

Reception: September 8, 2015 | Acceptance: April 21, 2016

---

# A STUDY OF THE GRADUATES FROM THE MEDICAL SURGEON PROGRAM FROM THE SCHOOL OF HUMAN MEDICINE OF THE UNACH

---

Salazar Gómez Carlos Patricio <sup>1</sup>, Jiménez Pirrón Tomasa de los Angeles <sup>2</sup>,  
Roblero Ochoa Sonia Rosa<sup>3</sup>, Cuesy Ramírez María de los Angeles<sup>4</sup>,  
Soltani Darani Ahmad <sup>5</sup>, Rosa Martha Velasco Martínez<sup>6</sup>

<sup>1</sup> c\_salazar03@msn.com, <sup>2</sup> angeles\_pirron@hotmail.com, <sup>3</sup> sroblero1504@hotmail.com,  
<sup>4</sup> angelescuesy@yahoo.com.mx, <sup>5</sup> soltani@prodigy.net.mx, <sup>6</sup> oro\_vel@hotmail.com

Professor, School of Human Medicine Dr. Manuel Velasco Suárez ,  
University Autonomous of Chiapas



— Abstract—

This report shows the importance of how graduate studies can contribute in curriculum design based on student's perception who have finished the formal Study Plan and also their employers' opinion.

The objective of the follow-up graduate study (FUGS) is to incorporate its outcome into formal Career Plan of Medical School. It is a descriptive-transversal study. Two different types of questioners were developed. In the first one, educative model, operative programs, links with employees and hidden curriculum were included; the second one explored professional demand, general graduate data, reasons to stop working, professional performance, recommendation to improve professional profile. Both were accomplished by direct interviews to the graduate students and their immediate employee.

The results of the FUGS confirmed the advantages of the modular model, a basic and clinical formation identified with the environment and the need of a flexible curriculum, the reinforcement of competences related to the ability of a second language and management skills.

These results were included into the new curriculum proposal.

### Keywords

*Graduate study, curricular design, graduate opinion, professional profile.*

The processes of globalization, of openness and the consequent search for integration of these factors are without a doubt proof of the current times, provoking and demanding transformations and profound social changes in all areas of social and productive life. The current job market demands that graduates have a different attitude, new ways of thinking, skills and different professional skills. (Rose, 2012).

Higher education institutions today face new challenges as economic, technological, social and cultural changes are constantly taking place. The most important in the case of studies of graduates is the social impact generated by professionals in the labor field. It is important that the institutions generate strategies to know the importance of their actions, while identifying new demands for training in each of their academic programs, all with the aim of responding with relevance to social needs.

The studies of graduates allow us to know the points of view of those who were students and detect the niches of opportunity of the academic program, in this case, the Medical Surgeon program. Special mention is also made of the link established and maintained with graduates, establishing open and cooperative communication. (Mendoza R. 2002)

The first educational institutions concerned with evaluating the relationship between school and the world of work through studies of graduates were located in the United States of America and in some European countries. These studies were characterized by predominance in operational trends and in their informative purposes to influence decision making. Since the 1970s, institutions located in the center of the country, such as the National Autonomous University of Mexico (UNAM), the Universidad Autónoma Metropolitana-Azcapotzalco (UAM), the National Polytechnic Institute (IPN) (ENEP), and others such as the Universidad Veracruzana (UV) and the Autonomous University of Nuevo León (UANL), initiate this type of evaluation in institutions of higher education (Barrón, 2003).

According to the last analysis of the state of knowledge about studies of graduates carried out in Mexico during the period 1992-2002, done by members of the Mexican Council of Educational Research (Barrón et al, 2003), the studies related to this subject were located in three well-defined sub-fields: 1) curricular evaluation, which describe the insertion and performance of the graduates in order to evaluate and get feedback for the educational programs in question, 2) relevance of the academic training received, which seeks to measure the correspondence of the profile of the graduate with the requirements of their professional practice and 3) labor insertion, to identify the incorporation and destination in the work area, as

well as to know if the mechanisms of insertion in the professional market are traditional or novel. (Alonso, C. 2011)

In the twenty-first century, society and labor markets have become more demanding and it is obvious that the university-society relationship has become an important element to be included in the planning, and at the same time, in a strategy of an evaluation of higher education with two areas of interest:

- Internally, focused on analyzing the teaching process, the program objectives, contents and activities;
- Externally, the collection of information through two main sources, the follow - up study of graduates and analysis of the work situation..

