes the world in which we live. Computing, informatics, telematics, fax, e-mail, multimedia, electronic networks; in short, what is known today as the New Information and Communication Technologies (ICTs) are fundamental acts of socio-economic progress and its dizzying development that are influencing economic, political and social relations of humanity.

Gutiérrez (2003) has shown that the acquisition of skills in the intelligent use of new technologies requires, at least, instrumental mastery together with the acquisition of skills related to the search, analysis, selection and communication of data and information so that students can transform information into knowledge and develop skills of communicative interaction in digital environments. Appropriation of the meaning and multimodal expression would be the new terms of the old concepts of reading and writing that have been traditional in all literacy processes.

Reading in the Mexican education system

The Sectorial Program for Education 2007-2012, proposed by the Ministry of Education (SEP) (2007) establishes that "the Mexico of the new millennium demands that the National Education System trains its future citizens as persons, as conscious human beings, with identity, rights and duties, creators of values and ideals" (p.5).

In this sense, we may consider that schools as educational institutions are places where students should find adequate conditions for the full development of their abilities and potential with reading as an instrument of use at all levels of education. Although promoting reading through literacy has indeed been a priority, it is essential to point out that the concept of education in our country proposes it as the basis for the progress of nations and the well-being of peoples.

The Education Sector Programme considers education to be a fundamental element for development and a route par excellence for social mobility. It also establishes that the State and society must promote quality education that is part of the exercise of freedom with the development of skills, abilities and attitudes. It is necessary to specify from the sociological analysis that what is related to social mobility would be subjected to the status quo of each individual to access other work opportunities. This reflection can lead to a rethinking of the problem of education in order to identify the areas that should be strengthened in public schools with the most significant responsibilities of the State and of municipalities in educational action without losing sight of the work of teachers as the principal agents of student training.

Concerning the role of reading in the education system, we identify sector objective, which establishes that "The quality of education must be raised so that students improve their level of educational achievement, have the means to access greater well-being and contribute to national development" (SEP, 2007: 11). Among the complementary actions to promote reading, proposed by the programme, we identify the following:

–   To encourage the habit of reading in the population as a fundamental tool for learning and a way to access knowledge.
–   To promote the improvement of educational material distribution services.
–   To train readers and writers, from school, is a task that must have teachers who have incorporated the written culture into their lives and, besides, have substantial training in teaching processes and communication skills" (SEP, 2007:29).

The complementary actions are tasks that we have to carry out from the classroom, taking into account various factors such as family context, the culture of each student, as well as the characteristics that they possess in order to understand and address a major problem with the poor reading comprehension identified in higher-level education. The concern for raising the level of educational achievement, based on reading, has led to the establishment of agreements that must be carried out as obligatory strategies that teachers must know and apply in the classroom.

In this context, full access to written culture at the different educational levels has been considered of great relevance as established in Agreement 429, which issues the operating rules of the National Reading Programme (NLP), supported by article 3 of the Constitution, the National Development Plan 2007-2012. On the other hand, the importance of the analysis of the plans and programs of primary education should not be ignored because it specifies the actions to be developed in the promotion of reading as a fundamental tool for learning:

The Plan and Programs of Studies for Primary Education, contained in Agreement Number 181, published on August 27, 1993, assigns priority to the mastery of reading, writing and oral expression. Similarly, Agreement 384, which establishes the Plan of Studies for Secondary Education, published on May 26, 2006, states that language is acquired and adapted in social interaction through participation in acts of reading, writing and oral exchanges that are varied and full of meaning for individuals. (SEP, 2007: 5).

In order to achieve an adequate balance between the federal and state spheres, particularly about promoting reading as a daily practice, emphasis is placed on the acquisition of knowledge to develop the capacity for reflection and analysis as part of the integral development of students. Learning to read is an evolutionary process in which several stages must be distinguished. Thus, for human beings, learning to read should be a sequential process, that is, that they learn according to the chronological and psychological age; the acquisition and comprehension of reading are far from the ages of the subjects. Therefore, a five-year-old child cannot be required to do a reading as a young adult or adolescent could since we would be putting pressure on him or perhaps causing other problems at the same time.

On the other hand, we could understand that the subject's disposition also has to do with reading practices "it is not the same to read a text voluntarily or freely than to read it obligatorily, or in a more or less imposed way" (Viñao, 2007: 54). In this sense, the school environment can be considered as a space in which the student reads because the teacher indicates so.

Two different purposes and uses of reading collide: one of a restrictive, compulsory nature and to pass an exam or test. Another aimed at awakening a taste for voluntary reading and open to a multiplicity of texts.

The social influence linked to the very notion of practice is reinforced by the fact that reading belongs to the genre of so-called "cultural" practices. In this sense, we could say that reading obeys the same laws as other cultural practices, with the difference that it is taught directly in the school system, the level of instruction will be more influential in the system of explanatory factors, the secondary factor being one of social origin.

To say that reading is a cultural practice is to understand that it forms, that leads to the information of a personal and social identity, which constitutes a manifestation, a privileged expression of identity. Now, because it is not the identification of oneself or with members of the same group, of the same category of belonging without differentiation with the others, "the cultural practices of some and others are not only socially differentiated, but also socially hierarchical" (Barbero, 2005: 2-3).

In this sense, it is understood that culture constitutes the field par excellence of the game of social domination, where the position occupied in relation to domination is objectified precisely within a "dominant" culture for some and "dominated" for others. In such a way, that the social coercion that weighs on any practice, takes within the field of the cultural practices, and singularly in the reading practices, the characteristic form of the cultural imposition and the effect of legitimacy.

Reading as a social activity and practice is to learn to listen, to learn to have a word of one's own amid a whole society that is to intermingle with several words that say the same thing. In this sense, it is clear to recognize that reading promotes knowledge and opens horizons of new meanings. It allows human beings to integrate, which is why it is essential to promote reading practices at very early ages in different contexts: family, school, and community.

Thus, it will depend on the initiative of each individual with respect to the interest of what he or she wishes to read, independently of whether the student has to read what corresponds to his or her academic formation, and that, of course, this is part of his or her interest in reading, and that also allows him or her to construct autonomy as a reader. All educational processes have as their ultimate goal to provide individuals with the necessary tools to achieve their autonomy, that is to say, the free, tolerant and responsible exercise of the capacity of choice that in real conditions subjects must have in any area of their lives. It is, therefore, a matter of generating the objective conditions to form empowered autonomous subjects. Among these situations, access to reading should be a priority.

