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In Pro-Research, Teaching and Training of human resources committed to Science. The content of the articles and reviews that appear in each issue are those of the authors and does not necessarily the opinion of the editor in chief.

In the first issue we present, *Preservation of health and good practices of personal hygiene and food in two communities of Yucatan, Mexico*, by CAAMAL-LEY, Ángel, VARGAS-GONZÁLEZ, Alberto, PUC-FRANCO, Miguel Ángel, HOIL-SANTOS, Jolly and ANDUEZA-PECH, Guadalupe, with secondment at the Universidad Autónoma de Yucatán, as a second issue, *Proposal of a comprehensive management plan for hazardous waste in a solvent distiller*, by GÓMEZ-BELTRÁN, Guillermina, PEDROZA-BENÍTEZ, Socorro, MARTÍN-DEL CAMPO, Ma. Guadalupe and GONZÁLEZ-GONZÁLEZ, Bernardo, with affiliation in the Universidad Tecnológica del Valle de Toluca, as terecr chapter we present, *ICTs to support the new Mexican educational model at a higher level*, by DELGADILLO, Mónica, with affiliation in the Universidad Tecnológica Fidel Velázquez, as the last chapter we present, *Experiences in the Development of Human Capital for Self-training*, by FERNÁNDEZ-GARCÍA, Luis Guillermo, RÍOS-RUBIO, Víctor Manuel and ARELLANO-BRIONES, Olimpia Danáe.

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## **Preservation of health and good practices of personal hygiene and food in two communities of Yucatán, Mexico**

CAAMAL-LEY, Ángel\*†, VARGAS-GONZÁLEZ, Alberto, PUC-FRANCO, Miguel Ángel, HOIL-SANTOS, Jolly and ANDUEZA-PECH, Guadalupe

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### **Abstract**

The environment and good practice of personal hygiene and food, play an important role in the preservation of health; it has protective factors such as having the basic resources (potable water, decent housing, clean air, food safety, among others) that help maintain an optimal state of health and quality; likewise, exposure to unfavorable conditions such as the absence of such basic resources, which negatively affects health, decreasing quality and life expectancy. Unhealthy foods are related to mortality, mostly children. Foodborne diseases (ETA) are a problem to be considered in a social, technological, economic, cultural and political context. It is known that travel, tourism and commerce increase its spread; Therefore, it is a recurring problem in developing countries, in which authorities, governments and other related institutions must conduct surveillance campaigns and continuous assistance in order to prevent dangerous situations that adversely affect the health of the population. WHO offers practices on the proper handling of food

### **Practices, Personal Hygiene, Food Hygiene, Health Preservation**

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## Introduction

The environment and good practices of personal hygiene and food and drink play an important role in the preservation of health; On the one hand, it has protective factors such as having the basic resources (drinking water, decent housing, clean air, food safety, among others) that help to maintain an optimum state of health and quality; On the other hand, exposure to unfavorable conditions such as lack of basic resources, negatively affects health, decreasing quality and life expectancy. Unhealthy foods are related to the death of at least 2 million people a year, mostly children, since food can be contaminated with bacteria, viruses, parasites and harmful chemicals, causing more than 200 diseases ranging from diarrhea until cancer (WHO, 2015).

Foodborne diseases (ETA) are a problem that must be considered in a social, technological, economic, cultural and political context, without diminishing the importance of health problems; we must take into account not only the already known pathogens (amebiasis, salmonellosis, poisoning, etc.), but also new and emerging pathogens that have now appeared and are resistant to antimicrobials. It is known that travel, tourism and commerce increase the spread; Therefore, it is a recurring problem in developing countries, in which authorities, governments and other related institutions, both public and private, must conduct surveillance campaigns and continuous assistance in order to prevent or correct dangerous situations. Affect the health of the population.

It is so important that the WHO offers practices on how to handle and prepare food: maintain cleanliness, separate raw and cooked foods, cook food thoroughly, keep food in safe temperatures and use water and safe raw materials (WHO, 2015; WHO, 2007, PAHO / WHO, 2005).

According to the 2012 National Health and Nutrition Survey, Yucatán is one of the first places in general cases of diarrhea, located in communities with poor hygiene in the preparation of food and is most often found in low-income households economic and high marginalization (ENSANUT, 2012).

The communities of Cantamayec and Mayapán are populations of high marginalization; In terms of material goods related to food preservation, most households do not have refrigerators; the educational level is low, mainly in women, so that knowledge about the importance of personal hygiene and the preparation of meals by housewives is little; Regarding the language, more than 50% of the population speak Mayan, a barrier of importance when the active participation of the population is wanted; some households still practice fecalism, a practice that is not favorable because it allows rapid and safe contamination of the food that the family will consume, so there is a lot of work to be done (CONEVAL, 2010, INEGI, 2004).

Jiménez (2008), Defez (2005) and Oseguera (2004), for their part, assure that it is very important to know the characteristics of a population before setting up promotion and prevention campaigns aimed at improving living conditions; Strategies should be based on knowledge of social reality and one of the most appropriate ways to know it is qualitative research, since the researcher can investigate the beliefs, practices and perceptions of people by exploring social relationships and describing the context as experienced by the population to order and logically relate the information. In this regard, research has been conducted such as those of Kopper, G. (2009), Calderón, G. (2009) and Schneider, S. (2009) that show case studies in Central American countries, with the aim of understanding the most salient aspects of foodborne diseases, their socioeconomic repercussions, the importance of food safety and the institutions involved.

