

## The Entrepreneurial University in Mexico: A Pre-Experimental Study on Entrepreneurial Intention and Skills

<sup>1</sup>Marco Alberto Nunez Ramirez, <sup>1</sup>Teodoro Rafael Wendlandt Amezaga,

<sup>2</sup>Berta Ermila Madrigal Torres, <sup>1</sup>Brenda Yuriria Bejarano Lugo and

<sup>3</sup>Roger Alejandro Banegas Rivero

<sup>1</sup>Department of Management, Instituto Tecnológico de Sonora,

5 De Febrero 818 South, 85000 Ciudad Obregon, Sonora, Mexico

<sup>2</sup>Southern Region University Center, Universidad de Guadalajara,

Enrique Arreola Silva Ave. 883, 49000 Ciudad Guzman, Jalisco, Mexico

<sup>3</sup>Institute of Economic and Social Research "Jose Ortiz Mercado" (IESJOM),

Universidad Autonoma Gabriel Rene Moreno, Bush Ave. 244, Santa Cruz de la Sierra, Bolivia

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**Abstract:** The promotion of entrepreneurial skills is increasingly important for economic development for this reason universities around the world find themselves in a paradigm shift towards promoting entrepreneurship. In the case of Mexico, the role the university plays in the development of the skills needed to create businesses is still unclear having various strategies that favor the future intent to create businesses and entrepreneurial skills. The purpose of this research is to evaluate the future intention and skills to create business this through a pre-experimental study with a sample of 153 students from a university in the state of Jalisco, Mexico. The results suggest that the strategies implemented by the university to promote entrepreneurship have favored the intention of the students to create business in the future but have not fostered the development of entrepreneurial skills.

**Key words:** University, entrepreneurship, intention, skills, Mexico, entrepreneurial, implemented

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### INTRODUCTION

Without a doubt that entrepreneurship has become a practice and skill whose promotion and development it is sought in recent years (Haynes and Robinson, 1991), generally considering an entrepreneur as any person capable of coordinating the necessary resources for the creation of a business (Radziszewska, 2014). However, in spite of the efforts to study and contribute to the existing knowledge on entrepreneurship within the social sciences, it is worth noting the lack of a clearly defined and widely used conceptual framework for reference on this subject (Shane and Venkataraman, 2000; Yamada, 2004). In part, this is due to the absence of a completely accepted definition of the term entrepreneurship (Gartner, 1989; Henry *et al.*, 2005) of which two main existing meanings are: the first aimed towards the organizational environment, being understood as the capability to innovate (McClelland, 1961; Schumpeter, 1934, 1962) and the second, being the capacity to create or start a new company (Vries and Manfred, 1985; Venkataraman,

1997). Taking into consideration the second meaning (the capacity to create a new company), the interest in the study of entrepreneurship within the academic community has increased (Venkataraman, 1997), this due to the various economic and social benefits it creates (Drucker, 1969; Duarte and Ruiz, 2009; Vries, 1996; McMullen, 2011; Peredo and McLean, 2013; Sautet, 2013). As a part of their development, the entrepreneurs must have skills such as risk management when investing their money, time and effort (Venkataraman, 1997), all with the purpose of growing their business, promoting self-employment and managing available resources.

Among the various existing theoretical approximations, it is worth noting that the topic of entrepreneurship has also been investigated from the behavioral perspective for example the theory of reasoned action (Ajzen and Fishbein, 1970, 1980). According to this theory, the conducts are driven by an intention of behavior which in turn is influenced by the attitudes and subjective norms (actions coherent with the social expectations or perceptions of others) in such a way that the subjective norms along with the skills could be

conceived as predictive elements of the conducts (Conner and Norman, 2005). Taking this criterion into account, the entrepreneurial behavior could be determined through the development of certain attitudes, subjective norms and the subsequent skills of an education geared towards the formation of an entrepreneurial culture, the main purpose of the entrepreneur's universities.

