

The journey of the scientific researchers of the Universidad Autónoma de Sinaloa for the recognition of their professional work

El recorrido de los investigadores científicos de la Universidad Autónoma de Sinaloa por el reconocimiento de su trabajo profesional

SOTO-DECUIR, María Guadalupe†*, MAZO-SANDOVAL, Isabel Cristina and MAZO-SANDOVAL, María Concepción

Universidad Autónoma de Sinaloa, Facultad de Ciencias de la Educación

ID 1° Author: *María Guadalupe, Soto-Decuir* / ORC ID: 0000-0003-1543-6213

ID 1° Co-author: *Isabel Cristina, Mazo-Sandoval* / ORC ID: 0000-0002-8275-568X

ID 2° Co-author: *María Concepción, Mazo-Sandoval* / ORC ID: 0000-0002-6626-7811

Received March 25, 2018; Accepted May 30, 2018

Abstract

Being part of the National System of Researchers (SNI) is a challenge for any researcher, to enter this group, recognized at the national level, it is necessary to develop multiple activities. This document reflects the path of the researchers of the Autonomous University of Sinaloa (UAS) to achieve not only their entry, but their permanence in that system. Interviews were conducted with a sample of researchers from the university. The atlas.ti program was used to process the information, the results reveal their feelings and challenges to enter and the constant search to formalize the requirements to achieve permanence; the most complicated requirements to comply within in the CONACYT evaluations are exposed. It is commented that the researchers perform constant activities development actions to comply with the evaluation parameters established by the system.

Training of Researchers, SNI, Research

Resumen

Formar parte del Sistema Nacional de Investigadores (SNI) es un reto para cualquier investigador, ingresar a este grupo, reconocido a nivel nacional se requiere desarrollar múltiples actividades. Este documento reflexiona sobre el recorrido de los investigadores de la Universidad Autónoma de Sinaloa (UAS) para lograr no solo su ingreso, sino su permanencia en dicho sistema. Se realizaron entrevistas a una muestra de investigadores de la universidad. Se usó el programa atlas.ti para el procesamiento de la información, los resultados revelan su sentir y desafíos para ingresar y la búsqueda constante por formalizar los requisitos para lograr la permanencia; se exponen las exigencias más complicadas de cumplir en las evaluaciones del CONACYT. Se comenta que los investigadores realizan acciones constantes de desarrollo de actividades para dar cumplimiento a los parámetros de evaluación que establece dicho sistema.

Formación de Investigadores, SNI, Investigación

Citación: SOTO-DECUIR, María Guadalupe, MAZO-SANDOVAL, Isabel Cristina and MAZO-SANDOVAL, María Concepción. The journey of the scientific researchers of the Universidad Autónoma de Sinaloa for the recognition of their professional work. ECORFAN Journal- Spain. 2018, 5-8: 18-25.

* Correspondence to Author (email: soto.decuir@gmail.com)

† Researcher contributing first author.

Introduction

Scientific research and its applications are of great benefit for economic growth and sustainable development, the future of humanity will depend on its dissemination and use (United Nations Educational, Scientific and Cultural Organization [Unesco], 1999; 2015). For the above to have an effect, it is necessary the presence of researchers, without their effort, tenacity, persistence and the will of scientific, technological and / or social advances, would not flourish; Little has been studied about the problems they face, the limited spaces they have, or the work they carry out to achieve their quality work that impacts the different areas in which the human being develops.

In relation to the above, scarce information has been found about the methodological approach of this study, since the quantitative literature on the subject abounds, for example Reyes and Suricachi investigated the amount of scientific production to be admitted into the National System of Researchers (SNI); the correspondence of the level of publications in the Institute for Scientific Information (ISI) and the researchers that form part of the SNI, and have analyzed the percentage of researchers who choose to be evaluated by the National Council for Science and Technology (CONACYT) and their favorable versus unfavorable responses, the differences that they reach by areas of knowledge, as well as the average indicators that they must achieve in order to obtain a positive evaluation at the different levels of the SNI (Reyes & Suricach, 2010, 2012a, 2012b); Didou and Gérard (2011) investigated the progressive but incomplete standardization of the criteria that govern national scientific elites.

We also found a qualitative study that reflects the teacher as a professional who travels in the research, teaching, dissemination and generation of culture and knowledge (Santos, 2017); In addition, conferences of researchers from the SNI have been developed with the aim of generating a space for reflection from the perspective of gender and equity in the system of scientific research and technological innovation and in the higher education system.