Another such as Jiménez C. (2008) who conducted a qualitative study to describe the perceptions of families about eating habits and attributes of healthy eating. The experience in Yucatan has shown that there are practices that may be causing some cases of diarrheal diseases, such as contact with animals when preparing food, the limitations they have to prepare them since the meat is easily decomposed by high environmental temperatures ; the collection of the eggs of birds that is done directly in the yards and without care in their handling; Fruits and vegetables are not properly disinfected due to the low availability of detergents and other foods that are not stored properly due to the lack of refrigerators (Technical Report, 2015).

Therefore, the objective of this work was to identify the knowledge, customs, perceptions and beliefs of housewives and food preparers of two communities of high marginalization, on the hygienic handling of food, to prevent cases of diarrhea in children of 5 years and vulnerable groups.

## Methodology

The present study was conducted in 2016, in two communities of high marginalization in the state of Yucatan; the research was done from a qualitative approach, the instruments used to collect information about knowledge and customs were validated surveys that contained aspects related to practices used in the hygienic handling of food. In order to know the perceptions and customs of the communities, group and individual interviews were conducted. Informed consent was requested and common agreements were reached for free and informed participation, guaranteeing reliability. 25 people were interviewed in charge of the handling and preparation of the food, belonging to two communities of the East of the state of Yucatan, of high marginalization and predominance of the Mayan language in their habitual communication.

## Results

### Population

The study was formed by a total of 25 adults interviewed, of whom 21 were women and 4 men; It should be noted that, in these communities, men migrate during the work week to different cities in the state, due to work issues. The men interviewed do not migrate to other cities, since they are dedicated to providing services within the community, so they participate in the preparation of food. The age of those who participated was between 25 and 55 years.

Of the surveyed population, 82% completed primary education, while 18% have no studies. The houses are new constructions (concrete blocks), however, 27.3% do not have a kitchen where they can prepare food and 27.3% do not have a bathroom. 95.4% of the participants have backyard animals, such as chickens, turkeys, cats, dogs, pigs, etc.

### Knowledge

100% of food handlers have basic knowledge about hygiene, such as washing hands before handling food and after using the bathroom, washing fruits and vegetables before consuming or cooking them; that boiling the food guarantees its harmlessness (86.4%); that refrigeration prevents the growth of pathogens (86.3%); However, knowledge about other practices necessary to avoid contamination of food, such as that the cleaning rags can contaminate the surfaces was indicated by 66.6%, that the table where the meat and vegetables are cut must be different or wash well before each use by 68%, the need to boil cooked foods again after handling them by 67% or that you have to use different knives or wash between each use, to cut cooked and raw foods on 40%. Custom.

Regarding the customs during the preparation of the food, almost all the people interviewed reported washing their hands, before and during the preparation of the food (95.5%), all wash the fruits and vegetables before consuming or cooking them (100%) and they mentioned that they check that the food is completely cooked before consuming it (100%), however, cooked foods do not always boil after handling them (72.7%). Not all clean surfaces and utensils before and during the preparation of food (63.6%) and very few separate cooked foods from raw foods when stored in the refrigerator (31.8%).

### Perceptions

Most respondents mention that if they know that they should be careful when preparing food, since that way they avoid diseases "or at least, it is what they tell us in the clinic by the doctor and the young lady who gives some courses to prevent diseases ", however, when asked about the type of diseases, refer respiratory and gastrointestinal. They also know that they should keep the food covered with clean cloths, "so that they do not get caught by flies" since "they walk on the poop and it makes me sick" or "they bring diseases that they leave in their food". With respect to boiling cooked foods, some mention that it is not important "since it does not take much time to eat again".

The refrigeration of the food goes to second term, since they refer that very few times there is enough food for the next day, since with the "leftovers" the backyard animals are fed; In general, they only refrigerate foods that contain sausages or pastries. In the case of changing or washing knives and boards between each use, to cut cooked and raw foods, mention that they have no more than one utensil, that they did not know, or that nothing happens if they do not wash.

### Beliefs

Because many of the children of the participants attend full-time schools, they have received courses on hygiene in the preparation of food, however, based on their own experiences, most believe that carrying out these measures in their homes It is not important, because "many times I have picked up an omelette that falls out (while I was making it), I eat it and nothing happens to me".

In the same way, many times due to laziness they do not perform, since they wash their hands when preparing food, some say that "sometimes I'm in a hurry and I forget" or "I feel lazy", this phenomenon also happens with the infants, who do not wash their hands before eating, to which they mention "I tell him to wash his hands, but he does not want to, but he eats and does not get sick".

Having little knowledge, the population does not associate that poor hygiene when preparing and consuming food, can contaminate them and transmit pathogens that cause gastrointestinal diseases, but they associate directly with an ingredient in the food or began to decompose.

### Discussion and conclusions

The health and life of people depend in large part on the nutritional quality of the food they consume daily, which in turn depends on the hygienic and sanitary quality to which they are subjected throughout the production chain, from the field to the consumer's table While the lack of hygiene and sanitation in the processing and preparation of food is a problem that can occur anywhere in the world, the incidence of diseases caused by poorly processed or poorly prepared food is a critical, severe and it is found more frequently in developing countries (Mejía, D. 2009).

The lack of knowledge about good manufacturing practices, as well as the limited availability of complementary technical information, have a negative impact on the handling and preparation of food, both at the family and commercial levels. This lack of basic knowledge about food safety by those who prepare food can be considered as one of the factors that contribute most to food contamination, where indirectly the most vulnerable groups are affected to get sick, such as children, the elderly and immunosuppressed people (Mejía, D. 2009).