According to researcher such as Etzkowitz (2013), Etzkowitz and Zhou (2008), Gibb *et al.* (2009), Guerrero and Urbano (2012) and Haynes and Robinson (1991), the development of entrepreneurship is due mostly to its promotion in the business schools being higher education the strategic factor for economic and technological development in addition to providing solutions to the various emerging problems and scenarios. This is why the universities now a days look to adapt to and satisfy the demands of the global markets such as the knowledge society (Machlup, 1962; Drucker, 1969, 1985) and innovation (Schumpeter, 1934), consequently becoming universities that promote entrepreneurship (Etzkowitz *et al.*, 2008; Guerrero and Urbano, 2012). In this regard and specifically in Mexico, there are very few studies on the universities that promote the development of entrepreneurial skills (Miranda *et al.*, 2014), contrary to more extensive information that can be identified on how it is that the Higher Education Institutions (HEI) have directed its resources towards the development of business incubators (Arreola, 2014).

It should be noted that Mexico is one of the most entrepreneurial countries in the world (Fairlie and Woodruff, 2007) but lacks an entrepreneurial culture this can be identified by the creation of approximately 200 thousand new companies each year of which 50% disappear during their 1st year, 65% before 2 year and only 10% maintain operations until ten years (Morales, 2011). According to the studies of Global Entrepreneurship Monitor (GEMA), 2014, 53.2% of the population between the ages of 18 and 64 years in Mexico consider that starting a business is a good career option and only 50.8% think the entrepreneur has a high social status this as opposed to the united states where the results were 64.7 and 76.9%, respectively.

The abovementioned reflects the need of a culture that promotes entrepreneurship in Mexico and with it the development of skills that allow the creation of companies that generate greater value to society. Therefore, it is necessary to enact laws and promote policies both educational and governmental that have the purpose of forming entrepreneurs capable of generating employment and driving the development of the country (Madrigal and Contreras, 2008). Moreover, the development of entrepreneurs can be a valuable proposal to reduce the

youth unemployment rate in Mexico which was 9.3% in 2014 and 20% for college graduates (Instituto Nacional de Estadística y Geografía (NISG), 2014).

**Universities promoting entrepreneurship in Mexico:** It is evident that education is fundamental for the development of entrepreneurship since, it is here where people acquire the abilities, knowledge and attitudes that can favor it (Julien and Molina, 2012). Currently, the HEI have been adapting to the new contexts and making changes that have originated the emergence of the entrepreneurial Universities (Etzkowitz *et al.*, 2008; Guerrero and Urbano, 2012), however there is yet to be a definition entirely accepted by the academic community on what an entrepreneurial university is Organisation for Economic Co-operation and Development (2012). Nevertheless, according to Schulte (2004), this type of institutions has two main tasks: the development of future entrepreneurs who will be generators of new business and to develop the entrepreneurial spirit in all areas of education, through the involvement of the students in business incubators and technology parks in addition to their financial assistance (Borrero and Losada, 2012).

To this effect, education must answer to the social and economic pressures with its main purpose being the development of individuals for life and work; regarding the economic aspect, it is important that this be aimed at the development of professionals that promote corporate competitiveness (Tobon *et al.*, 2006). In this sense, the new higher education has placed emphasis on the development of certain entrepreneurial skills this through acquiring the competencies that promote creativity, flexibility, a daptability and problem solving (Benavides *et al.*, 2004). The following are part of the personal aptitudes of the entrepreneur: ability to start, psychosocial motivation, creative vision and imagination, need to succeed, teamwork, identification of needs and leadership (Viera *et al.*, 2008). It is worth mentioning that the abovementioned competencies are developed through teaching practices which bind multiple aspects together to create conditions, provide strategies and favor learning scenarios and the skills development.

In accordance with Moriano *et al.* (2006), education can stimulate the development of entrepreneurial behavior in different ways, on one hand it can increase the knowledge regarding the creation and management of companies and on the other hand it can promote personal traits related to entrepreneurship such as the motivation to succeed, internal control or self-sufficiency. It is worth noting that the main idea of an entrepreneurial university is the development and creation of a large number of independent people that would-be wealth creators,

innovators and people willing to take risks because of this in Mexico, the HEI need to promote the development of entrepreneurial skills among the students of all the knowledge fields to create value. In particular this is more important among those who study economic administrative sciences since, these individuals are those who are more likely to receive an administrative business training. Therefore, promoting an entrepreneurial education aimed at providing skills and instruments for students to become agents of economic and social development is necessary (Vigorena, 2006) and this is possible only through establishing entrepreneurial Universities that promote the development of this kind of entrepreneurial skills.