In Mexico, Canton points out that:

All educational action must focus on the specific characteristics, needs, interests, aptitudes and skills of the learner, for the well-being of educational activity is a social and collective task par excellence and must be at the service of the particularity of the subjects and be oriented towards their well-being (2009: 98).

For this reason, it is worth reflecting that early reading stimulation should be generated in family environments, strengthening it in primary education so that students can reach higher-level education with all the reading skills that will consolidate their formation. In Mexico, as in other Latin American countries, numerous efforts have been made, not always successfully, to increase reading practice in daily life.

These efforts have not had the expected results, since they are imposed on the educational reality as a circumstantial policy, without taking into consideration the fundamental task of analyzing the history of the formation of readers in our country, and if this formation had the intention that we recognize today as legitimate to form, through reading, autonomous subjects; that is, subjects capable of reading freely and reflectively. The importance of its realization is recognized since, in higher-level education, we continue to find severe problems concerning reading in which students have pointed out their difficulties in understanding academic texts.

Conclusions

Finally, we could consider that reading as a social practice cannot be limited to see it as a simple activity; because "practice" is a concept which means that the activity in question is socially regulated. Like any practice, reading is something placed under the influence of social coercion, as something determined in its different modalities, this means that the different dimensions of reading practice vary according to social factors, that these variations and their regularity are not reflected because social regularity is only reflected in a statistical plan, to the free play of their preferences, of their tastes; on the contrary, they are springs of subjectivity itself, preferences, tastes, those that carry the trace of social coercion, so that the subjects are not the true actors of their practices, but the supports of a social logic that surpasses them, that overflows them and is manifested in the orderly distribution of their practices.

It is important to mention that since reading is a competence taught and learned, and that constitutes one of the minimum indispensable skills for learning, its inclusion in the field of education is natural. In this sense, we could say that since education is the vehicle for the incorporation of subjects into the social pact, it also constitutes the privileged means for citizenship as the result of a training process aimed at the incorporation into social life with rights and duties, following the realization of responsibilities that guide social life.

References

Barbero, Jesús, M. (2005). Desentrañamiento del libro y estallido de la lectura. Ponencia presentada en el III Congreso Nacional de Lera. Bogota, Colombia.

Cantón, Valentina. (2009). Historia de la lectura en México, hacia la formación de lectores autónomos primera parte.

Guiddens, Anthony. (2009). La Globalización y el mundo en procesos de cambio. En Sociología. Madrid, Spain: Alianza Editorial.

Gutiérrez, A. (2010). "Creación multimedia y alfabetización en la era digital". In aparici. R. (coordi.). Educomunicación Barcelona: Gedisa.

Oseguera, E. y Chávez, P. (1991). Taller de Lectura y Redacción 2. Mexico: Cultural.

SEP (2007- 2012) Programa sectorial de educación. Mexico

Viñao, A. (2007). "Modos de leer, maneras de pensar". Lecturas intensivas y extensivas. Ethos Educativo. 40, september/december, 42-7

Bruxism, stress and anxiety in young people

Bruxismo, estrés y ansiedad en jóvenes

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Abstract

Introduction. The bruxism is the act of clenching and/or grinding the teeth, a habit that compromises the orofacial region. It is often associated with emotional aspects, such as anxiety and stress, and can lead to alterations in orofacial structures, functional modifications and social repercussions. (1). The etiology of bruxism is unclear, but the condition has been associated with stress, occlusal disorders, allergies and sleep positioning. (2). Objective. To determine the relationship between bruxism, stress and anxiety in university students of the Universidad Veracruzana. Methodology. We conducted a descriptive, observational, cross-sectional study in students of the Faculty of Engineering. Evaluation instruments were applied to measure anxiety, stress and the presence of bruxism, as well as the clinical examination that allowed to diagnose the presence of manifestations of bruxism. Contribution. Comparing the level of stress and anxiety of the individuals who presented dental damage and those who did not present it, no significant differences were found between the two groups, which confirms the uncertain etiology of this pathology. However, it is essential to note that the study was carried out in university students and that at an early age, they present important manifestations of bruxism.

Bruxism, Stress, Anxiety

Resumen

Introducción. El bruxismo que es el acto de apretar y/o rechinar los dientes, un hábito que compromete la región orofacial. A menudo se asocia con aspectos emocionales, como la ansiedad y el estrés , y puede dar lugar a alteraciones en las estructuras orofaciales, modificaciones funcionales y repercusión social. (1) La etiología del bruxismo no está claro, pero la condición se ha asociado con el estrés, trastornos oclusales, las alergias y el posicionamiento del sueño.(2). Objetivo. Determinar la relación entre bruxismo, estrés y ansiedad en los estudiantes universitarios de la Universidad Veracruzana. Metodología. Se realizó un estudio descriptivo, observacional, transversal. En estudiantes de la Facultad de Ingeniería. Se aplicaron instrumentos de evaluación para medir ansiedad, estrés y la presencia de bruxismo, así como la exploración clínica que permitiera diagnosticar la presencia de manifestaciones de bruxismo. Contribución Comparando el nivel de estrés y ansiedad de los individuos que presentaron daño dental y los que no lo presentaron, no se encontraron diferencias significativas entre los dos grupos, lo cual confirma la etiología indefinida de esta patología. Sin embargo es importante señalar que el estudio se realizó en jóvenes universitarios y que a temprana edad presentan manifestaciones importantes de bruxismo.

Bruxismo, Estrés, Ansiedad

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Introduction

A habit can be defined as practicing the same act unconsciously with variation in intensity and frequency. When a habit is present, a behavior pattern can be established, which is fixed by repetition and continuity, with an attitude that lacks control of consciousness itself. Many young students, unable to calm or control their anxiety, do not know how to resist their distress and generate repetitive habits or behaviors to release tension.

Some authors refer that parafunctional oral habits are repetitive functions of the masticatory system, often subconscious, different qualitatively and quantitatively from their physiological function. Bruxism or tooth grinding constitutes a harmful parafunction for the masticatory system. If we consider the great forces that can be exerted on the teeth and joints during their parafunctional activity, permanent damage to the associated oral structures is evident. Some young people who present bruxism may present symptoms of painful temporomandibular joint dysfunction, while others may present deterioration of the periodontal structures or excessive wear of the teeth.