In this regard, in our study it was observed that, although it is true that the population has knowledge about hygiene and preparation of food, it is also true that, in practice, many of these issues do not apply. The set of expressions represented through their perceptions and beliefs of why not to put into practice, as well as the explanation they give to their procedures reflects a capacity of people to create boundaries between what they should do and what they really do; These data are explained by what Oseguera (2004; 49) reports in his study where he points out that the delimitation of boundaries between the safe and the risky of food is based on the beliefs and customs inculcated from primary socialization and modified by their everyday experiences

Likewise, the data found in this study are in agreement with others made in other municipalities of the state of Yucatan, such as Tekom and Tixkokob, where the lack of knowledge about good hygiene practices predominates, as well as the scarce availability of information due to the Mayan language. in the community and that negatively affect the handling and preparation of meals, both at the family and commercial level, since the same families have businesses in the locality and provide food for the other inhabitants (Technical Report, 2015).

For all the above, we consider that health strategies and programs must adapt to local needs and the specific possibilities of each country and region, and take into account the various social, cultural and economic systems. Social groups and health personnel are responsible for acting as mediators. Studies of this nature should not only seek the benefits in terms of implementing strategies to ensure good food practices but also think in terms of plurality, divergence and even oppositions within a framework of respect for community knowledge and beliefs.

## References

- CONEVAL. (2010). Informe anual sobre la población de pobreza y rezago social. Mayapan. Disponible en: [http://www.sedesol.gob.mx/work/models/SED/ESOL/Informes\\_pobreza/2014/Municipios/Yucatan/Yucatan\\_049.pdf](http://www.sedesol.gob.mx/work/models/SED/ESOL/Informes_pobreza/2014/Municipios/Yucatan/Yucatan_049.pdf)
- CONEVAL. (2010). Informe anual sobre la población de pobreza y rezago social. Cantamayec. Disponible en: [http://www.sedesol.gob.mx/work/models/SED/ESOL/Informes\\_pobreza/2014/Municipios/Yucatan/Yucatan\\_010.pdf](http://www.sedesol.gob.mx/work/models/SED/ESOL/Informes_pobreza/2014/Municipios/Yucatan/Yucatan_010.pdf)
- CONEVAL. (2010). Dimensiones de la seguridad alimentaria: Evaluación Estratégica de Nutrición y Abasto. pp 114.
- Calderón, G. (2009). Estudio de caso - Enfermedades transmitidas por alimentos en El Salvador. En: Enfermedades transmitidas por alimentos y su impacto socioeconómico. Estudios de caso en Costa Rica, El Salvador, Guatemala y Nicaragua. Organización de las Naciones Unidas para la Agricultura y Alimentación; Roma, Italia; pp. 67-119.

Defez, A. (2005). ¿Qué es una creencia? LOGOS. Anales del seminario de Metafísica. Vol. 38; pp. 199-221.

INEGI. (2004). La Población Hablante de Lengua Indígena de Yucatán. pp 103

Informe Técnico. (2015). Modelo de estudio integral para el diagnóstico y prevención de enfermedades infecciosas y parasitarias en una comunidad con bajo índice de desarrollo humano del estado de Yucatán.

Instituto Nacional de Salud Pública. Encuesta Nacional de Salud y Nutrición. (2012). Resultados por entidad federativa. Cuernavaca, México; 2013.

Jiménez, C. (2008). Exploración cualitativa de las percepciones de familias de estrato 5 de la localidad de Chapinero –Bogotá frente a los hábitos alimentarios y atributos de la alimentación saludable. Tesis de grado; Facultad de Ciencias; Bogotá, Colombia.

Kopper, G. (2009). Estudio de caso - Enfermedades transmitidas por alimentos en Costa Rica. En: Enfermedades transmitidas por alimentos y su impacto socioeconómico. Estudios de caso en Costa Rica, El Salvador, Guatemala y Nicaragua. Organización de las Naciones Unidas para la Agricultura y Alimentación; Roma, Italia; pp. 13-63.

OPS/OMS. (2005). Enfermedades diarreicas: prevención (ETA). Ed. OPS, OPS/HCP/HCV/FOS/URU.05.00, Montevideo. CEDOC, Complejo Concepción Palacios, MINSA, Managua.

Oseguera, D. (2004). Comidas peligrosas: la percepción social de la inseguridad alimentaria. Estudios sobre las culturas contemporáneas, Vol. X; número 19; Colima, Colima; pp. 31-51.

OMS. (2007). Manual sobre las cinco claves para la inocuidad de los alimentos. pp32.

Schneider, S. (2009). Estudio de caso - Enfermedades transmitidas por alimentos en Guatemala. En: Enfermedades transmitidas por alimentos y su impacto socioeconómico. Estudios de caso en Costa Rica, El Salvador, Guatemala y Nicaragua. Organización de las Naciones Unidas para la Agricultura y Alimentación; Roma, Italia; pp. 121-137.

WHO. 2015. World Health Day 2015: From farm to plate, make food safe en: <http://www.who.int/campaigns/world-health-day/2015/en/>

## **Proposal of a comprehensive management plan for hazardous waste in a solvent distiller**

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### **Abstract**

The hazardous waste that is generated in companies, especially in the production processes, have particular characteristics that demand to be taken into account in determining the most appropriate form for their management. In the company where the present project was developed, the hazardous waste generation sites were identified and information on their management was obtained. With the results, a comprehensive Hazardous Waste Management Plan and a Manual were prepared with which it is intended to comply with the requirements established by environmental legislation (SEMARNAT), and to value the waste generated. The manual contains eleven sections, which provide general information on the waste, the correct layout in each generating area; Labeling, containment, temporary storage, transfer, collection and final disposal, personal protection equipment for the management of the same and training. Subsequently, all personnel that generated hazardous waste were informed about the proper management to be given, as well as some risks to the environment and health.