Due to the above, a study was sought that would reveal their professional work of the members of the National System of Researchers of the Autonomous University of Sinaloa (UAS) that in 2017 was registered 266 SNI (Directorate General of Research and Postgraduate Studies [DGIP], 2017) in the three regional units:

Regional Unit Center (URC), Regional Unit North (URN) and South Regional Unit (URS), which have recently entered or have remained for more than 20 years, so it is not only a task of searches or theoretical referents about its results, but to make visible the long journey that the scientific researchers of the UAS go through the recognition of their work experience as members of the SNI.

In Sinaloa 1996, with the support of CONACYT, the State Board of Science and Technology (COECYT) emerged whose main purpose is to promote science and technology for the economic and social development of the State. But in the constant search for improvement, in 2012 the Institute for the Support of Research and Innovation (INAPI) was created with the aim of promoting scientific research, innovation, development and technological modernization of the economic units of Sinaloa (Institute of Support for Research and Innovation [INAPI], 2012), this institute encourages the work of the teacher-researchers, in this space and through the call of state scientists, the most influential areas are the social sciences and humanities. Although having the above institutions is an advantage, most of the research in Sinaloa is done with little budget and without recognition.

From the above, the objective is to unveil the challenges faced by university professors when translating from the role of professor to that of research professor to acquire recognition for the National System of Researchers.

Description of the method

The methodological approach used in this research is circumscribed in the qualitative paradigm, from a perspective centered on understanding the meaning of the actions of the study subjects. To this end, a representative sample of researchers from the three regional units were established and interviews were conducted at 30 SNIs (10 per regional unit), with the purpose of covering the 7 established areas CONACYT: **I.** Physical-mathematical Sciences and Earth Sciences, **II.** Biology and Chemistry, **III.** Medicine and Health Sciences, **IV.** Humanities and Behavioral Sciences, **V.** Social Sciences, **VI.** Biotechnology and Agricultural Sciences and **VII.** Engineering. The Autonomous University of Sinaloa divides its territorial extension into three regional zones. Each regional unit has its own characteristics, from geographical location, population density, spaces for research and number of students to develop postgraduate studies.

This research seeks to reflect in equal numbers the opinions of the teachers-researchers each of the zones, which shows that the researchers are on equal terms, and face the same conflicts and limitations, so they sought a representative sample that will contemplate the three zonal units, it was determined that thirty met the objectives pursued, not finding variation in the results with the increase of interviewees.

These interviews were conducted from February to October 2017 and a semi-structured interview guide based on the objective to be investigated was developed for the collection of information; the appointments with the investigators of the Regional Unit Center and North Regional Unit were arranged via email and those of the South Regional Unit were personally sought to schedule them. The URC and URS interviews were conducted in person at the UAS facilities, while those of the URN were developed by video call. The interview as a qualitative research method is a tool for analysis and can be done in different ways, in person or by phone. (Cuñat, 2007).

It should be noted that, in the realization of the fieldwork, the SNI of the URN and URS presented a kind and immediate response to the request and availability for conducting the interview, however the SNI of the URC were apathetic and distrustful, when the interview were tense, nevertheless the rapport was established, the interviewees' tone was decreased, they had a positive attitude and the goal of the interview was met.

The interviews were recorded in digital audio and transcribed to proceed to sort the information gathered with the support of the qualitative analysis program atlas.ti. Then, they were analyzed from an analytical and interpretative approach based on the qualitative interpretive paradigm that seeks the comprehension of the dynamic reality in which the study subjects are immersed.

The analysis of the information in the atlas.ti program began with a coding (subcategories), to immediately create and organize the families (categories) and subsequently link them with the citations of recognized information sources that support the research (these were carried out at through specialized virtual databases such as Proquest, Ebsco, Redalyc, Miar, Google academic, among others). Subsequent to the link was made a first scientific interpretation (logical, verifiable and systematizable) of the contents of the categories with the theory. A constant comparison and reorganization was made, in order to objectify a pertinent analysis to address the problem.