There is no doubt that bruxism is directly related to psychic tension and frustration. (Martinez, 2002).

There is evidence that bruxism is aggravated when muscular hyperactivity is increased. That is why it is considered unreasonable that an adjustment of the occlusion would cure the habit when the dominant factor is stress. Patients with bruxism exert tremendous occlusal force and spend most of their time with their teeth clenched, which increases an overload on any restoration.

Sleep bruxism and waking bruxism are common conditions among adolescents, with prevalence rates of subjective perception being slightly higher than those derived from most large-scale studies on adults. (Van Selms MK, 2013)

Bruxism and its relationship to stress and anxiety

Bruxism, also known as "occlusal neurosis," shows how dentists have begun to link neurosis with the appearance of bodily disorders over the past decades.

There are different ways of reacting, some more fragile and more sensitive organs in front of the consequences of an emotional state, there could be many examples, but in all cases, there is a unique psychosomatic matrix.

People with oral habits like bruxism are trying to eliminate the tension produced by the stress and anxiety caused by the pressures of everyday life.

A person can unconsciously use a defense mechanism that makes life more tolerable. Basic needs such as shelter and food may be instinctive but, since they are now partially met by society, secondary or social motives and desires become dominant, such as recognition, superiority, love and ego gratification.

If the individual does not achieve the desired success concerning these desires, he feels frustrated, and this frustration leads to the formation of tension. Many situations in modern society promote feelings of maladjustment.

Because of these social restrictions, an individual may not be able to discharge prolonged or intense emotional stress through physical or verbal activity. Anxiety, anger, or fear suppressed by the individual, which cannot be expressed openly, are the most common causes of stress. Psychological stress must be released, or it will become intolerable, leading to pathological states of anxiety, and the individual will become mentally ill. One method used to dissipate stress and anxiety is bruxism.

Symptoms of Bruxism

Bruxism may have one or more of the following clinical signs and symptoms:

- Facets of damage on the teeth (dimples on the occlusal surfaces of the back teeth).
- Excessive and uneven occlusal and/or incisal damage.

- Increased muscle tone and resistance to jaw manipulation.
- Hypertrophy of the masticatory muscles, especially the masticatory and temporal muscles.
- Increased mobility of the pieces, without apparent parodontopathy.
- Tooth migration.
- Dull percussion sound.
- Feeling of tiredness in the chewing muscles, when waking up in the morning.
- Locking of the jaw, tendency to bite the lips, cheeks or tongue.
- Chewing muscles sore on palpation.
- Pain or discomfort in the temporomandibular joints (spontaneous or caused by palpation)
- Chewing and/or swallowing with toothache.
- Pulp sensitivity to cold, sweet or sour.
- Audible sounds of bruxism (these do not always occur and are usually referred to by family members or people close to them).

Methodology to be developed

This is an applied, observational, transversal and prospective study carried out at the Faculty of Engineering of the Universidad Veracruzana, Veracruz region, in the period between February and August 2018, with a sample of 250 students between 18 and 25 years old, belonging to different socio-economic strata. We implemented a probabilistic sampling.

General Objective

To determine the relationship between bruxism, stress and anxiety in university students of the Universidad Veracruzana.

Instruments used

Clinical history

The dental clinical history is a medical-legal instrument, of great utility for the personnel of the area of the health in the study of the patients. Test of Attitudes that Cause Stress (Batista, 2007). The test is aimed at reflecting on the degree to which each person is a stress-provoking agent in themselves. It was elaborated by Dr. Jorge Grau A. It consists of a series of reagents that the subject must evaluate with the frequency that occurs to them.

The result of the questionnaire allows the classification of the subjects in the following groups: a) high stress (88-116 points), b) moderate stress (59- 87 points), c) soft stress (30-58 points) and d) low stress (29 points or less). Experiential self-report (Batista, 2007) consists of presenting the subject with a list of terms that express emotional states that can be experienced at any time, one of them being Anxiety. The subject must evaluate each of the terms according to the degree or level of depth or intensity with which he or she experiences them, such as little, moderate or intense anxiety.

Results

Comparing the level of stress of individuals who had dental damage and those who did not, no significant differences were found between the two groups. As shown in table 8, in both groups, the trend was towards "moderate stress," followed by "mild stress." Among the patients who did not present dental damage, only one subject was observed in the extreme levels of stress, i.e. "high" and "low."

About the level of stress manifested by the students, we found that 62.8% of the subjects who presented dental damage were among those who manifested "moderate stress" and 37.2% in "mild stress." It is important to point out that 46.9% of the total population that manifested "moderate" stress has dental damage, as well as 52.3% of those who present "soft" stress.

Subjects with dental damage presented a mean of 56.16 ± 9.96 (SD) on the anxiety test. This mean was not statistically different from the one found in the subjects without bruxism: 56.25 (t = -.073, gl = 248, p = .942 n.s.)

Occlusal wear, stress and anxiety

When comparing the level of stress between the subjects who presented occlusal damage and those who did not, no significant differences were found between the two groups. As shown in table 9, in both groups, the mode was at the level of "mild stress," followed by "moderate stress." Among the patients who did not present occlusal damage, only one subject was observed in the extreme levels of stress, i.e. "high" and "low."

It is important to point out that the students who presented bruxism independently of their gender, 44.8% (n = 112) presented bruxism, and 55.2% (n = 138) did not present bruxism. These results are shown in Table 2, as well as the percentage of students who presented dental grinding and clenching. It is important to note that 88.8% (n=222) in the case of grinding and 75.2% (n=188) in the case of clenching, do not know if they present it.

Subjects with occlusal damage had a mean of 56.48 ± 9.71 (SD) on the anxiety test. This mean was not statistically different from that found in subjects without occlusal damage: 56.09 (t = .279, gl = 248, p = .781 n.s.)

Conclusions

Bruxism is identified as a pathology of undefined etiology, but it is closely related to the emotional state, stress management and stressors among young people. We consider in this study that it is related to the state of mental health of students. Moreover, it is necessary to promote at university level real programs of prevention and attention for the needs of Mental Health of our students.