**Entrepreneurial skills:** Before defining and describing the entrepreneurial skills it is important to first provide some definitions of what an entrepreneur is. In this sense there are two words whose meanings are worth mentioning in relation to the term entrepreneurship these words are: intrapreneur and entrepreneur (Julien and Molina, 2012). The first refers to the talent within the organization, highlighting the capability to innovate (Drucker, 1985; Schumpeter, 1962) while the second, alludes to the capability of starting or launching a new business (Schendel, 1990; Shane and Venkataraman, 2000). This last definition will be taken into account for this research, the one that considers entrepreneurship as the process in which economic activities are created and developed with the creation of new companies.

Likewise, it should be noted the controversy that exists regarding the essence of being an entrepreneur (Shane and Venkataraman, 2000), considering their behavior as an approximation or a very relevant study form in the discovery, assessment and exploitation of the opportunities of a business idea (Mueller *et al.*, 2012). In this sense, Vries and Manfred (1985, 1996) also found that the personality of the entrepreneurs is characterized by certain functional aspects, understanding and referring to these as entrepreneurial skills.

The entrepreneurial skills are a set of skills and attitudes that allow a person to create a business this through the ability to discover business opportunities and a combination of resources and existing talent (Shane and Venkataraman, 2000), putting emphasis on: the permanent intent to manage resources to generate results according to the activity being developed (Quintero, 2007); the possession of high levels of work and life satisfaction (Blanchflower and Oswald, 1998); the pursuit of a benefit through individual or collective work, this by identifying opportunities and innovating the proactivity and ability to create social networks, through initiative, problem solving abilities, identifying areas of opportunity

and strategic and self-sufficient thinking (Gibb, 2013). In this sense, Tinoco (2008) proposes a taxonomy of this variable which is based on self-knowledge and future vision (Vries and Manfred, 1985), achievement motivation (McClelland, 1961), planning (Venkataraman, 1997) and persuasion (Yamada, 2004).

In spite of the taxonomy mentioned above, the study of entrepreneurial skills is still in its beginning stages, just now developing conceptually as well as methodologically (Gartner, 1989; Shane and Venkataraman, 2000). Likewise, studies such as Benavides *et al.* (2004), state that the intention of the college students towards the idea of creating a business is still low in comparison with other alternatives. Thus, an inspection of the universities' systems for developing professionals must be carried out this in order to incorporate elements that promote entrepreneurship and its skills in the students, requiring for such a change in the traditional paradigm of developing employees to developing employers (Rincones, 2002). Therefore for this to be possible, the participation of the universities is needed (Partida *et al.*, 2012), so that through their educational system they contribute to the development of attitudes and knowledge geared towards entrepreneurship (Moriano *et al.*, 2006).

In light of the foregoing, now a days promoting entrepreneurial education is essential in order to develop professionals that facilitate society's development. Therefore, within the entrepreneurial universities educating for business entrepreneurship is needed as well as developing competencies and skills to perform in the work environment (Montero, 2007) where skills to create a business play a relevant role. Regarding the attempts to promote the development of entrepreneurial skills in the Mexican Universities, it is possible to note the integration of subjects and extracurricular courses aimed at driving the entrepreneurial spirit (Arreola, 2014) however, it is not currently clear whether said efforts are accomplishing one of their main purposes which is developing the entrepreneurial skills of the college students. Therefore, the following research questions are made is there a significant difference in the intention to start their own business between two groups of people, one with entrepreneurship training and one without? and are there significant differences between both groups regarding entrepreneurial skills?