In 2008, the Ministry of Public Education defined the concept of graduate follow up as "The follow-up studies of graduates do not refer only to the process of insertion of the graduates in the field of work, nor are they only indicators of satisfaction of the graduate. They are also effective mechanisms to promote the institutional reflection on its aims and its values". (SEP, 2010).

The School of Human Medicine (SHM) Dr. Manuel Velasco Suárez of the Autonomous University of Chiapas, in its interest in achieving the training of quality physicians, has in the last years been in a constant search for teaching modalities that improve its curriculum.

To this end, in 1993 the modified version of the first curriculum was implemented, which in general terms did not replace the then Plan 74 (Facultad de Medicina Humana, 1974). Subsequently in 2013, a new flexible curriculum based on the development of competences which favors the mobility of students and teachers, reduces the transit time of students without undermining the profile that is intended to be achieved in the graduates and in which the experiences obtained from the studies of graduates were taken into account. (Cuesy, et al, 2010)

In 2003, the foundation was established to develop a system to follow-up on graduates of the Medical Surgeon's career at the SHM (Facultad de Medicina Humana, 1993 and 2013), following the basic scheme proposed by ANUIES (ANUIES, 2013) with the purpose of obtaining timely, relevant and reliable information to support decision making and academic planning, as well as assess the performance of graduates in the workplace.

The objectives of this program focus on two aspects: first, to know the opinion of the graduates, their degree of satisfaction with the educational process and systematically collect their suggestions to the curriculum, as

well as to describe the socioeconomic characteristics of our graduates. (Trujillo, 2005)

Secondly, to know the coherence that exists between the profile of the graduate and the current training requirements in the professional practice and to have reliable information about the professional performance of the graduates and their relation with the successes and failures in their formation through the opinion of their employers.

### GENERAL OBJECTIVE

Evaluate the Medical Surgeon educational program based on the opinion of the graduates and their employers.

### SPECIFIC OBJECTIVES

- Evaluate the opinion of the employers with relation to the graduates
- Assess the degree of satisfaction of graduates and employers regarding the quality of structure of the medical surgeon program.

### METHODOLOGY

For this study, two surveys were designed which include fundamental aspects which were evaluated, applied to a representative sample of 128 graduates of the class of 1993 and to their respective employers. These included the academic data of each of the graduates, the level of satisfaction and academic performance received by the School of Human Medicine Dr. Manuel Velasco Suárez, the professional performance they have had in the labor market, the professional development they have acquired after graduation, the socioeconomic factors during and after they have undergone the program of Medical Surgeon, and the proposals and suggestions that they consider important to achieve relevance in academic training and to maintain a better communication among the graduates and faculty.

The type of study was descriptive and transversal, the sample was constituted by 128 graduates of the Plan of Studies 1993 of the School of Human Medicine of the Autonomous University of Chiapas.

The surveys included closed questions and were applied through direct interview to the graduates and immediate bosses, through the personnel of a consultancy agency.

The Likert scale was used to measure respondents' attitude, level of conformity and knowledge, since it is useful to use it in situations that group

response categories, which serve to assess the intensity of the respondent's feelings towards questioning.

The results were systematized in an Excel database and processed in the SPSS statistical package. In order to avoid bias in the interpretation of the data, the contracted agency for the application of the survey was the same that systematized the results and the group of teachers responsible for the project made the final interpretation of the results.

The questionnaires were organized to explore the following variables: 1) age, sex and marital status; 2) access to the labor market, first job and current employment: type of work, company regime, hours of work and salary; 3) quality of academic training: main academic limitations to find work, main causes of abandonment of work and suggestions of modification to the curriculum; 4) assessment of competences: skill that developed more in academic life and in professional practice.