Consequently, it can be concluded that:

–   A significant part of the population studied was diagnosed as bruxers, who are very young, and this constitutes a fundamental data for the health of the economically active population of the country in some years, which was also presented independently of gender.
–   The presence of stress and anxiety in bruxist and non-bruxist patients did not represent a statistically significant data. This leads us to the theory of multifactorial etiology, which is not very specific to this pathology.

References

Alves, AC; Alchieri, JC; Barbosa, G.A. 2013. El Bruxismo, implicaciones de la masticación y la ansiedad. Acta Odontológica Latinoamericana. 26 (1): 15-22

Batista, M; García, O; Pérez, G. (2007). "Repercusión estomatognática del bruxismo como somatización del estrés". Revista electrónica de portales médicos.com. September 2007.

Capetillo-Hernandez, G.R, Torres-Capetillo, E. G, Tiburcio-Morteo, L., & Flores-Aguilar, S. (2018). Mejoramiento de la salud integral de los estudiantes universitarios a partir de la educación y atención de la salud oral. Revista de Técnicas de, 6.

Martinez R.E. (2002). Rehabilitación y Reconstrucción Oclusal. Mexico DF. Ediciones Cuellar

Murali, RV; Rangarajan, P; Mounissamy, A. (2014). El bruxismo: discusión conceptual y revisión. Journal of Pharmacy & BioAllied SciencesApril; 7 (Suppl 1); S265-S270

Van Selms MK , Visscher CM , Naeije M , Lobbezoo F *El bruxismo y factores asociados en adolescentes holandeses.* 2013 Comunidad Dent Oral Epidemiol 2013 Aug; 41 (4): 353-63. doi: 10.1111 / cdoe.12017. Epub 2012 Nov 3.

Article

Higher Education in a scheme of Social Responsibility towards the change of paradigm

La Educación Superior en un esquema de Responsabilidad Social hacia el cambio de paradigm

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Abstract

Technological development has brought about significant positive and negative global changes, including environmental degradation, human rights, the concentration of wealth, and increased poverty. That as a whole has resulted in the loss of human consciousness towards care and responsibility for the environment and sustainability. In some cases, out of ambition and in others out of necessity. The present study has the objective of showing that in the majors of Higher Technical University and Engineering, the study plans have been gradually incorporating into their plans and programs subjects that promote awareness of Social Responsibility (SR) among the university community, an effort that can be strengthened with other tools such as the NMX-SAST-ISO:26000 Standard, which is a guide to lead cross-cutting strategies and systematize the actions implemented by Higher Education Institutions (IES). In order to carry out this research, we used the longitudinal comparative method. The results of this research are divided into two moments; in the 2009 study plans in which they only incorporated up to 20 percent of topics related to Social Responsibility in the Business and Administration plans of the Technological University Subsystem. In a second moment, the 2017 study plans were analyzed, in which a significant advance is observed since 32 and 48 percent respectively of the study plan is incorporated into the business and administration subject sheets. To complement the research, a survey was carried out with the students in 2018 regarding the level of knowledge and management of concepts related to Social Responsibility, in which 75 percent of the students interviewed have at least a general idea of the subject.

ISO26000 Standard, Education, Social Responsibility, Technological Universities

Resumen

El desarrollo tecnológico ha logrado grandes cambios globales positivos y negativos, entre ellos se encuentra el deterioro ambiental, los derechos humanos, concentración de la riqueza y mayor pobreza. Que en conjunto se ha traducido en la pérdida de conciencia humana hacia el cuidado y responsabilidad sobre el medio ambiente y la sustentabilidad. En algunos casos por ambición y en otros por necesidad. El presente estudio tiene como objetivo mostrar que en las carreras de Técnico Superior Universitario e Ingenierías, los planes de estudio poco a poco han ido incorporando a sus planes y programas de estudio temas que fomenten la concientización de la Responsabilidad Social (RS) entre la comunidad universitaria, esfuerzo que se puede fortalecer con otras herramientas como la Norma NMX-SAST-ISO:26000, siendo esta una guía para orientar las estrategias transversales y sistematizar las acciones implementadas por las Instituciones de Educación Superior (IES). Para realizar la presente investigación se utilizó el método comparativo longitudinal, los resultados de esta investigación se dividen en dos momentos; en los planes de estudio de 2009 donde solo incorporaron hasta 20 por ciento de temas relacionados con la Responsabilidad Social en los planes de Negocios y Administración del Subsistema de Universidades Tecnológicas. En un segundo momento se analizaron los planes de estudio de 2017 donde se observa un avance significativo ya que se incorporan a las hojas de asignatura de negocios y administración entre el 32 y 48 por ciento respectivamente del plan de estudios, para complementar la investigación se realizó un sondeo a los alumnos en 2018 respecto al nivel de conocimiento y manejo de conceptos relacionados con la Responsabilidad Social dando como resultado que el 75 por ciento de los alumnos entrevistados tienen al menos una idea general del tema.

Norma ISO26000, Educación, Responsabilidad Social, Universidades Tecnológicas

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Introduction

The recomposition of the world economic model and the technological changes bring beneficial results to society, but also society is more aware of the deterioration of the environment, as a result of the excessive ambition of capitalism. Hence, in recent decades there are demonstrations and movements in favor of the care and conservation of natural resources, so it is urgent to change society towards a responsible behavior in order to achieve sustainable development, for which organizations seek strategies that allow a better coexistence between citizens, government, businesses, consumers, industry, workers, NGOs, universities, academia, and other stakeholders.

Background

At the international level since 2000, the United Nations Global Compact (UN, 2018) calls on companies worldwide to align their operations and strategy based on universal principles in the areas of environment, anti-corruption, human rights among the most important objectives, where approximately 135 countries participated in a voluntary initiative of corporate responsibility. To this end, the Management Model of the UN Global Compact's labor principles was created to guide companies in formalizing, defining, implementing, measuring, and evaluating a sustainability strategy.

Later in the International Organization for Standardization (ISO) with the participation of 90 countries and 40 organizations, formed in six groups of stakeholders including consumers, government, industry, workers, non-governmental organizations (NGOs), services, support, research, academia, and others worked in just over five years to make agreements and achieve balanced participation between groups, countries, and stakeholders, and under the methodology and format ISO was integrated, approved and published the ISO 26000:2010, in Geneva Switzerland.

In Mexico also worked on the issue through the Mexican Institute of Standardization (IMNC) who is the entity authorized to develop, update, issue and cancel Mexican standards, including the NMX-SAST-26000-IMNC.