Results

The promotion of scientific, technological and innovation work is essential in the progress of a country. "The researcher is the central device of the scientific community: its exercise is concentrated in an institutional surface that endorses it, forms it and provides it with material, organizational, theoretical-methodological and cognitive conditions" (Maisterrena, p.80, 2018). The UNESCO Science Report states that "research is a factor in accelerating economic development and, at the same time, a determining factor in the construction of more sustainable societies" (UNESCO, 2015). In this regard, scientists are essential, they promote the transfer and exchange of knowledge based mainly on scientific research, training and education (UNESCO, 2015), however the path they take in their training and recognition is not always visible.

This report highlights numerous examples in which countries have recognized the need for better management to promote endogenous science and innovation (UNESCO, 2015), regarding the situation in Mexico, recognition of the work of researchers dedicated to producing scientific and technological knowledge is provided by CONACYT, which grants the appointment of national researcher, which is a symbol of quality and prestige of their contributions in conjunction with economic stimuli. (CONACYT, s / f) In Sinaloa, INAPI promotes and strengthens scientific research, technological development and innovation, in order to link science and technology with education. (INAPI, 2012)

However, in the work of the researcher "Difficulties arise to acquire a job related to the training received (research) and work conditions also change in terms of job security" (Maisterrena, p.82, 2018). Due to the above, this research reflects on the categories that "have permeated the teaching practice of university professors, transforming from the role of professor to professor-researcher" (Guerrero, 2017, p.1), these are: challenges of entry and permanence in the roads to the SNI, in the subcategories of "incorporation and continuity to the SNI"; The category of: human capital trainers in the subcategories of "thesis management", "commitment weaknesses and of students as future researchers" is also studied.

Challenge of entry and stay on the roads of the SNI

It is a challenge for every teacher-researcher to have the distinction of the SNI by CONACYT, for this category, the challenge of entry or permanence is defined as the commitment, purpose and monitoring that researchers acquire to demonstrate the quality of their professional work, so the complexity joins the different dimensions of the problem.

For example, the challenge for entry at first is the production and publication, to which the researchers surveyed expressed:

It helped me to produce enough in conjunction with my director to enter the SNI and I worked according to the rules that are not written, but you know they are taken into account (Research 2, area V).

Another mentioned:

The challenges are obviously to publish, have publications in high impact journals and have student thesis, collaborate with them with undergraduate and graduate students and team up with other researchers, these are the challenges to enter and maintain, but without resources is complicated (Research 7, area VII).

In the same sense, another said:

The challenge is to always be working, because the SNI is momentary, tomorrow I can no longer be in the SNI, I have to always be working on the research part, it's not that I arrived and I'm going to stay there, it's always work with scientific questions, participate in congresses and all the things one does (Researcher 8, area VII).

The recognized production are: the articles ruled by a rigorous editorial committee, books reviewed and published as well as book chapters in recognized publishers, before the above, a researcher said:

What you produce must have a certain level of quality, because they evaluate you with very rigorous academic criteria, so everything you do, you have to take care of (Research 9, area IV).

Another challenge is the administration of time in relation to the multiple activities as a teacher and researcher, and is explained as follows:

It is a challenge for me to stay, because sometimes I have little time and I have to comply with tutorials, classes, I have to be working with graduate and as I have limited time here, I also have only two theses completed in three years, I think they ask us to finish one per year, or it is the most advisable to go guaranteeing permanence or continuity (Research 11, area V).

The personal challenge of the researchers who have worked on the paths to enter or remain in the SIN, involves producing in conjunction with the director, which depends on the time and dedication that the thesis director dedicates to the graduate student, taking into account the evaluation criteria by CONACYT to obtain recognition, as they are published in high impact journals, so.

One of the challenges of any scientific researcher is to publish in journals that have international recognition (refereed and indexed by the highest quality standards), that their research works are published in books or book chapters to be consulted and cited by experts and that serve to shape and solidify the knowledge society. (Soto, Mazo & Mazo, 2017, p.100).

In this sense, "share the knowledge generated with the society to which we owe" (Cabrero, 2015), with the commitment to intervene proactively in the search of alternatives for the improvement of the country, however, these have not been covered, as the "product of research force, is measured both quantitatively and qualitatively. [...] Mexican scientific production has been increasing. However, the number is still very low compared to most of the OECD member countries "(CONACYT, 2014). And the lack of resources (of any kind, whether economic or human) for research and scientific development diminishes the formative and work opportunities of those who aspire to engage in research.