## RESULTS

The results obtained from the 128 opinion questionnaires applied are presented below. These correspond to the perception, evaluation and opinion of the graduates of the SHM of the generations 2003-2009, which are presented in a descriptive way and according to the order of the sections of the questionnaire of opinion used for the realization of the present study.

### *Data*

The study included 128 graduates from the SHM of the generations 2003-2009, of which 55.5% were men and 44.5% were women. The ages of the graduates ranged between 24 and 40 years of age, with a mean of 32.59 years.

Regarding the marital status of the graduates, a little more than half of them are married or in a committed relationship, 39.4% remain single and 2.4% are divorced. The variables of gender, age and marital status are summarized in Table No. 1

**Table 1.** Sex, age, marital status.

Sexo		Edad	Estado Civil		
Femenino	Masculino		Soltero	Casado	Otro
44.5%	55.5%	Media 32.59 años	39.4%	58.2%	2.4%

### Continuous training

The majority of the graduates attend actualization or professionalization events in the face-to-face modality, other forms are courses and / or workshops in the medical field, diplomas and master's degrees at school or online; Motivated by self-interest, some do it for labor issues (Table No. 2).

**Table 2.** Professional development.

Evento Académico	Realizó	No realizó	Motivo		Modalidad		Semi-presencial
			Personal	Laboral	Presencial	Distancia	
Cursos	90.6	9.4	69.1	30.9	94.2	5.8	0.0
Talleres	64.1	35.9	60.8	39.2	100.0	0.0	0.0
Seminarios	29.7	70.3	72.7	27.3	97.4	2.6	0.0
Diplomado	34.4	65.6	76.0	24.0	86.7	13.3	0.0
Especialidad	39.1	60.9	90.2	9.8	100.0	0.0	0.0
Maestría	12.5	87.5	86.7	13.3	82.3	11.8	5.9
Doctorado	1.6	98.4	100.0	0.0	100.0	0.0	0.0

It is important to note that a good percentage of graduates participate in refresher courses around 12 months after their graduation.

The events most attended by graduates are:

- Assistance to state, national and international conferences on different health topics, public health, epidemiology and clinical specialties.
- Diploma course, courses and workshops on the aforementioned issues, in addition to aspects of health management.
- Attending courses, workshops and seminars on topics of formation for teaching and general culture of reading texts in English and intercultural health.
- Prep course for the National Examination of Medical Residences.

### Work experience

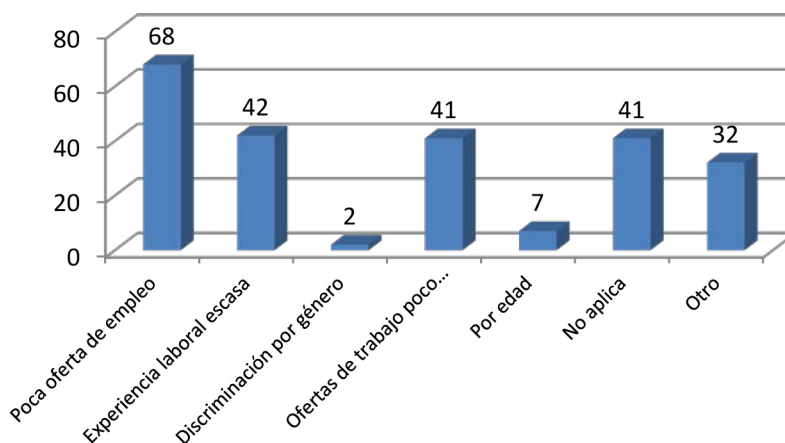
79.7% of graduates had some opportunity to work at the end of social service. Of these, 41.2% worked in the same institution where they performed social service. It is pertinent to mention it was easier for

women to obtain work when social service was completed and men had the opportunity to work in the same institution where they performed the social service.

Graduates obtain employment in less than three months after finishing their degree. This situation presents itself in a similar way in both men and women, the latter being the ones that most succeed.