The present study is based on the theory of planned action by Ajzen and Fishbein (1980) which states that the intention of taking a particular behavior is the result of the combination of attitudes and subjective norms to which certain abilities can be added, so that an individual can decide on one behavior specifically (Conner and Norman,

2005). Therefore, it is understood that the intention to start a business can be acquired through the development of certain entrepreneurial skills an assumption from which the following hypotheses are constructed:

- H<sub>1</sub>: the intention to create their own business is greater in students that receive entrepreneurial training
- H<sub>2</sub>: regarding the entrepreneurial skills, significant differences will be identified in favor of the group with entrepreneurship training

### MATERIALS AND METHODS

The present study employed a quantitative approach by means of a non-experimental design, whose scope was descriptive-comparative, since it sought to specify the properties, characteristics and profiles of a phenomenon by describing its tendencies (Creswell, 2014; Hernandez *et al.*, 2014). Moreover, a pre-experimental research design was used without a strict control on external variables and subject selection therefore, the comparison between the variables was limited through a comparative design with a static group being made up of two groups: an experimental group that received the treatment and a control group to which no variable manipulation was applied (Gomez, 2012; Moreno *et al.*, 2000). It is worth mentioning that the participants who made up the experimental group, attended a series of conferences, courses and workshops focused on developing entrepreneurial skills within the university which did not occur with the control group.

**Study participants:** Through a non-probability sampling method convenience sample, data collection was obtained from a sample of 153 undergraduate students of economic-administrative sciences from a university in the state of Jalisco, Mexico. As mentioned earlier, Table 1 shows that the total sample is composed of two groups: control (n = 82) and experimental (n = 71) in addition to display other demographic characteristics such as sex, educational program (or major) and current semester.

**Measurement instrument:** In order to gather the necessary information, a questionnaire made up of two sections was administered: in the first one, a single question was asked regarding their 10 years projection through a dichotomous nominal scale with the options of entrepreneur and organizational manager as possible answers in the second section, participants were asked 20 questions aimed at measuring the entrepreneurial skills proposed by Tinoco (2008) whose response format

Table 1: Demographic characteristics of the participants (N = 153)

Characteristics	n	Percentage
<b>Group</b>		
Control	82	53.6
Experimental	71	46.4
<b>Sex</b>		
Female	78	51.0
Male	75	49.0
<b>Major</b>		
Marketing	31	20.3
International business	30	19.6
Administration	25	16.3
Government management and public policy	21	13.7
Human resources	14	9.2
Tourism	13	8.5
Economics	7	4.6
Others*	12	7.9
<b>Semester</b>		
First	35	22.9
Second	12	7.8
Third	7	4.6
Fourth	14	9.2
Fifth	23	15.0
Sixth	30	19.0
Seventh	16	10.5
Eighth	14	9.2
Ninth	1	0.7
Graduate	1	0.7

Elaborated with the sample information. \*Information technology; environmental management and economics; public policy; public accounting; financial administration

was a likert-type scale with five optional responses, varying from 1 (totally disagree) to 5 (totally agree). It should be noted that the last scale on entrepreneurial skills represented five dimensions: self-knowledge, future vision, achievement motivation, planning and persuasion. Regarding the instrument's reliability this was calculated by means of the cronbach's alpha coefficient, resulting in the following coefficients for each of the aforementioned dimensions: 0.70, 0.70, 0.75, 0.63 and 0.65, respectively.

**Procedure:** To conduct the study and the instrument administration, the necessary permissions were requested and obtained from the university authorities. Subsequently, the students were invited to voluntarily participate in the study, always guaranteeing the confidentiality of the information provided. It is worth noting that once the sample data was gathered, the Statistical Software SPSS (Version 23) was utilized for the corresponding analyses, i.e., the Pearson's  $\chi^2$ -test ( $\chi^2$ ) and the Student's t-test.

### RESULTS AND DISCUSSION

Through the pearson's Chi-square statistic test, there was a significant association between the group belonging to (experimental or control) and whether or not students manifest a future intention to create or start a new business  $\chi^2 (1) = 6.97, p < 0.05$  (Table 2). This seems to

Table 2: Association between variables “Group belonging to” and “Future intention to create a business”

Future intention	Group belonging to				$\chi^2$
	Experimental (n = 71)		Control (n = 82)		
	n	%	N	%	
Create a business	60	84.5	54	66	6.97*
Not create a business	11	15.5	28	34	

Own elaboration; \*p<0.05

Table 3: Differences between the control and experimental groups regarding entrepreneurial skills