### **Waste, CRETIB, Recovery**

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## 1. Introduction

The industry generates pollutants in different ways, depending on the characteristics of the processes and the type of inputs and products. Mexican legislation classifies hazardous waste based on its intrinsic properties, so hazardous waste is defined as "Those that have some of the characteristics of corrosivity, reactivity, explosiveness, toxicity, flammability, or that contain infectious agents that confer them dangerousness, as well as containers, containers, packaging and soils that have been contaminated when transferred to another site, in accordance with what is established by the General Law for the Prevention and Integral Management of Waste (LGPGIR,) (SEMARNAT, 2003) .

With the entry into force of the LGPGIR and its Regulations, an innovative concept called the Management Plan was introduced, which aims to provide an overview of waste management that favors the valuation of the same, this being a management tool that allows both to companies as well as to the authority to design and control in a flexible manner the integral management of waste, through efficient management proposals that minimize the generation of waste and prioritize the valuation thereof.

### 1.1 Problem

The company does not currently have an Integrated Hazardous Waste Management Plan as established in the LGPGIR Regulation on Hazardous Waste. Likewise, due to the amount of hazardous waste generated during its process and in the productive areas, which oscillates in 50 ton / year, the company is registered as a great generator of hazardous waste before the SEMARNAT.

## 1.2 Justification

Faced with this situation, the company has focused on designing its management plan under the following considerations: the Plan is private, individual and of local application and according to the waste stream is of general modality, it does not accept adherents to its plan of driving. It is a technical / operational document, which identifies the responsibilities and describes the actions with respect to their management, taking into account the aspects related to generation, segregation, conditioning, collection, temporary storage, transport, treatment and final disposal of waste.

Based on the above, the company will benefit from the Comprehensive Waste Management Plan by establishing the identification of waste from its origin, an appropriate collection and segregation system, safe transport and final disposal in a responsible manner, considering its applicability, reuse options, recycling and volume, origin, costs, recovery possibilities, recycling and compliance with applicable legislation.

## 1.3 Objectives

### 1.3.1 General objective

Establish a comprehensive hazardous waste management plan for a solvent distillation company in accordance with the applicable Mexican environmental legislation, to value and manage such hazardous waste.

### 1.3.2 Specific objectives

- Identify hazardous waste outputs in a complete process diagram that allows for reduction actions through reuse, recycling, treatment and co-processing.
- Propose improvements in the management of hazardous waste in accordance with current legislation to maintain an adequate collection of waste.

## 2. Theoretical framework

According to the SEMARNAT, the most recent estimate of the generation volume of hazardous waste in the country for the period 2004-2013 is equivalent to 2,035,068.85 tons. This information is based on the reports of 84,279 companies incorporated into the register of hazardous waste generators with the SEMARNAT registry. In the state of Mexico, the generation of hazardous waste for the same period is equivalent to 42,747.05 tons, with 4,464 registered companies. Hence the importance of establishing management plans in the companies considered as generators and that they take into account the life cycle of them.

- This cycle consists of a series of stages, which include, among others, the following phases: Generation, Transportation and Collection, Classification, Reuse, Storage, Treatment, Recycling and Final Disposition that should be contemplated in the Plan.
- A treatment can change the characteristics of hazardous waste and reduce its volume or danger, but it does not always guarantee that a waste ceases to be dangerous. However, in case the treatment eliminates the hazardous characteristics, the waste will no longer be considered as dangerous and its management and final disposal will be carried out as special handling. This is important in the case of management plans, since companies have the opportunity to reduce the generation of hazardous waste to give them an appropriate management as special handling waste.

In this way the prevention of the generation of waste is achieved, through measures that reduce the costs of its administration, facilitate and make more effective, from the environmental perspective, the procedures for its management.

## 3. Research Methodology

In order to establish the Management Plan, some priority actions were carried out, among which are mainly the following:

### 3.1 Identification of hazardous waste generating areas.

A tour of the company's facilities was carried out in order to recognize the different activities where hazardous waste is generated. The waste generation data of the internal binnacles was compiled, in case there are such documents identifying the waste generating areas.

### 3.2 Identification of hazardous waste

The types of waste generated in each area were identified, according to the CRETIB characteristics. The data was taken from the questionnaire that was applied, from the Logs for the management of Hazardous Waste in the Plant, and from the internal database of the control of waste entering and leaving

### 3.3 Proposals for improvements in the management of hazardous waste

It was verified that the temporary storage of hazardous waste of the plant, meets the requirements according to the Regulation of the General Law of Ecological Balance and Environmental Protection in the Matter of Hazardous Waste in accordance with article 82 of the LGPGIR. As well as the Hazardous Waste delivery / reception procedures and the hazardous waste transport route in the plant.

### 3.4 Preparation of the manual for the handling of hazardous waste

Questionnaires about hazardous waste were applied in the waste generating areas. The information obtained allowed proposing measures for the recovery and management of each of the waste generated in the plant, in accordance with the current regulations and taking into account safety and hygiene measures for the handling of hazardous waste, as these measures protect the environment as well as the interplay of workers.

### 4. Results

The first part was a detailed description of the processes that are carried out in the company, updating the Layout of the same. There are six main processes that include: Reception of raw materials, Initial treatment of raw materials, Recovery of solvents, Discharge of reactor tank waste, Storage of recovered solvents and Auxiliary Service. Likewise, six areas were identified, all of which are generators of RP (Table I). In them were found some waste containers that were not properly identified, nor stored / separated according to their incompatibility.