Which involved the Technical Committee of National Standardization Systems Administration of Safety and Health at Work, IMNC/CONTENNSASST, Subcommittee 4 (IMNC, 2011) in the development of the guide to Social Responsibility participated 42 organizations from different productive sectors, businesses, universities, public and private institutions, and NGOs; This subcommittee worked together with its counterparts in other countries to integrate the ISO 26000 Social Responsibility Guide.

The ISO 26000 is a voluntary standard, it is a guide of postulates and recommendations, about definitions, principles and related materials, referred to the Social Responsibility, unlike other standards it is not certifiable since it does not establish requirements to develop a management system.

The standard provides guidance on the principles that govern Social Responsibility. It is a guide that allows the recognition of Social Responsibility, the involvement with all stakeholders, including educational institutions, businesses, and government.

The concept of Social Responsibility (SR) has been addressed with greater relevance, from 2014, this being the thematic axis of the World Conference on Education, which had as its central theme Sustainable Development (UNESCO, 2014) so that higher education acquired an important role regarding the issue of Social Responsibility and sustainable development, incorporated by the Mexican government as part of public policy.

Given such an approach, it is necessary to develop other pedagogical models or actions that succeed in making university students aware of a scheme of values that allows them to change their behavior in a socially responsible university and that, upon graduating, also transfer the philosophy to companies under the concept of social responsibility, actions that should be formalized in the maps and study programs. The present study aims to show the results of comparative analysis between the plans and sheets of subject 2009 and 2017 of the area of administration and business that promote social responsibility as part of the professional skills of students; among them are a) engineering development and business innovation 2009, b) Technical University (TSU) in Administration Human Resources area 2009.

c) Technical University (TSU) Business Development Marketing area 2009 and TSU in Administration Human Capital area 2017 and TSU Business Development Marketing area (2017).

Approach to the problem

Today, people's needs are different, other than economic needs, they belong to another market segment, more demanding with other consumption requirements based on the care and conservation of the environment as a lifestyle that has gradually spread throughout the world, this being a trend among the population that is showing more and more responsibility to their society and the environment around them. Paraphrasing Cicero, who from ancient times emphasized the duties that are natural to man, they give rules to lead an orderly and honest life. At the same time, the law and justice allow for equal rights of citizens; likewise, the rules guide and orient people, organizations, markets to facilitate coexistence and reach agreements in a scheme of social responsibility.

Social Responsibility is a commitment, obligation, and duty that individuals, members of a society or company have to achieve a fairer society and protect the environment voluntarily. The issue of Social Responsibility has taken significant importance in recent decades worldwide as a project and initiative of the United Nations that aims to promote universal values and responsible business in the world. In our country since 2005, the Mexican government in its three levels of government incorporated into their programs policies and actions related to work in the region of the Global Compact (GC) (ECLAC, 2019) require further impetus and strengthening for which it needs the participation of government, companies, and Institutions of Higher Education who carry out change in an orderly, gradual and systematic way. As Senge (1992,p,91) states "systematic thinking is a framework to see interrelations instead of things, to see patterns of change instead of static snapshots" in this sense education is one of the primary agents of change in the behavior and transformation of individuals and societies (Munch,2018). Faced with such changes and demands, the question arises: What are Higher Education Institutions in Mexico doing to promote Social Responsibility? When the objective of Social Responsibility is to contribute to sustainable development.

Because of this need, this research was carried out to analyze, according to the curricular maps of the Division of Business and Administration, the cases in which subjects related to Social Responsibility are taught.

Likewise, a pilot diagnosis was carried out during September-December 2018 among the students of Higher Technical University, Human Resources (30 students), business development and marketing (32) and Engineering, development and business innovation (60), regarding the knowledge they have on the subject of Social Responsibility. It was concluded that 75 percent of the students have basic knowledge regarding Social Responsibility and related topics such as being in harmony with the environment, human rights, ethics and governance, transparency, orderly production practices, and green companies that say that companies should be committed to harmonizing economic capital. It was observed that the majority of students know the concept; however, they lack tools, strategies, and fundamentals on the implementation of actions that improve the conditions of their environment.

The importance of education and social responsibility

The technological advances have allowed significant transformations, eliminating frontiers in terms of information in real time, new needs arise, professions appear and disappear, life and consumption patterns, that is, we live in constant change. However, not everything is positive. It has some inconveniences and economic, social, political, cultural, demographic, legal and environmental implications, the latter being the factor with the greatest impact that should be considered as a starting point for raising awareness among the population towards the rescue, conservation, and care of nature, which is the source of life.

Hence the importance of seeking means and strategies that allow for the involvement of the entire population through education, as Delors would say (1997,p.9), "Education is an indispensable instrument for humanity to progress towards the ideals of peace, freedom and social justice." Today we must prepare children and young people who will transform the world of tomorrow.

Surely many of them will be the ones who will lead companies and with them will consciously seek to improve the relationship with customers, suppliers, government, workers, other companies in order to achieve positive change in the community and make a fairer world (op cit).   Education allows people to become aware of themselves and their environment, inviting them to play their social role in the workplace and the community. Therefore, social responsibility must go hand in hand with education from childhood within the family, with the promotion and practice of values, reaffirming them at school.

Education refers to the process through which man is formed and led to his plenitude. Another concept refers to the work of formation that adults exercise on youth and in the strictest sense, it focuses on the task that schools and universities carry out (Maritain, 2008) to make better people. However, Higher Education has been dedicated to developing technical competencies making the graduates competent professionals, but with significant deficiencies of values and ethics, actions that are observed in the impact of the work and social environment. For this reason, as of 2014, Higher Education should take on a different role, aimed at incorporating the subject of Social Responsibility and/or sustainable development into the study plans and designing some subjects as good intentions but in an isolated manner.

Material and method

In this work, the subsystem of Technological Universities is taken as a reference, and for its analysis, three Educational Programs were reviewed, in which professionals in administration and business are trained. To carry out the present study, we used the longitudinal comparative method (Münch 2018) and the use of qualitative and quantitative data was made in two stages. In the first one, we made a documentary review of the topic of Social Responsibility for the plans and educational programs 2009 and 2017. We identified those subject sheets containing topics related to social responsibility. Then we carried out a comparative analysis between the 2009 and 2017 curricula in order to identify the subject sheets, the contents of which promote and develop professional competencies with an orientation towards social responsibility.