Difficulties faced by graduates when they enter the market are: low work experience, age, gender, limited and unattractive job offer, as well as the time that takes the process to obtain the title and the professional certificate. In the particular case of women other factors are maternity and the distance of the location of the work in relation to the place where they reside.

**Graph 1.** Factors that influence the delay in obtaining employment.



The study showed that 9.4% accept jobs that do not correspond to the professional profile. Among the factors that are taken into account by employers who benefit from the acceptance of graduates in the labor market are: the prestige of the school, the social relevance of the Medical Surgeon program, previous experience and complying with the requirements imposed by institutions for admission.

The means most used by graduates who have been effective in finding their first job after completing undergraduate work are: the recommendation of a friend or relative; employment opportunities, and peer recommendations. 17.2% use combinations of the strategies mentioned above.



### *Career path*

The graduates who participated in the study belong to the generations 2003 to 2009. This means that they between 4 and 10 years have passed since their departure, which allows them to obtain sufficient elements to inquire regarding the occupational trajectory

### *Employment rate*

The employment rate is 90.6%. Of the graduates who are currently working, 54.3% are men and 45.7% are women.

### *Mobility in the labor market*

79% consider that the position they currently play and their salary perception is better than that for the first time. The perception of labor mobility occurs through higher incomes and positions or positions of greater responsibility. The percentage of graduates who continue to occupy the same position or employment situation is very low.

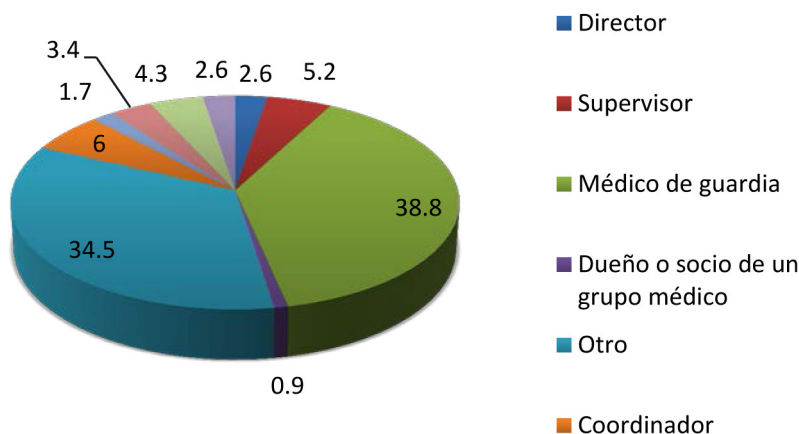
Regarding satisfaction with work performance, 73% of graduates stated that they were totally satisfied because they were able to respond to problems of social relevance, problems of medical practice, to apply the knowledge acquired in the career and the professional recognition that they achieved .

70% of the graduates are working in the clinical area. More men work in the administrative areas such as management, coordination or supervision than women, the area of teaching is the labor market is in least demand.

About 20% of the graduates work in more than one workspace. Of these, 74% work in two, 9% in three, the remaining percentage reaches up to four different areas of work. 52% are men and 48% are women.

Of the total number of graduates currently working, 14% do it exclusively in managerial positions (director, coordinator or supervisor), 2% are teachers, 42% hold positions of doctors on duty or medical assistants and 5% are owners or partners of a medical group and / or have their own practice.

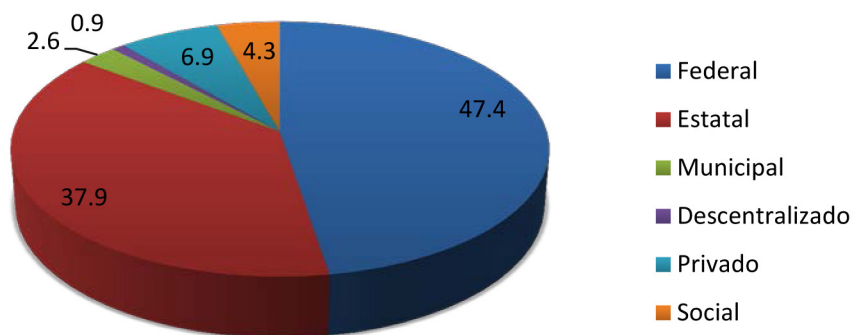
**Graph 2.** Current employment of graduates.