Areas
Solvent Recovery
Chromatograph Laboratory
Drying Laboratory
Cutting and Welding Workshop
Shopping Store
Electrical workshop

**Table 1** Areas of the Plant that generate Hazardous Waste

### Total Waste Generation

Table II shows the Total Generation of Waste within the Plant and from which the recovery and management of each of the hazardous waste is determined for an improvement within the company.

According to the estimate of the total annual tons of waste generated (71.56), the plant is classified as a large generator since SEMARNAT states that after 10 tons per year it is characterized as such. The LGPGIR also establishes the obligation on the part of the generators of hazardous waste to notify it to the Secretariat (SEMARNAT) or to the authorities with competence in the matter at the local level. The policies to be followed in terms of valorization were established in order to reduce the generation of RP by 20%.

Most of the waste is stored in metal containers of a capacity of 200L, in the case of waste generated directly from the reactors, they go directly to tanks that are exclusive for storage of waste until a pipe arrives for a final disposal outside of the installations. The warehouse is a construction under roof, with containment dam, concrete floor covered with epoxy paint, local closed, with natural ventilation, explosion-proof lighting, with a capacity of 400 m<sup>3</sup>. The storage time is maximum one month, the collection is done once a month.

The warehouse complies with 14 of the 18 operating and construction considerations according to Article 82 of the LGPGIR Regulation on Hazardous Waste. It was verified that RPs were labeled according to NOM-018-STPS-2015 and that their destination was identified, either for sale or for destruction, as well as the use of manifests as a mechanism for control, management and final disposal of waste.

Residue	Quantity	Features CRETIB	Physical state
Solids Contaminated with Oil	1	I	SOLID
Lubricant oils	0.8	I	LIQUID
Organic Solvents	30	I,T	LIQUID
Process Waste Liquids	1	I	LIQUID
Contaminated Containers with paint	0.1	I	SOLID
Biological infectious sharps	0.01		SOLID
Hydraulic oils	0.8	I	LIQUID
Lamps	0.02	T	SOLID

Empty containers impregnated with solvents	1	I	SOLID
Sponges, Filters impregnated with solvent	0.5	I	SOLID
Hoses, cuvettes impregnated with solvent	1	I	SOLID
Batteries, batteries	0.2	T	SOLID
Residues of Raw Materials	10	I	LIQUID
Wastes from Sosa	10	I	LIQUID
Solvent residues with soda	10	I	LIQUID
Acid Residues with Toluene	5	I	LIQUID

**Table 2** Total generation of RP in annual tons

The Solid Waste Management Plan and Special Management in the company Aceites Especiales, S.A. of C.V. considers an analysis of minimization alternatives, these actions being to avoid, reduce or reduce at source, the amount of waste generated. Consider, measures such as the reduction of generation, concentration, and recycling.

As part of the company's policy on waste management, the application of a hierarchical strategy is promoted, which indicates the following priority: minimize-treat-dispose. This order means, from an environmental point of view, the best alternative is to prevent, avoiding the generation of a waste; Secondly, if it is not possible to avoid generation, its minimization is sought (reduce, recycle and reuse, taking advantage of the materials and / or energy contained in the waste); third, if it is not possible to minimize its treatment is sought (with the aim of reducing its quantity before its final disposal); leaving as final option, the final disposal of the waste.

In addition, the segregation policies and the contingency plans were established, and the brigades established by the STPS were also organized. Finally, in the month of April, technical and operational personnel were trained on hazardous waste, in areas of solvent recovery, mechanical workshop, administrative area, warehouse personnel and cleaning, with an assistance of 44 people, according to their availability Of Schedule.

They were carried out in order to inform, make known in a general way the proper handling of their waste and raise awareness about the waste they generate both in their work area and in their home, as well as some safety measures that should be taken in account.

## 5. Conclusions

- Within the company, in the area where more hazardous waste is generated is the area of Solvent Recovery, so it is primarily to begin to reduce the waste generated within said area by proposing in the hazardous waste management plan that they are valued for a remuneration of the company and are better controlled from the productive area to the temporary storage of waste and give them the final disposition appropriate to each one.
- The generated hazardous waste is characterized as corrosive, reactive, toxic, inflammable and infectious biological to carry a correct handling of said waste from its generation to its final disposal.
- According to the amount of waste generated (70.0 tons) per year, the environmental legislation and authorization must be complied with in order for the company to comply with SEMARNAT with the comprehensive hazardous waste management plan and be discharged. before the corresponding authority.
- The handbook of hazardous waste prepared serves as a guide for proper management of waste, from its generation, labeling, type of container, compatibility, protective equipment to the final disposal thereof.

## 6. References

Márquez Romegialli F. (2002). Manejo seguro de residuos peligrosos. Departamento de ingeniería química, facultad de ingeniería, Universidad de Concepción. Chile.

Office of Pollution Prevention and Toxics. (2006) Chemical Management Resource Guide for School Administrators. United states environmental protection agency. Washington DC, Estados Unidos.

SEMARNAT. (2014). Módulo de consulta estructurada. Generación estimada de residuos peligrosos según categoría de generador [en línea].

[http://dgeiawf.semarnat.gob.mx:8080/ibi\\_apps/WFServlet?IBIF\\_ex=D3\\_RESIDUOP01\\_01&IBIC\\_user=dgeia\\_mce&IBIC\\_pass=dgeia\\_mce](http://dgeiawf.semarnat.gob.mx:8080/ibi_apps/WFServlet?IBIF_ex=D3_RESIDUOP01_01&IBIC_user=dgeia_mce&IBIC_pass=dgeia_mce)  
18/05/2015

SEMARNAT. (2014). Módulo de consulta estructurada. Generación estimada de residuos peligrosos según clasificación de residuos [en línea].