Entrepreneurial skills	Group belonging to				t-values	Cohen's d
	Experimental (n = 71)		Control (n = 82)			
	M	SD	M	SD		
Self-knowledge	3.83	0.588	3.85	0.712	0.182	0.029
Future vision	3.79	0.588	3.87	0.633	0.837	0.135
Achievement motivation	3.92	0.703	4.14	0.625	2.020*	0.330
Planning	3.82	0.690	3.78	0.617	-0.289	-0.046
Persuasion	3.67	0.683	3.53	0.639	-1.290	-0.210

Own elaboration with the information provided from the study statistical analysis; \*p<0.05

represent the fact that based on the odds ratio, the odds of the student’s intention to create a business were 2.83 times higher if they belong to the experimental group with training to develop their entrepreneurial skills-rather than belong to the control group. This result provides evidence supporting  $H_1$ , an idea that suggests that the intent to create a business is greater when training to develop entrepreneurial skills is received, i.e., to belong to the experimental group.

Regarding entrepreneurial skills, it is worth noting that Student’s t-test for independent samples was used, through which no significant differences were identified between the control and experimental group with respect to self-knowledge, future vision, planning and persuasion skills. However, the achievement motivation skill was the only one to present a significant difference ( $t = 2.02$ ;  $p = 0.044$ ), since the control group presented a higher mean than the experimental group. Therefore, this empirical result does not provide sufficient evidence to support  $H_2$  which stated that the entrepreneurial skills would present significant differences in favor of the group that underwent entrepreneurial training (Table 3).

Even though, this study does not have the elements nor the characteristics needed to make a generalization, the results provide empirical evidence of the existence of a certain association between the variables group belonging to and future entrepreneurial intent being it more probable to manifest a future intent to create a business having received training as is hypothesized in accordance with the theory of reasoned action of Ajzen and Fishbein (1980). Moreover, it should be noted that contrary to what was expected, no significant differences were identified between the control and experimental group regarding the development of entrepreneurial skills. This could be showing the need to integrate and

continue searching to develop these skills with the purpose of driving college students towards entrepreneurial behaviors (Conner and Norman, 2005). This also suggests that in order to educate entrepreneurs a more comprehensive strategy is needed, fostering the development of people with entrepreneurial skills and intentions.

Consequently, the current college education must be aimed towards developing professionals (Orozco, 2000), by building new competencies and entrepreneurial capabilities (Montero, 2007), all directed towards a new type of undergraduate education: the entrepreneurial university. This type of education could strengthen and fortify the human and social development and as a result become an instrument of creation and distribution of wealth and knowledge (Vera *et al.*, 2008). Likewise, this type of education could encourage the development of entrepreneurial conducts increasing knowledge on company creation and management as well as promoting the development of personal characteristics related to entrepreneurship such as success motivation, internal control or self-sufficiency (Moriano *et al.*, 2006).

It is necessary to remember that the essence of entrepreneurial education is the formation and development of people who are independent, wealth creators, innovators and willing to take risks (Vigorena, 2006); this being possible through contributions to the theoretical and empiric postulates whose purpose is to explain the entrepreneurial conducts from the intent, the education and the development of skills.

## CONCLUSION

This study is based on the premise that the university must be linked to a multidimensional process

where the students develop knowledge, skills, values and attitudes to perform in the work environment (Montero, 2007). The findings show certain challenges for the development of entrepreneurial universities such as the design of effective development strategies of entrepreneurial skills.

It has to be emphasized that currently there are various approximations whose purpose is to explain entrepreneurship (Gartner, 1989; Vries, 1985, 1996; McClelland, 1961; Shane and Venkataraman, 2000; Venkataraman, 1997); however, this phenomenon still needs to be investigated in order to predict a successful entrepreneurial conduct. For this, the universities play a very important role in the investigation of entrepreneurship, having the possibility to develop entrepreneurial skills.

For the development of this type of skills, it is essential to change the traditional paradigm of the university as a generator of employees to a university that develops entrepreneurs (Rincones, 2002). It should be pointed out that current projects for creating companies are Developed in Classrooms and University Incubators where the entrepreneurial culture is promoted (Corti and Riviezzo, 2008). According to Busenitz *et al.* (2003), the success of the entrepreneur depends on the support of the academic community, even though in Mexico the university paradigm of business development that prevails is based solely on the business simulation processes that have no impact in reality (Madrigal and Contreras, 2008) therefore, it is necessary to go beyond this through a true entrepreneurial education, favoring the development of skills and instruments in order for the students to become agents of economic and social development (Vigorena, 2006).