The SNI as trainers of human capital

Training and integrating a country with human capital is a must for the development and consolidation of a society.

No country has been able to accelerate its journey towards a knowledge economy without having significantly expanded the pool of highly qualified human capital. Science and technology depend on laboratories, equipment and infrastructure, but fundamentally depend on human capital. (Cabrero, 2018).

In this sense, a country that forms "high level human capital and train women and men committed to a more just and prosperous society" is required (CONACYT, 2014)

It is considered as part of the formation of human capital the direction of thesis, because it is an educational practice "that is considered by literature as one of the factors of greater weight in the training of researchers and in the probability that students complete or not his doctoral programs "(Fernández & Wainerman, 2015, p.156), however, when they have approached and questioned the newly-enrolled SNIs, they express to us that they have the need to search or track students who want to be titled by thesis, be it undergraduate or graduate, it is an evaluation criterion on the part of CONACYT and it is not presented very easily because the university has different options of degree (average, social service memory, diploma, professional practice, etc.) or students usually resort to more experienced researchers.

To support the above, the new income researchers express: To enter the SNI we have to direct theses outside our institution, because we do not have here, where? [...] as a school we do not have to follow up or continue with the postgraduate course, since there was no interest on the part of the management. On the other hand, I have social service students from here of faculty, a group of ten [...], but it seems that no one wants to do thesis, it is only to get the memory of social service, they have not been interested in thesis title. As they are given different options to be titled, they go for the one that suits them best (Researcher 11, area V).

In addition, he mentions that: Since we do not have a graduate degree here, that is a field in which I am low, it is where I am hesitating, I need to look for something, look for someone and convince them in a very short time to comply with that item (Researcher 11, area V).

In the same line another new income researcher expresses: In fact, for the thesis I have complicated a bit, because in the university they have several types of degrees, and the easiest is by average or diploma, then the thesis is really like the last option or almost nobody select it (Researcher 1, area VII).

Another expresses: I am invited to participate sometimes in some tutorial committees, but only as a guest, although it is an achievement, I need to direct a thesis to demonstrate that I have the capacity to train human resources (Researcher 3, area IV).

And although SNIs look for strategies, such as being co-director, is what it could be, that a teacher of the basic nucleus is the director and I the co-director, there it would be a strategy that could be implemented, a co-direction (Researcher 2, area V).

The above is not enough, since UNESCO (2015) suggests the formation of high-level human capital in higher education.

Teachers-researchers also express their feelings in relation to their integration into the core academic groups,

The academic body be inclusive, because if it is not going to be equitable when it comes to distributing students, it is centralized in some people, for example, from the area that we covered five new students entered and I was not assigned any, only to the full times (Researcher 7, area VII).

The above, states that the new scientific researchers entering the SNI make a greater effort, on the one hand they face an outsourced labor context (Maisterra, 2018), and on the other "they face the challenge of unison to cultivate the innovation of their practices educational and provide spaces for reflection and research and also teach in the classroom "(Soto, Mazo & Mazo, 2017)

And according to Rebeca de Gortari

Teamwork is also key for knowledge flows to cross disciplinary boundaries with more mobile human resources and a more open and flexible organization of production towards the creation of networks that break traditional disciplinary barriers (as cited in Gatica, 2017)

On the other hand, there are opposing discourses, while the SNI that have more than twenty years and are part of the core of a graduate program, express that in the formation of human capital in postgraduate students:

They reach the masters and doctorates, and remove the training habits, remove many things and if they do not have basic readings it is a big problem. You can not in two years remove a process of six years that you had to build [...] bring problems of writing, they bring problems of text comprehension and bring problems, for example of few reading habits [...] are not able to last three, four hours reading (Researcher 10, area V).

Newcomers expressed that: They are already students with a little more maturity and therefore it facilitates them with more in the question of doing, in terms of research and also the same in the case of writing less is fought but they are still learning, everything is a matter formative and little by little they improve their writing or writing of thesis (Researcher 7, area VII).

However, SNIs identify a limitation or barrier as weakness in graduate students. The English language I think is the general deficiency in postgraduate students, they bring a bit of notion, but it is a limitation, since most of the journals in the area are in English. Although in the end they have to comply with the domain, even if reading, because it is a requirement for them (Researcher 5, area III).