[http://dgeiawf.semarnat.gob.mx:8080/ibi\\_apps/WFServlet?IBIF\\_ex=D3\\_RESIDUOP01\\_20&IBIC\\_user=dgeia\\_mce&IBIC\\_pass=dgeia\\_mce](http://dgeiawf.semarnat.gob.mx:8080/ibi_apps/WFServlet?IBIF_ex=D3_RESIDUOP01_20&IBIC_user=dgeia_mce&IBIC_pass=dgeia_mce)  
18/05/2015

SEMARNAT. Ley General para la Prevención y Gestión Integral de los Residuos. Publicada en el Diario Oficial de la Federación el 8 de octubre de 2003. Última reforma publicada DOF 19-06-2007

SEMARNAT. Norma Oficial Mexicana NOM-052-SEMARNAT-2005, Que establece las características, el procedimiento de identificación, clasificación y los listados de los residuos peligrosos. Publicado en el Diario Oficial de la Federación el 23 de junio de 2006.

SEMARNAT. Reglamento de Ley General para la Prevención y Gestión Integral de los Residuos. Publicada en el Diario Oficial de la Federación el 30 de noviembre de 2006.

## **ICTs to support the new Mexican educational model at a higher level**

DELGADILLO, Mónica\*†

*Universidad Tecnológica Fidel Velázquez, Calle Emiliano Zapata S/N Col. El Tráfico Nicolás Romero Edo. México.*

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### **Abstract**

The new educative model proposed by the Public Education Secretary, has set learning English as mandatory in basic, lower and upper education. This investigation wants to prove that information technologies can be a useful tool in order to fix deficiencies in learning English and, at the same time the student can review any topic whenever he wants, and to support the new model in all the difficulties it faces. At the same time, student's skills are being used and he /she feels free to repeat whenever he/she wants an exercise and reinforce the knowledge.

### **Open Resources, Learning, Tuition**

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† Researcher contributing first author.

## 1. Introduction

Currently Mexico has initiated an update of the educational program that is taught from basic level, which is intended to offer students a quality education that includes speaking English as a second language, and also know how to use information technologies efficiently. will allow them to position themselves in better paid jobs, along with Mexico's commercial partners such as the United States, Canada and China, countries that speak English as the mother tongue or mandatory as the case may be, and finally to conduct business they communicate in that language.

In the case of Mexico, according to what was revealed by the British Council in the study "The English language in Mexico and its impact on public policies", four out of every 10 Mexicans speak English at a basic level and 44% have an intermediate level in reading comprehension, figures well below what would be expected with an educational model that until now had integrated the subject of English at secondary and high school level, and that in theory supposes at least six years of study in the language, with minus three hours per week.

The same study establishes that 69% of the companies consider that the command of the English language is a fundamental factor for the hiring of new personnel and an essential element in their development. The learning of English in Mexico has not been able to consolidate, due to several factors, among them: lack of teachers prepared in the teaching of English classes or with an English level equivalent to that of a primary school child according to a study carried out by the Mexican First Association (2015); the little or no interest of the population to learn it and finally, the preconceived idea that it is expensive and expensive to learn.

However, there are many free applications on the network with which you can strengthen the learning of English and greatly support the process of language acquisition, provided it is a process carefully and guided by an English teacher.

### 1.1 Justification

At this moment you can find many free applications on the internet to learn English and you just need to know how to use a computer or a smartphone so that the student can reinforce what they have learned in the traditional class, as long as they are accompanied in the process by the teacher who should be prepared to give that tutoring to the student through the network.

### 1.2 Problem

The students of the UTFV have problems with basic subjects in English and require extra hours of study to correct this deficiency, but there are no teachers who can give that advice in person..

### 1.3 Hypotesis

If you have a common site for students where open resources are integrated that the student can review on their own in the network with the assistance of a tutor to accompany them in this process, the student can improve their performance and practice more those issues that decide.

### 1.4 Objectives

Determine the degree of advancement of students in the acquisition of the second language (English) by using open resources.

#### 1.4.1 General Objective

Develop a website that contains material in English that allows them to practice outside of classroom hours.

### 1.4.2 Specific objectives

- Evaluate the effectiveness of open resources in the support of face-to-face classes.
- -Identify the skills that most often need to be strengthened on their own with open resources.

## 2. Theoretical framework

Acquiring a competence results from the mobilization of knowledge, skills, attitudes and values of an individual (Becerril, 2015), in addition to the fact that the subject brings with him his life story and applies all this to the solution of problems in the different scenarios in who works.

The use of information technologies as a support tool in the teaching-learning process has generated a radical change in the processes inherent to it (Rodríguez, 2013) and is, therefore, a competence that must be exploited to improve much the acquisition of skills in learning the English language.

## 3. Research Methodology

The survey technique was applied, at the beginning and at the end of the semester, to the students of Nursing and Physical Therapy first to know their opinion regarding the use of open resources as support in the learning of English. A group was taken as a test (the Physical Therapy) and a control group (the Nursing).

The test group was carrying out the activities that were indicated in Duolingo during the four-month period from January to May 2017, monitoring their progress weekly. An entrance exam was applied to know the language level with which the students started and another was applied at the end of the semester.

## 4. Results

The results of the surveys indicate that 100% of the students in the group say that the use of open resources is very useful so that they can reinforce what they have learned in English class.