### RECOMMENDATIONS

In future investigations, it would be convenient to repeat this study with a larger sample of students, in order to identify any similarity or difference in the results. Likewise, it is recommendable to carry out a similar study in other Mexican Universities to make a broader diagnosis about the ways to encourage the intent and skills to create business.

It is also recommended to carry out an investigation with a stricter experimental design where a greater manipulation in the selection of subjects is possible and other variables and aspects that influence the entrepreneurial behavior are considered such as: self-esteem, subjective well-being, personality type, optimism, empowerment, motivations and emotional intelligence. Lastly, the entrepreneurial universities could

strengthen their educational plans curricula-through teaching approaches that involve teamwork as well as persuasive and planning skills.

### REFERENCES

- Ajzen, I. and M. Fishbein, 1970. The prediction of behavior from attitudinal and normative variables. *J. Exp. Social Psychol.*, 6: 466-487.
- Ajzen, I. and M. Fishbein, 1980. *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall, Englewood Cliffs, New Jersey, ISBN-13: 978-0139364358, Pages: 278.
- Arreola, J., 2014. [Universities and Their Impact on Entrepreneurship in Mexico]. Forbes Mexico Publisher, Mexico City, Mexico, (In Spanish).
- Benavides, M., M.I. Sanchez and R. Luna, 2004. [The learning process for entrepreneurs in the current situation: A qualitative analysis in the university context (In Spanish)]. *Direction Organiz. Eng. Mag.*, 1: 34-48.
- Blanchflower, D.G. and A.J. Oswald, 1998. What makes an entrepreneur? *J. Lab. Econ.*, 16: 26-60.
- Borrero, M.A.F. and S.G. Losada, 2012. [The profile of a good university teacher (In Spanish)]. *REDU. J. Univ. Teach.*, 10: 237-249.
- Busenitz, L.W., G.P. West III, D. Shepherd, T. Nelson and G.N. Chandler et al., 2003. Entrepreneurship research in emergence: Past trends and future directions. *J. Manage.*, 29: 285-308.
- Conner, M. and P. Norman, 2005. *Predicting Health Behavior: Research and Practice with Social Cognition Models*. 2nd Edn., Open University Press, New York, USA., ISBN-10:0335-21176-3, Pages: 373.
- Corti, E. and A. Riviezzo, 2008. [Towards an entrepreneurial university: An analysis of the commitment of Italian universities to economic and social development (In Spanish)]. *Ind. Econ.*, 368: 113-124.
- Creswell, J.W., 2014. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 4th Edn., Sage Publications, Thousand Oaks, California, ISBN:978-1-4522-2609-5, Pages: 274.
- Drucker, P., 1985. *Innovation and Entrepreneurship: Practice and Principles*. Harper & Row, New York, USA., ISBN:9780060913601, Pages: 277.
- Drucker, P.F., 1969. *The Age of Discontinuity: Guidelines to Our Changing Society*. Harper Torchbooks Publisher, New York, USA., ISBN:9780434903955, Pages: 369.
- Duarte, T. and M. Ruiz, 2009. [Enterprising, an option to the development (In Spanish)]. *Sci. Tech.*, 3: 326-331.