71% of the graduates are working in companies with more than 250 employees. Microenterprises are the sources of employment for graduates who are just beginning their work experience, however, as time goes by this situation is changing.

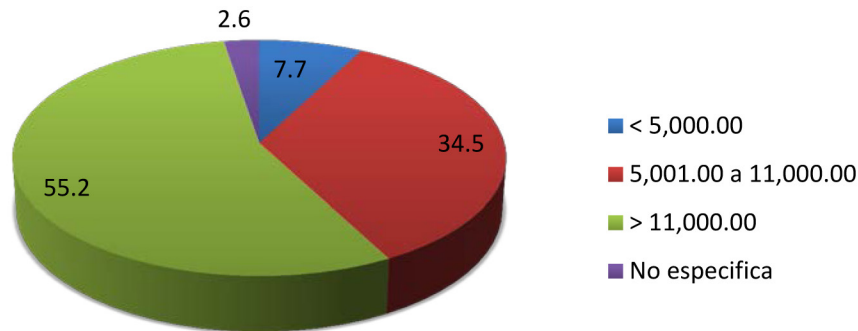
Graduates are usually employed within government institutions, particularly within the federal and state levels. The private sector does not represent an area of opportunity for them.

**Graph 3.** Legal status of the companies where graduates are employed.



In most cases the graduates receive a salary that goes from \$ 9,001.00 monthly onwards, 7.8% receive low salary that goes from \$ 1,500.00 to \$5,000.00 monthly.

Graph 4. Monthly income of graduates.



62.1% of the graduates have between 1 and 5 years of employment, 19.8% over 5 years of experience and 17.2% have just joined and still have not completed a year.

78% of the graduates work within the health services. In addition, some provide their services in other institutions such as government, education and commerce.

#### *Opinión de los egresados sobre la formación recibida*

The opinion of the graduates on their training was evaluated from the relevance of the academic programs in congruence with the labor market. To this end, they were asked if the training received allows them to respond to the demands of the professional performance that they face in their daily work, a) the degree of exigency in the professional performance; B) the contents of the curriculum and c) the fulfillment of the graduate profile recorded in the syllabus, and the satisfaction in acquiring the knowledge and skills that they learned.

#### *Degree of exigency in aspects of professional performance*

79% of the graduates report that the aspects that are most in demand in their professional performance are::

- **Skills** for the application of knowledge, in their own skills in medicine, in decision making, how to devise solutions and in the process and utilization or handling of relevant and updated

information, directing and coordinating teams, and oral or written communication.

- **Attitudes:** logical or analytical reasoning, disposition to work together, constantly keeping up to date, disposition in health risk management, punctuality / reliability, good presentation and taking responsibility.

Although in general, the graduates stated that decision making is the most demanded aspect and with a very high expectations, in contrast, the least required aspect is the ability of management / coordination and administration.

#### *Suggestions for modifications to the curriculum*

The graduates felt that in general the curriculum is pertinent and congruent with the demands of the labor market. However, they consider that it is necessary to approach contents and practices with greater amplitude, such as: the theoretical phase of the curriculum, laboratory practices, clinical practice, field practice and development of skills in research and medical informatics. Likewise, they believe that the contents on ethics, bioethics and deontology should be kept as they are in the curriculum.

13% expressed other aspects to consider within the curriculum, such as: the reduction of the duration of the degree, the evaluation of the pre-university course and giving more credits in the curriculum to aspects of emergency medicine, pharmacology and English.

#### EMPLOYERS' PERCEPTION OF SHM GRADUATES

This section aims to know how satisfied employers are with the professional performance of our graduates, through the following areas:

- Curriculum
- Administrative competence
- Leadership
- Social responsibility

The organizations that were interviewed are satisfied with the performance of the graduates, with only three of the twelve indicators of the variables were found to be below 50%. In last place is use of a second language. An explanation for this is that in the curriculum that was evaluated, this subject is appears during only the first two modules.