In the same tenor, another researcher expresses. It is an important barrier, as always at the international level is the dominant language, in fact to generate a good product a good publication because it has to be in English to submit it to an indexed magazine and that can be easily consulted by the international community, then if we want to reach that point, it has to be done in that way (Researcher 13, area II). Mastering a second language, preferably English is necessary both for the teacher-researcher and student in training, is essential when performing your searches in international databases, consultations with experts and recommended for the publication of your work and / or research if they want to make themselves known internationally.

On the other hand, in the implicit discourse of the researchers another subcategory emerged, that of student commitment, understanding the value of commitment as the positive mental state related to studies, where dedication is an important factor in learning and personal development of the students (Casuso-Holgado, et al, 2013).

Researchers with respect to academic level express that: The academic level is not so necessary, but the desire of the student to learn and the researcher to teach, generally speaking, demand the student (Researcher 6, area III).

Another stated that: The guys who come to do the thesis with me bring a lot of desire which makes them level out, it's not something that I see or at least I do not receive students who do an activity to forces or who feel that they have a heavy commitment, they enter because they want and alone they put the rope around their neck because there are several options but they decide to do thesis so I try to maintain harmony, the truth is that working with people is always very diverse, it is complex but it is not difficult then communication is very important and until now it has worked for us (Researcher V, area VI).

And in that commitment, is the researcher-student relationship, is the scaffolding that the researcher provides in the formation of high-level human resources is a promotion for the knowledge society, is guiding and sharing their knowledge for the new generations, and this one researcher expresses:

One of the publications is about to be submitted, in fact I am very much in writing your draft, your manuscript in English as you can and then we support them to improve the document, but it is encouraging them to be encouraged, because many times We believe that we can not, then until you are forced to do it, you succeed. We try to drive them from there, let them reach the maximum point (Researcher 12, area VI).

But we must remember that students are also people, and as people should not neglect the different roles or activities in which they are immersed, because they should be formed comprehensive people, before this an investigator mentions that. The student's challenge is familiar, and he must plan and organize his activities very well, for example, if one of the students is married, has children, it is very difficult to carry out a national or international research stay due to family obligations, but that reason is not one for them to limit themselves to being trained as researchers, on the contrary, they should be supported (Researcher 8, area VII).

Due to the foregoing, situations arise in the formation of human capital, where new teachers entering the SNI who are looking for someone to train, do not find themselves as researchers within quality and relevance graduate programs accredited by CONACYT. And researchers who are more than twenty years of belonging to the SNI, look for students with a solid academic and personal background.

Therefore, the SNIs face several problems in the formation of human capital: they seek and materialize financing strategies for the development of projects, apart from the tireless work of convincing young apprentices of researchers, who in addition to achieving motivation in them, The problem of academic training in terms of reading, writing and research is presented. (Soto, Mazo & Mazo, 2016) And some who have the commitment, should plan, organize and play the different daily roles (personal, family, social, student) that as an integral person should be formed for society. Cabrero mentions that the best investment that can be made in science and technology is in highly trained human resources, since without these there is no progress (cited in Sánchez, 2017).

Final comments

The privilege of being part of the SNI represents a challenge for those who wish to remain in it, it is a constant search to develop activities to comply with the evaluation parameters established by said system, where the researcher must make quality publications, as well as training human resources through theses, activities that are not easy to fulfill, since all activity represents time, money and effort. Researchers face a series of goals that must be overcome to achieve their purpose of producing knowledge, be part of the select group recognized nationally, and obtain an income for that privilege, income that is at the same time reinvested to continue developing research.

High-level vocational training requires commitment, discipline and guidance; the incorporation to the standards of recognition of the research work is without hesitation, a step more difficult to upload; for this, as described in this article, it ranges from training in quality postgraduate studies, to joining to collaborate with researchers already consolidated or in the process of consolidation; that is, develop both the knowledge of the discipline and the skills of teamwork and perhaps collaborative environments but with very high challenges that generate stressful situations.

The preoccupation to be and to belong to programs like the SNI in the institution in study, crosses situations that are of national nature as it is the one that does not count on appointments like professors investigators of complete time; then, being a teacher hired for hours limits the opportunities to have hours devoted to research or membership in the Base Academic Nuclei in the graduate programs that are in the National Graduate Quality Program.

It is necessary to improve the working conditions of researchers in all areas, so that "Mexico achieves, among other things, being a generator and not a consumer or maquiladora of knowledge" (Maesterra, 2018).