In a second stage, information was obtained with the engineering students, TSU Marketing and TSU Human Capital through a survey (Rojas, 2016) to find out the students' opinion regarding the level of knowledge and use of concepts related to Social Responsibility and its application in the work and tasks they developed during their training.

Results

Once the analysis of the Curricular Map of three educational programs of Business and Administration belonging to the subsystem of Technological Universities and the subject sheets of the study plan and application of the survey was done, we found the following results: In the integral formation of the students of the model of Technological Universities, all of them make the practical stay during the last four-month period (sixth for TSU and eleventh for the Engineering Plan) in a public or private company where they put into practice what they have learned in the university; when analyzing the plans of the three curricula of 2009, we found that the TSU curriculum in Human Resources Management is the one that incorporated the least amount of topics related to Social Responsibility since it was observed that only 19 percent of the total number of course sheets incorporated related topics, and the other two programs incorporated 21 and 23 percent of the total number of courses.

As of 2009, the study plans of the business and administration area incorporated some topics related to Social Responsibility in some subjects but in an isolated manner, which means that until that moment it was not relevant even though there were already international agreements between the Mexican government and the United Nations, for which programs, policies and actions related to work in the Global Compact (GC) region (ECLAC, 2019) were implemented. On the other hand, the 2017 study plans were reviewed and updated by the General Coordination of Technological and Polytechnical Universities (CGUT) of the TSU Administration Human Capital area and TSU Business Marketing area programs, showing a significant change of between 48 and 32 percent respectively in terms of the incorporation of more subjects to the study plan related to Social Responsibility in each of the SPs analyzed.In the case of Engineering in Development and Business Innovation it remains the same because the study plan has not been updated by CGUT, see table 2 and 3.

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Name of Educational Program	Curriculum September 2009	Name of Educational Program	Curriculum September 2017	Practical stay
TSU in Administration	19 % includes the subject of SR	TSU in Administration Human Capital Area	48 % includes the subject of SR	Companies
Human Resources Area	21 % includes the subject of SR	TSU Business Marketing Area	32 % includes the subject of SR	Public Private NGO
TSU Business Marketing Area	23 % includes the subject of SR	Development Engineering and Business Innovation	No change	
Development of professional skills				

Table 1 Distribution of the percentage of the study plan that incorporates subjects to promote Social Responsibility
Source: Elaboration with data taken from CGUT 2009 and 2017 curricula

As can be seen in Table 2, in all areas of knowledge of the curriculum of the Higher Technician in Management area Human Capital 2017, at least one subject includes topics related to Social Responsibility and sustainable development. However, in the second and third quarters, related topics are included in 7 subjects of each quarter. Likewise, of the total of 41 subjects that make up the curriculum, 20 of them include topics related to the promotion of Social Responsibility and sustainable development, it is worth noting that all the subject sheets of the curriculum are designed with the model of competencies: knowledge, know-how and how-to-be, in which ethics and human values are promoted.

Area of knowledge	Subjects	Estadía práctica
Basic Sciences	Computing, Financial Mathematics, Statistics applied to Administration	Application of the competences developed Being Knowledge Know-how
Technology Training	Models of Organizational Development, Research Methodology, Intermediate Accounting, Fundamentals of Economics, Sustainable Development, Integrating I and II, Analysis and Interpretation of Financial Statements, Organizational Legislation, Strategic Planning, Financial Planning	
Languages and Methods	Oral and Written Expression I and II	
Management Skills	Socio-cultural Training I, II, III and IV	
Professional skills	Social Responsibility	

Table 2 List of subjects teaching sustainable development and social responsibility TSU Human Capital Area
Source: Elaboration with data taken from CGUT 2017 curricula

On the other hand, we also analyzed the curriculum of the Higher Technical University Business Marketing area, composed of 40 subjects, in this major we can see that in three quarters the subject sheets are included in 25 percent. It is important to mention that in the fourth four-month period, 50 percent of the subjects include SR-related topics, and on average, the study plan considers 32 percent of the total (see Table 3).

Area of knowledge	Subjects	Estadía práctica
Basic Sciences		Application of the competences developed Being Knowledge Know-how
Technology Training	Market Research System I and II , Labour Legislation, Promotional Mixture I, International Marketing	
Languages and Methods	Oral and Written Expression I and II	
Management Skills	Socio-cultural Training I, II, III and IV	
Professional skills	Social Responsibility	

Table 3 List of subjects that teach topics related to sustainable development and social responsibility of TSU Business Development Marketing Area in professional skills
Source: Elaboration with data taken from CGUT 2017 curricula

It is a great advance that educational programs include related topics to raise awareness among students and teachers, who are an important element for the transformation of society (Delors, 1997). Currently, all the curricula of Higher Education Institutions (HEI) incorporate topics related to sustainability and social responsibility.

Education is one of the most important means to carry out social transformations since it links individual, social, demographic, cultural, economic, political, scientific, legal and biotic elements, which as a whole become complex in the coexistence of human beings and social development. At the same time, the instances related to the evaluation of educational programs implement indicators that attend to the initiatives of UNESCO in 1992, with the objective of permeating the HEI with Social Responsibility, ethical commitment, environmental care and economic development (UN, 2015), as is the case of the Council for Higher Education Accreditation COPAES, AC.

Which is the body or the superior instance accredited by the Mexican government to operate through accredited bodies, mechanisms of evaluation, systematic and voluntary follow up of the fulfillment of the university functions of the IES in a process of improvement through the fulfillment of criteria, indicators and standards of pertinence, and educational quality (COPAES, 2018) has incorporated into its evaluation indicators in the category Curriculum, subjects related to values and attitudes of professional ethics, knowledge about the economic, political and social environment, national and international, development of skills to work in multidisciplinary groups, promotion of quality culture, integrate knowledge about sustainable development, indicators that require attention by the IES, for which the latter must formally implement in their curricula issues and actions that lead to meet these requirements, but to the extent that the actions are systematized allowing transit to the awareness of the university community.