- Etzkowitz, H. and C. Zhou, 2008. Introduction to special issue Building the entrepreneurial university: A global perspective. *Sci. Publ. Policy*, 35: 627-635.
- Etzkowitz, H., 2013. Can a teaching university be an entrepreneurial university? Civic entrepreneurship and the formation of a cultural cluster in Ashland, Oregon. Master Thesis, Birkbeck, University of London, London, England.
- Etzkowitz, H., M. Ranga, M. Benner, L. Guarany and M.A. Maculan et al., 2008. Pathways to the entrepreneurial university: Towards a global convergence. *Sci. Publ. Policy*, 35: 681-695.
- Fairlie, R.W. and C. Woodruff, 2007. Mexican Entrepreneurship: A Comparison of Self-Employment in Mexico and the United States. In: *Mexican Immigration to the United States*, Borjas, G.J. (Ed.). University of Chicago Press, Chicago, Illinois, ISBN-10:0-226-06632-0, pp: 123-158.
- GEMA., 2014. GEM 2014 global report. Global Entrepreneurship Research Association, London, England. <http://gemconsortium.org/report/49079>.
- Gartner, W.B., 1989. Who is an entrepreneur? Is the wrong question. *Entrepreneurship Theory Pract.*, 13: 47-68.
- Gibb, A., 2013. The Entrepreneurial University Concept-20 Key Questions. In: *The Entrepreneurial University: From Concept to Action*, Coyle, P., A. Gibb and G. Haskins (Eds.). NCEE Publication, Washington, USA., pp: 10-16.
- Gibb, A., G. Haskins and I. Robertson, 2009. Leading the entrepreneurial university. Master Thesis, University of Oxford, Oxford, England.
- Gomez, S., 2012. [Investigation methodology]. Red Tercer Milenio S.C., Tlalnepantla de Baz, Mexico. (In Spanish)
- Guerrero, M. and D. Urbano, 2012. The development of an entrepreneurial university. *J. Technol. Trans.*, 37: 43-74.
- Haynes, M. and P. Robinson, 1991. Entrepreneurship education in americas major universities. *Entrepreneurship Theor. Pract.*, 15: 41-52.
- Henry, C., F. Hill and C. Leitch, 2005. Entrepreneurship education and training: Can entrepreneurship be taught? *Educ. Train.*, 47: 98-111.
- Hernandez, R., C. Fernandez and M.P. Baptista, 2014. [Investigation Methodology]. 6th Edn., McGraw Hill Education, New York City, New York, USA., (In Spanish).
- Julien, P.A. and R.J. Molina, 2012. [A Theory on Regional Entrepreneurship in the Knowledge Economy]. Pearson Education, London, England, ISBN:9786073214636, Pages: 292 (In Spanish).
- Machlup, F., 1962. *The Production and Distribution of Knowledge in the United States*. Princeton University Press, Princeton, New Jersey, ISBN:0-691-08608-7, Pages: 401.
- Madrigal, B. and R. Contreras, 2008. [Emerging paradigms in administrative sciences]. Master Thesis, Universidad de Guadalajara. Guadalajara, Mexico. (In Spanish)
- McClelland, D.C., 1961. *The Achieving Society*. Free Press Publisher, New York City, New York, USA., Pages: 512.
- McMullen, J.S., 2011. Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrepreneurship Theor. Pract.*, 35: 185-193.
- Miranda, G., R. Molina and A. Lopez, 2014. Social Entrepreneurship in Universities: The case of collaboration networks between MSMEs (micro, small and medium enterprises) and the common land of the Ojo de Agua De Ballesteros water park in Salvatierra, Guanajuato, Mexico. *Intl. J. Hum. Social Sci.*, 4: 21-30.
- Montero, P., 2007. [Challenges for the professionalization of the new university teaching role (In Spanish)]. *Essay Eval. Publ. Policies Educ.*, 15: 341-350.
- Morales, I., 2011. [SMEs in Mexico, between failed creation and creative destruction (In Spanish)]. *Econ. Inf.*, 366: 39-48.
- Moreno, R., G. Lopez, I. Cepeda, G. Alvarado and C. Plancarte, 2000. [Research Designs: The Research Process]. Facultad de Estudios Superiores Iztacala, Tlalnepantla de Baz, Mexico, (In Spanish).
- Moriano, J.A., F.J. Palaci and J.F. Morales, 2006. [The psychosocial profile of the university entrepreneur (In Spanish)]. *J. Work Organizational Psychol.*, 22: 75-99.
- Mueller, S., T. Volery and B.V. Siemens, 2012. What do entrepreneurs actually do? an observational study of entrepreneurs everyday behavior in the start-up and growth stages. *Entrepreneurship Theor. Pract.*, 36: 995-1017.
- NISG., 2014. [National survey of occupation and employment: Interactive data query]. National Institute of Statistics and Geography, Aguascalientes, Mexico. (In Spanish) [http://www.inegi.org.mx/Sistemas/Olap/Proyectos/bd/encuestas/hogares/enoe/2010\\_PE/pda.asp?s=est&proy=enoe\\_pe\\_pda&p=enoe\\_pe](http://www.inegi.org.mx/Sistemas/Olap/Proyectos/bd/encuestas/hogares/enoe/2010_PE/pda.asp?s=est&proy=enoe_pe_pda&p=enoe_pe).
- Organisation for Economic Co-operation and Development, 2012. *A Guiding Framework for Entrepreneurial Universities*. OECD Publications, Paris, France,.