The results of the entrance and exit exam show that 35% of the students actually improved by 40% with respect to the start of the course, since they come from public schools where, according to the survey, they used to have few classes of English. 65% improved their skills in English acquisition by 60%, which in general comments indicate that they had not had a follow-up like the one given in this case.

The witness group, on the other hand, showed in general an increase of their skills to learn the language of 40% on average, since they were not given the indication that they used any resources for it.

## 5. knowledge

I appreciate the support provided by the Fidel Velázquez Technological University for the realization of the present investigation.

## 6. Conclusions

The use of open resources allows the teacher to have a useful tool to support the student in their English learning, allowing them to practice subjects that are more difficult and thereby correct deficiencies.

## 7. References:

Asociación Mexicanos Primero. (2015) "Sorry. El aprendizaje del Inglés en México."

Barabási, A. L., (2002) *Linked: The New Science of Networks*, Cambridge, MA, Perseus Publishing.

Becerril, C. Competencias Básicas de un Docente Virtual. *Revista de Sistemas y Gestión Educativa* 2015, 2-4: 882-887.

British Council. (2015) El idioma inglés y su impacto en las políticas públicas.

Delgadillo, M., (2014) Orientación del aprendizaje de Lenguas hacia procesos de Movilidad, Certificación internacional e Ingreso a Posgrado en la Universidad Tecnológica Fidel Velázquez. *Academic Journals*. Volumen 6, No. 5. ISSN 1946-5351 Online 1948-2353.

Downes, S., & Fonseca, D. E. L. (2009). El futuro del aprendizaje en línea: Diez Años después.

Driscoll, M., Needham Heights (2000). *Psicología del Aprendizaje por Instrucción. Comunidades Digitales para el Aprendizaje en Educación Superior (CODAES). Principios de*

*Diseño Instruccional.* (2015). Universidad Autónoma de Colima. Disponible en <http://www.codaes.mx/moocs/>

Guerrero Z. (2009) *Teorías del Aprendizaje y la Instrucción en el diseño de materiales didácticos informáticos.*

Gleick, J., (1987). *Caos: haciendo una Nueva Ciencia.* New York, NY, Penguin Books. Mexicanos Primero

Rodríguez Ramírez Norma Esmeralda. La gestión del conocimiento mediado por los REA: La experiencia en una Universidad Tecnológica Mexicana. Número 43. Marzo 2013. EDUTECH. *Revista Electrónica de Tecnología Educativa.* ISSN 1135-9250.

Secretaría de Educación Pública (2016) *Los fines de la Educación en el Siglo XXI.*

Secretaría de Educación Pública (2016) *El Modelo Educativo 2016.*

Secretaría de Educación Pública (2016) *La Propuesta Curricular para la Educación Obligatoria 2016.*

Sosa, G. La WebQuest en la Enseñanza de Inglés. *Revista de Sistemas y Gestión Educativa* 2015, 2-2: 314-319

## **Experiences in the Development of Human Capital for Self-training**

FERNÁNDEZ-GARCÍA, Luis Guillermo\*†, RÍOS-RUBIO, Víctor Manuel and ARELLANO-BRIONES, Olimpia Danée

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### **Abstract**

The development of human capital is beneficial to an Institute of higher education because, on the one hand generates self-training and links and narrows relations between advanced, intermediate and novice students. Seeking as a consequence that an atmosphere of cordiality, companionship and empathy is established. It is easy to generate a relationship between the subjects of advanced periods versus those of the former, a reason that strengthens the fact of designing methodological and teaching tools towards the creation of courses or workshops where the exhibitors or instructors are the same students of the educational program.

### **Human Capital, Self-Training**

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**Citation:** FERNÁNDEZ-GARCÍA, Luis Guillermo, RÍOS-RUBIO, Víctor Manuel and ARELLANO-BRIONES, Olimpia Danée. Experiences in the Development of Human Capital for Self-training. ECORFAN Journal-Republic of El Salvador 2017, 3-5: 17-20.

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† Researcher contributing first author.

## 1. Introduction

Within the university studies the integral development of the students is encouraged. As part of this, academic or collegiate bodies are generated. Some of the functions of these entities are the generation of human capital, development of applied research, generation of technology, etc. In relation to the first is what this article is based on. Taking as reference a competency-based education where care and development is required to be, knowledge and doing of the student is what these activities are done to strengthen these pillars.

### 1.1 Conceptualization

Navarro (2005) states that Human Capital: corresponds to the value generated by people's abilities through education, experience, the ability to know, to improve, to make decisions and to relate to others. Boisier (2002) more precise the concept and adds that this corresponds to the stock of knowledge and skills that individuals possess and their ability to apply to production systems. This same author, from the perspective of what he calls the endogenous development or capacity of the Regions, or of a determined territory to model his future from within, adds other capitals that are important to consign, because of the influence they exert on Human Capital. and for the particular impact they have on the understanding of the gaze from the Regions.

For its part Madrgal (2009) says that: The human capital of a company, organization, region or country is the cornerstone, is the source of development and therefore is one of the factors that generate competitiveness. It is proven that countries that invest in human capital are among the most developed, the cases of Germany, Sweden, Canada, among others are faithful testimony of those who invest in education of their human capital.

At present, the term "capital" has different meanings: in certain occasions it indicates the material means of production of a company; in others, the financial resources invested in a productive initiative or also, in stock market operations. It is also spoken, in a totally inappropriate way, of "human capital", to mean the human resources, that is, the people themselves, insofar as they are capable of labor effort, of knowledge, of creativity, of intuition of the demands of their similar, reciprocal agreement as members of an organization (Scherz, 2009).