On the other hand, the participation of other actors such as the National Association of Accounting and Administration Faculties and Schools (ANFECA), as of 2015, is carrying out actions aimed at strengthening and promoting social responsibility among public and private HEIs through the awarding of a distinction called "University Social Responsibility," which aims to provide tangible evidence of the educational impact on the generation and application of organizational, environmental and social knowledge for sustainable human development (ANFECA), 2018), this award is valid, so it must be renewed every three years, from 2016 the IES participate in the evaluation process to achieve the award, in this process they managed to obtain the award 36 IES, for 2017 joined 15 more institutions, strategies that seek to systematize actions to promote the dissemination and awareness of the university community towards a culture of environmental care, ethical commitment, economic development to improve environmental conditions and community.

The companies do the same since they participate in evaluation processes where they are asked to comply with specific criteria to receive the Socially Responsible Company Distinction (ESR), a certificate granted by the Mexican Center for Philanthropy (CEMEFI) since 2001.

Which recognizes the brand and accredits the company to its workers, investors, customers and suppliers, authorities and society in general as an organization voluntarily committed to a socially responsible management as part of its culture, which are grouped into four strategic lines of the distinctive among them the ethics and corporate governance, quality of life in the company, the linkage and commitment to the community, care and preservation of the environment, currently in Mexico there are 1126 companies with this distinction (CEMEFI, 2019).

At present, Corporate Social Responsibility (CSR) is taking great importance at a global level. It has become a central policy where the main agents of change are people; in this regard, Bernardo Kliksberg says that CSR allows stability and improves the employment situation of employees, the business climate, but above all, generates trust with each other, is a win-win investment, we must include small businesses (MSMEs) that need training and work to change their culture, it is in this sector where HEIs have much to contribute from the awareness in the care of the environment, social development and economic aspects that surround us.

It should be noted that global companies have incorporated the concept into their practices, while governments (local, state and federal) have implemented issues such as accountability, transparency, gender equity (Moran, 2017) in theory programs aimed at this issue; however, their implemented actions are isolated and compliance with a "mandatory" regulation to promote social responsibility among the population.

Discussion/Conclusion

Given the importance that higher education institutions imply in the formation of their students on Social Responsibility, it is pending to analyze how future leaders will promote the development of society through the creation and formation of social capital. Due to the multiple needs that these institutions have, mainly the public ones on the economic supports, it can be a factor against to be limited and to fulfill the sense of Social Responsibility and critical towards the public and private entities, according to the codes and standards of the sustainable development.

From the extension and diffusion in the institutions of higher education and the ethical formation of the students, efforts should be made so that this knowledge truly reaches society.

From the analysis of results, it can be said that Technological Universities, over time, have become more involved with Social Responsibility and have taken necessary but insufficient actions to achieve significant changes in the environment.

However, such strategies are not enough; a greater impulse and strengthening on Social Responsibility and sustainable development is required. The participation of all sectors is vital for change, government, companies, and Educational Institutions at all levels, including the level.

Higher Education Institutions are engines of change and have an essential role in the transformation and paradigm shift in the issue of doing business under a different approach towards cleaner economies in order to restore the damage caused to the environment, which is the result of economic activity. Currently, ANFECA has made its best effort to promote actions aimed at strengthening the issue of Social Responsibility among public and private institutions through the creation of a certificate on University Social Responsibility. Social Responsibility should be mandatory in all HEIs, as part of the quality policy through the implementation of the Social Responsibility guide NMX-SA-ST-2600-IMNC, see Figure 1 as a starting point and reference.

Figure 1 Fundamental subjects oriented towards Social Responsibility
Source: Taken from Norma Mexicana Guía de Responsabilidad Social NMX-SAST_26000-IMNC-2011

The guide aims to lead the strategies, actions for compliance with the principles (accountability, transparency, ethical behavior, respect for the interests of stakeholders, respect for the principle of legality, respect for international standards of behavior and respect for human rights) that govern Social Responsibility and involvement with all stakeholders citizens, government, business, consumers, industry, workers, NGOs, universities, academia, and others.

Proposal

As can be seen in diagram 1, the fundamental issues regarding Social Responsibility considered in the guide are, in practice, addressed by each of the institutions interested in promoting a sense of Social Responsibility, including COPAES, ESR, ANFECA, among others.

Likewise, it is important to emphasize that it is within the family that there is a great responsibility, mainly concerning the teaching and guidance of parents towards their children, in coordination with schools, chiefly those of a basic level, since it is during the first years of education that children develop their capacities for integration and care of the environment in order to continue with the education of a higher secondary level and higher education, regulated by the federal government.

Undoubtedly, the Mexican government, as the entity in charge of bringing education closer to society, has a significant role, since through educational policies, and more specifically in the content of its curricula, it has the obligation and responsibility to include subjects related to Social Responsibility.

This is followed by companies that consider themselves as agencies or organizations in charge of producing goods and services to meet the needs of different markets, with the commitment to carry out their different productive activities, but with Social Responsibility, that is, they must be concerned with the care of the environment sustainably among their workers and society.

Finally, society will reflect the whole process of teaching and learning in relation to the sense of Social Responsibility of the children carried out throughout life, as Delors says.

MORÁN-BRAVO, Luz del Carmen, DE SAMPEDRO-POBLANO, Héctor Manuel, OSORIO-GÓMEZ, Ricardo and HERRERA-SÁNCHEZ, Gustavo. Higher Education in a scheme of Social Responsibility towards the change of paradigm. Journal-Spain. 2019

So that everyone can understand the growing complexity of global phenomena and master the sense of uncertainty that they create. First they must acquire a body of knowledge and then they must learn to put facts into perspective and to be critical of information flows. This is why education is irreplaceable in the formation of judgement. (1997, p.44).

In this sense, the Social Responsibility that is currently being promoted in Higher Education Institutions is, to a certain extent, a change of paradigm. Technological Universities are institutions concerned with the issue in question and have taken essential but insufficient actions to achieve significant changes in the field. This can be constantly observed in the behavior of the acts and duties of each person, professionals, companies, institutions, and even the government, which leave much to be desired, for not fulfilling the mandate of Social Responsibility.

Because of this, the proposal is that the basis of any human behavior, both personal and collective, is the family, in coordination with education from basic to professional, the latter with all its principles and values that give it its reason for being and strength, and the commitment to disseminate and extend knowledge not only to its students, but to society in general, in order to affirm and reaffirm all that baggage of knowledge related to Social Responsibility.

This proposal can be observed in Diagram 2, in which the relationship between the different actors is established until arriving at the society that is another part of the base of Social Responsibility.