The curricular area included the following aspects:

1. Role as a doctor
2. Search for pertinent and actualized information
3. Solution of medical problems
4. Disposition to learn
5. Verbal, oral, and graphic communication
6. Application of knowledge
7. Information process
8. General medical knowledge
9. Logical and analytical reasoning
10. Use of computer programs
11. Specialized knowledge
12. English

In relation to the specialized knowledge, this is an aspect that hinders the scope of the medical surgeon's curriculum, since it corresponds to the undergraduate level. This same situation invites us to reflect on the diversification of curriculums at the undergraduate level related to health to include them in the educational offer of the SHM.

Although the current curriculum includes two computer workshops in which students are trained in the handling of basic programs, it would appear to be insufficient and this will be an aspect to be considered in the future, both for the Medical Surgeon program and the new programs.

It is considered that the training for a second language and the management of information and communication technologies are important elements to consider in the new curricular design.

In terms of knowledge, skills, attitudes and values that are graduates are intended to develop from the curriculum, the qualification obtained by the employers was high. In more than half of the questions asked, over 60% were very or completely satisfied.

The Administrative Area was integrated with the following indicators:

1. Identification with the institution
2. Presentation
3. Public relations
4. Punctuality and formality
5. Administration

Only one of the five indicators of the variable was shown to be below 50%, which refers to administration. Although in the curriculum of the bachelor's degree the tenth module contemplates contents on

administration, the result is not the one expected by the employers. The new paradigms faced by healthcare require new functions on the part of new professionals.

Perhaps this situation is due to the high medical content of the current program and the students' own perception of the functions of a doctor, or influenced by the concept that employers have about what the administrative process is. The truth is that graduates are facing new activities which could be the responsibility of another type of professional related to health.

Other administrative functions performed by the graduates were rated with a high degree of satisfaction on the part of their employers, particularly regarding the identification with their institution of employment.

The area of leadership consisted of the following points:

1. Creativity
2. Decision making
3. Teamwork
4. Coordination of a team
5. Leadership
6. Initiative

Only one of the six indicators of the variable was below 50%, related to the initiative. It is striking that graduates are well qualified in creativity and decision making. Both activities require initiative, so this finding is paradoxical.

The results on the other indicators were outstanding. Attention is drawn to teamwork and the coordination of a team, which is encouraged by the modular system. It can be deduced then that SHM graduates are efficient within their professional performance as leaders in their work areas and are perceived equally by their employers. For the School, this situation is an important indicator to continue with the modular proposal centered on the student with the development of competences in students and teachers as well as the structure of the new educational offer under the same principles.

Social Responsibility considered two aspects:

1. Risk management
2. Management of problems of social relevance

The two indicators considered in this variable are above 50%, this is an expected result because of the linking work developed in each module. Students, under the guidance of teachers, participate in health

and environmental contingencies and health prevention, promotion and education programs that are developed throughout the career.

## CONCLUSIONS

### CONCLUSIONS

The intention of this investigation was to evaluate the graduate profile from the educational program of Medical Surgeon and to re-design the curriculum- a design that does not overlook the influence of biomedical research and its diagnostic and therapeutic advances, takes into account the views of graduates, employers and the participation of the cultural diversity of society, promotes the ethical and deontological principles and that favors the understanding of the social reality with its dynamic current reconfigurations.

Another of the desirable attributes of the curricular design is to adopt an educational approach that conceives the student as an active subject as the producer or constructor of their knowledge and which develops updated competencies at a pace similar to that produced by knowledge in their discipline.

Despite its detractors, the competency-based approach to education could be adopted in a context as unique as that of Chiapas, in its vast and rich diversity.

It is quite clear that the School of Human Medicine, which has existed for about 40 years, has gone through different stages and is located within the continuous improvement of quality. However, it is not possible to stop looking in the direction of the relevance of the educational program and understand the importance of involving the whole community and raise awareness of the need to train highly competent doctors.