- Orozco, B., 2000. [From the Professional to the Training in Competences: Conceptual Changes in the Notion of University Education]. In: Training in Skills and Professional Certification, Valle, M.D.L.A. (Ed.). Institute of Research about University and Education, Mexico City, Mexico, ISBN:9789683683786, pp: 105-139 (In Spanish).
- Partida, A., M.M. Carrera and L.A. Villarreal, 2012. [Analysis of motivations, success factors and obstacles to entrepreneurship: comparative study between Mexico, USA and Turkey (In Spanish)]. *Bus. Innov.*, 9: 207-231.
- Peredo, A.M. and M. McLean, 2013. Indigenous development and the cultural captivity of entrepreneurship. *Bus. Soc.*, 52: 592-620.
- Quintero, C., 2007. [Generation of competences in young entrepreneurs]. Master Thesis, Autonomous University of Bucaramanga, Bucaramanga, Colombia. (In Spanish)
- Radziszewska, A., 2014. Intercultural dimensions of entrepreneurship. *J. Intercultural Manage.*, 6: 35-47.
- Rincones, D., 2012. [Andrological Model of Entrepreneurship Training]. Ph.D Thesis, Universidad Internacional de Educación a Distancia de Panamá UNIEDPA, Panama City, Panama. (In Spanish)
- Sautet, F., 2013. Local and systemic entrepreneurship: Solving the puzzle of entrepreneurship and economic development. *Entrepreneurship Theor. Pract.*, 37: 387-402.
- Schendel, D., 1990. Introduction to the special issue on corporate entrepreneurship. *Strategic Manage. J.*, 11: 1-3.
- Schulte, P., 2004. The entrepreneurial university: A strategy for institutional development. *Higher Educ. Eur.*, 29: 187-191.
- Schumpeter, J.A., 1934. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*. Transaction Publishers, USA., ISBN: 9780878556984, Pages: 255.
- Schumpeter, J.A., 1962. *Capitalism, Socialism and Democracy*. 3rd Edn., Harper and Row, New York, USA., Pages: 431.
- Shane, S. and S. Venkataraman, 2000. The promise of entrepreneurship as a field of research. *Acad. Manage. Rev.*, 25: 217-226.
- Tinoco, O., 2008. [Measurement of the entrepreneurial capacity of new students to the faculty of industry engineering of the UNMSM (In Spanish)]. *Ind. Data*, 11: 18-23.
- Tobon, S., A. Rial, M.A. Carretero and J.A. Garcia, 2006. [Competences, Quality and Higher Education]. Cooperativa Editorial Magisterio Publisher, Bogota, Colombia, ISBN:958-20-0873-3, Pages: 205 (In Spanish).
- Ventakaraman, S., 1997. The distinctive domain of entrepreneurship research. *Adv. Entrepreneurship, Firm Emergence Growth*, 3: 119-138.
- Vera, P., C. Baquedano, Y. Ferram, S. Olavarria and E. Parra et al., 2008. [A pedagogical innovation for the formation of university entrepreneurs (In Spanish)]. *Mag. FAE.*, 11: 113-126.
- Viera, A., A. Perez and M. Paredes, 2008. [Critical pedagogy and entrepreneurship skills in university students (In Spanish)]. *Sci. J. Manage.*, 24: 43-62.
- Vigorena, F., 2006. [Entrepreneurial Education (In Spanish)]. *Pharos*, 13: 59-65.
- Vries, K.D. and F.R. Manfred, 1985. The dark side of entrepreneurship. *Harv. Bus. Rev.*, 63: 160-167.
- Vries, K.D. and F.R. Manfred, 1996. The anatomy of the entrepreneur: Clinical observations. *Hum. Relat.*, 49: 853-883.
- Yamada, J.I., 2004. A multi-dimensional view of entrepreneurship: Towards a research agenda on organization emergence. *J. Manage. Dev.*, 23: 289-320.