There is a need for pedagogical models that impact students with a sense of participation and that promote a change of paradigm, for example, strengthening the social service to which all students are obliged, but not all of them do so. The ISO 26000:2011 standard establishes that the objective of Social Responsibility is to contribute to sustainable development, concepts that are intertwined and to pursue one is to achieve the other, for which it is suggested that from the educational public policy the HEIs can adopt the Guide on Responsibility: ISO 26000 as a starting point and guidance to define actions, activities, and decisions in society and the environment (IMNC, 2011).
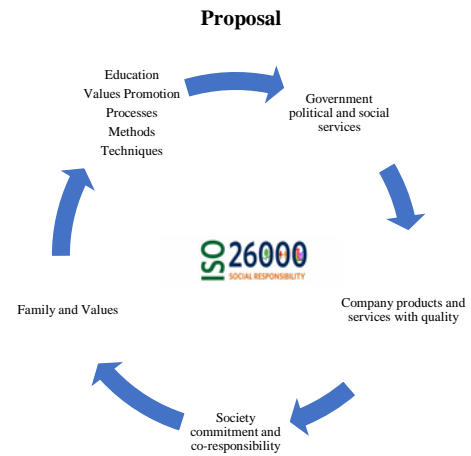
Figure 2 Relationship between the different responsible actors in the promotion of Responsibility
Source: Prepared by the authors

The ISO 26000 is a global guide for the application of best practices in Social Responsibility around the world. It establishes principles and fundamental issues that are the basis for the incorporation of Social Responsibility in the organization, thus fulfilling the following objectives:

a) To support organizations to establish, carry out, maintain and improve the structures of Social Responsibility in four phases, to know their characteristics and their relation with sustainable development; recognition of SR and stakeholders; to apply the seven principles and to consider the eight fundamental matters.

Finally, in order to make Social Responsibility part of the way of life, first of the individuals and then replicated in the different contexts, it is necessary that the educational policy incorporates, in addition to the curriculum maps, topics such as sustainability, corporate social responsibility, business, human rights, beneficial labor practices, accountability, ethical behavior, gender equality, transparency and coexistence values.

References:

ANFECA (2018) Consulted on December 28, 2018
http://www.anfeca.unam.mx/coordinaciones_re sponsabilidad.php

CGUT. (2017). Distribución cuatrimestral de la carrera TSU Desarrollo de negocios área Mercadotecnia. Plan de estudio vigente.

CGUT. (2017). Distribución cuatrimestral de la carrera TSU en Administración área Capital Humano Plan de estudio vigente.

CGUT. (2009). Distribución cuatrimestral de la carrera de TSU Desarrollo de negocios área Mercadotecnia.

CGUT. (2009). Distribución cuatrimestral de la carrera de TSU en Administración Área recursos humanos.

CGUT. (2009) Distribución cuatrimestral de la carrera de Ingeniería en Desarrollo e Innovación Empresarial en competencias profesionales, plan de estudio vigente.

CEMEFI (2019) Distintivo ESR, Retrieved February 5, 2019https://www.cemefi.org/esr/

COPAES (2018) Retrieved December 20, 2018 from https://www.copaes.org/acreditacion.php

Delors Jacques (1997) La educación encierra un tesoro, UNESCO, Ed. Dower internacional S.A de C.V

CEPAL. (January, 21, 2013). ENVEJECIMIENTO. Retrieved June 2, 2016, from www.cepal.org/celade/noticias/noticias/7/23867/pyden_5.pdf

IMNC (2011) ISO 26000:2010 Guía de Responsabilidad Social,NMX-SAST-26000-IMNC-2011 Mexico, DF.

Kliksberg, HNBernardo(s.f) Hacia Un Nuevo Paradigma en Responsabilidad SocialEmpresarial Retrieved January 4, 2019 from http://www.codigor.com.ar/Hacia%20Un%20Nuevo%20Paradigma.pdf

Maritain Jacques (2008) La educación en la encrucijada, Ed. Biblioteca Palabra

Morán, Bravo, L.(2017) Calidad de la Gestión en la Política Educativa del Subsistema de Universidades Tecnológicas, El Caso de la Universidad Tecnológica de Puebla. Tesis de doctorado en Administración Pública.

Münch Galindo, L. (2018) Capital Humano Ed. Trillas

ONU(2015) Transformar Nuestro Mundo: la Agenda 2030 para el Desarrollo Sostenible" Retrieved December 28, 2018 from http://www.onu.org.mx/agenda-2030/

Organización de las Naciones Unidas (ONU) 2018. Pacto Mundial de la organización de las Naciones Unidad. http//www.unglobalcompact.org/Languajes/spanish/index.html

Rojas, S. R. (2016). Guía para realizar investigaciones sociales. México: Plaza y Valdés.

Torres, Z. (2010) Introducción a la ética, México, grupo editorial patria.

UNESCO(2014) Conferencia Mundial sobre educación para el desarrollo sostenible, Consulted August 20, 2014 en http://www.unesco.org/new/es/unesco-world-conference-on-esd-2014/home/

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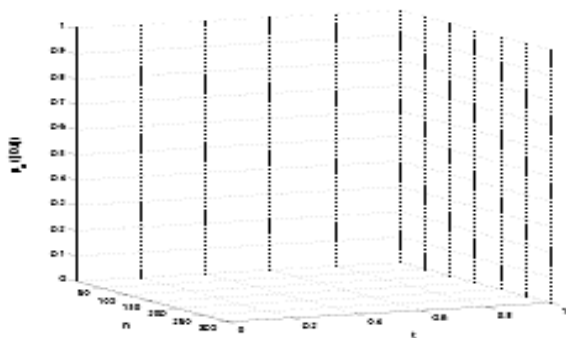
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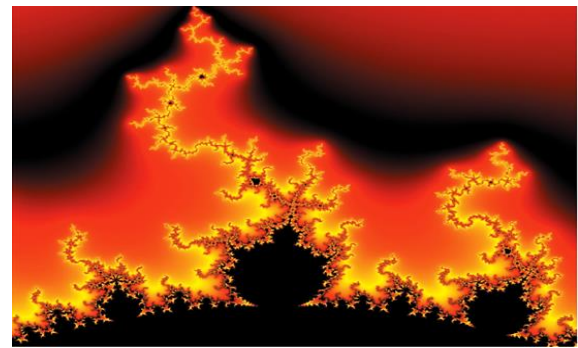
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