From this perspective it is highly desirable that in the professional training of physicians in the School of Human Medicine Dr. Manuel Velasco Suárez (SHM-UNACH), the concept of the human being is recovered. In short, it is to recover the human essence in its entirety, relegating utilitarian perception that the capitalist development model has led, devaluing the *homo sapiens* as *homo aeconomicus*.

The curriculum, as presented, must promote human development with solid moral principles, capable of self-managing its disciplinary updating with broad ranges of performance in different scenarios: from the most rustic rural space with total absence of diagnostic and therapeutic technology to the more sophisticated high-specialty hospital. After all, society demands that medical professionals perform to the height of health problems.

Although we have accepted that there are favorable changes in the academic life of the school, in the historical evolution of the SHM-UNACH, we can not deny the persistence of certain attributes that act in a negative way in the training of medical students and in general, deteriorate the image of the institution, not counting the direct and indirect damages to the health of the people derived from malpractice.

Generally speaking from the views of employers, the graduate profile of this curriculum meets the expectations of the labor market. However, some aspects of dissatisfaction that need improvement are also identified. Diversification of the educational program is necessary in order to be relevant to the Millennium Development Goals and the epidemiological and demographic transitions.



## REFERENCES

- Alonso, C.** (2011). *Indicadores Básicos de seguimiento de egresados*. Subsecretaría de Educación Superior e Investigación Científica.
- ANUIES. (2003). *Esquema básico para estudios de egresados en educación superior*.
- Barrón.** (2003). *Formación de profesionales y política educativa en la década de los noventa*. México: Instituto de Investigación sobre la Universidad y la Educación.
- Cuesy Ramírez, M. d., & Jiménez Pirrón, T. d.** (2010). *Estudio de empleadores, médicos egresados de la UNACH*. Tuxtla Gutiérrez, Chiapas: Unidad de Divulgación Científica-UNACH.
- Díaz Barriga, Frida** (1995). *Empleadores de universitarios: un estudio de sus opiniones*. México, CESU-UNAM, Colec.: Problemas educativos de México.
- Facultad de Medicina Humana (1974). *Plan de Estudios de Médico Cirujano*. Universidad Autónoma de Chiapas.
- Facultad de Medicina Humana (1993). *Plan de Estudios de Médico Cirujano*. Universidad Autónoma de Chiapas
- Facultad de Medicina Humana (2013). *Plan de Estudios de Médico Cirujano*. Universidad Autónoma de Chiapas
- Mendoza R. Javier** (2002). *Transición de la educación superior contemporánea en México*. UNAM/Grupo Editorial Porrúa. México.
- Ontiveros, I.** (2006) *Seguimiento de egresados de la Licenciatura en artes visuales de la escuela de pintura, escultura y artesanías de la UJED*. México: UPD
- Rose, P.** (2012). *Los jóvenes y las competencias, trabajar con la educación*. Organización de las Naciones Unidas para la Educación y la Cultura.
- Rubio, J.** (2006). *La política educativa y la educación superior en México 1995–2006: un balance*. México: Fondo de Cultura Económica.
- Ruffinelli.** (2009). *Círculo de segmentación del sistema educativo chileno: destino laboral de egresados*. [http://www.cned.cl/public/seccionpublicaciones/doc/64/cse\\_articulo832](http://www.cned.cl/public/seccionpublicaciones/doc/64/cse_articulo832)
- Ruiz, C.** (1997). *El reto de la educación superior en la sociedad del conocimiento*. México: ANUIES.
- SEP (2010). *Hacia la Construcción de un Sistema Nacional de Evaluación de la Educación Superior*. Secretaría de Educación Pública, México
- SEP (2013). *Programa Sectorial de Educación 2013-2018*. Secretaría de Educación Pública, México
- Trujillo Olivera, L. E.** (2005). *Los egresados del plan de estudios 1993 de la facultad de medicina humana de la UNACH*. Tuxtla Gutiérrez.