### 1.2 Methodology

As part of the teaching system is put as analysis and application the academic body and groups of the Technological University of Altamira. The Academic body was the so-called Electrical Engineering in Maintenance. The characteristics of the academic activity are the following:

- Eighth, ninth and tenth semester groups are scheduled.
- It develops a topic of interest, domain and relevance to one or several subjects that are being studied.
- Evaluation rubrics are developed.
- The students develop their methodology and logistics of the workshop or training.
- The students generate the user and participant manuals.
- The student at the end of the activity delivers a portfolio of evidence of the activity developed.

### 1.3 Development

To exemplify, a particular case will be presented. The characteristics are defined below: Leading Group: 8th Industrial Maintenance Engineering.

- Subject: Process visualization and control.
- Participants: 25

- Teams: 5
- Topic: control of electro-pneumatic systems using graphical simulation software.

Receiving group: 5th of Superior Technician.

- Subject: Robotics.
- Participants: 3 groups of 5th semester.
- Teams: 3 for each group.

**1.3.1 Evaluation**

Within the evaluation criteria of the subjects, the development of the course or workshop is weighted. As well as for the recipients their participation and assistance to it. Both groups must present a portfolio of evidence for its validity. At the end a satisfaction survey is carried out where parameters such as: relevance, duration, applicability, etc.

**1.3.2 Execution**

In coordination with the management, tutors and teachers responsible for the subject, the schedules and distribution of the groups in which the workshop should be taken are agreed. During the execution, one of the teachers responsible for the subjects is present to generate a continuous evaluation and solve any unforeseen.

**1.4 Relevance**

As in the example mentioned, the following relationship:

Robotics	Display
Automation	HMI
PLC	Virtual Instrumentation
Display Software	Robotic systems

**Table 1** List of pertinent subjects among subjects

Table 1 represents the list of pertinent topics between the subjects Robotics and Visualization, 5th and 10th semester respectively. As it is observed, due to the high correlation between subjects it is easy to establish theoretical-practical topics to be developed in a workshop.

**2. Parallel activities**

As part of the complementary activities, training is carried out by the university. For example, the Industrial Maintenance Management (case of analysis) has a certification program for students in Solidworks. This is done at the same time as his classes at the Engineering and Higher Technician levels.

There are local events such as congresses and scientific weeks, where the races are allowed to carry out cycles of conferences or other activities in order to promote and show the advances and technological developments. This type of showcase also encourages the use of these tools, where students organize, plan, direct and control small workshops for the benefit of the student community itself.

**3. Results**

It will be possible to list in an excellent way the results obtained as shown below:

- Generation of knowledge.
- Continuous training.
- Integral education.
- Strengthening the relationship between students of advanced periods with intermediate and low.
- Strengthening the development of communication skills of students.
- Strengthening the academic body in the generation of human capital.
- Narrow the relationship between teachers, tutors and academic staff.

#### 4. Conclusions

The results are mostly qualitative, that is to say, the impression of the teachers and students involved. In the satisfaction surveys, the observations are mostly positive. In the case of the competency-based model that currently governs the education system, it functions adequately by strengthening the basic skills to the specific ones.

In addition to the applicability of the system where the professional practice of the student must be encouraged, it is useful for them to present publications in national congresses. As long as the generated is pertinent to publication. In this way progress is made in the generation of knowledge and technology development.

#### 5. References

Abarzúa, I. N. (2005). Capital Humano: Su Definición y Alcances en el Desarrollo Local y Regional. *Education Policy Analysis Archives/Archivos*, 1-36.

Take, L. T. (2009). Capital Humano, Educación Y Universidad. *Revista de Estudios y Experiencias en*, 103-113.

Torres, B. E. (2009). Capital humano e intelectual: su evaluación. *Observatorio Laboral Revista Venezolana*, 65-81.

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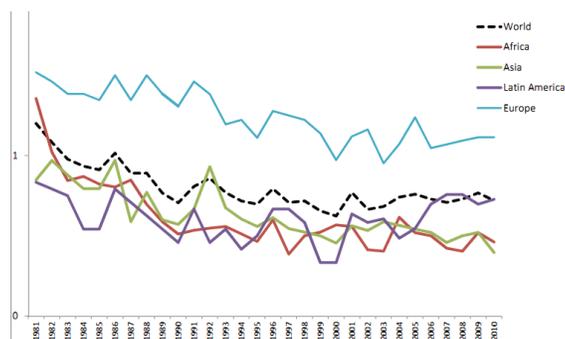
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**Graph 1** Average respect for Rights Against Torture, 1981-2010

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- Books: Yeager, D. (2015). *Reciprocal Critique: A Dialectical Engagement of Theology and Human Rights Discourse*.

- WEB Resources: [www.un.org/en/universal-declaration-human-rights/](http://www.un.org/en/universal-declaration-human-rights/), see: (October, 25-2015)

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**GÓMEZ-BELTRÁN, Guillermina, PEDROZA-BENÍTEZ, Socorro, MARTÍN-DEL CAMPO, Ma. Guadalupe and GONZÁLEZ-GONZÁLEZ, Bernardo**

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“ICTs to support the new Mexican educational model at a higher level”

**DELGADILLO, Mónica**

*Universidad Tecnológica Fidel Velázquez*

“Experiences in the Development of Human Capital for Self-training”

**FERNÁNDEZ-GARCÍA, Luis Guillermo, RÍOS-RUBIO, Víctor Manuel and ARELLANO-BRIONES, Olimpia Danée**

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