The reflections that are presented, reflect the situations experienced by the teacher-researchers, but to think that darkness is the predominant thing, would leave us with an unpromising panorama (unfortunately this is the first impression); However, young teachers show that they have the knowledge, availability and openness to be recognized and consolidated researchers in the future that the institution and the country need, we believe that universities, as well as the national education system itself see in them the bearers of innovations and new knowledge that can provide solutions to the big problems we face.

References

Cabrero, E. (enero, 2015). Principales logros y desafíos del Sistema Nacional de Investigadores de México a 30 años de su creación. *Revista CTS*, 10(28). Recuperado de http://www.revistacts.net/files/Volumen_10_Nu_mero_28/FINAL/13CabreroFINAL.pdf

Casuso-Holgado, M. J., Cuesta-Vargas, A. I., Moreno-Morales, N., Labajos-Manzanares, M. T., Barón-López, F. J., & Vega-Cuesta, M. (2013). The association between academic engagement and achievement in health sciences students. *BMC Medical Education*, 13(1), 1-7, doi:10.1186/1472-6920-13-33

Consejo Nacional de Ciencia y Tecnología [CONACYT]. (s/f). Sistema Nacional de Investigadores. 30 de Enero de 2018, Recuperado de <https://www.conacyt.gob.mx/index.php/el-conacyt/sistema-nacional-de-investigadores>

Consejo Nacional de Ciencia y Tecnología [CONACYT]. (2014). Programa Especial de Ciencia, Tecnología e Innovación 2014-2018. Recuperado de http://www.dof.gob.mx/nota_detalle

Cuñat, R. (2007). *Aplicación de la Teoría Fundamentada (Grounded Theory) al Estudio del Proceso de Creación de Empresas*. Trabajo presentado en el XX Congreso anual de AEDEM, Palma de Mallorca, España. Recuperado de <http://dialnet.unirioja.es/servlet/articulo?codigo=2499458>

Dirección General de Investigación y Posgrado [DGIP]. (2017). Investigadores vigentes 2017. 12 de Febrero de 2017, de UAS Sitio web: <http://dgip.uas.edu.mx/SNI.html>

Didou S., & Gérard, E. (2011). El Sistema Nacional de Investigadores en 2009. ¿Un vector para la internacionalización de las élites científicas?. *Perfiles Educativos*, 33(132). Recuperado de <http://www.scielo.org.mx/pdf/peredu/v33n132/v33n132a3.pdf>

Fernández, L., & Wainerman, C. (2015). La dirección de tesis de doctorado: ¿una práctica pedagógica?. *Perfiles educativos*, 37(148), 156-171. Recuperado de http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0185-26982015000200010&lng=es&tlng=es.

Gatica, G. (2017, 22 agosto). Importancia de la convergencia científica y tecnológica. *Agencia Informativa Conacyt*, p. 1. Recuperado de <http://www.conacytprensa.mx/index.php/sociedad/politica-cientifica/17710-importancia-convergencia-cientifica-tecnologica>

Guerrero, L., & Mejia, L. (2017). Políticas públicas de fomento a la investigación y la práctica docente de profesores universitarios. *Revista de Políticas Universitarias*. Vol.1 No. 1. Recuperado de http://www.ecorfan.org/republicofperu/research_journals/Revista_de_Políticas_Universitarias/vol1num1/Revista_de_Pol%C3%ADticas_Universitarias_V1_N1_4_1.pdf

Instituto de Apoyo a la Investigación y la Innovación [INAPI]. (2012). Ley de Ciencia, Tecnología e Innovación del Estado de Sinaloa. 30 de Enero de 2018, de INAPI Sitio web: http://www.congresosinaloa.gob.mx/images/congreso/leyes/zip/ley_ciencia_tecnologia.pdf

Maisterrena, M. (2018). La inserción laboral de los egresados del sistema universitario con perfil de investigador en México. Un breve análisis de factores históricos y problemas institucionales académicos. *Prometeica Revista de Filosofía y Ciencias*. 16, 78-88. doi: doi.org/10.24316/prometeica.v0i16.211

Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura [Unesco]. (1999). Declaración sobre la Ciencia y el uso del saber científico. Declaración de Budapest. Budapest: Conferencia Mundial sobre la Ciencia para el Siglo XXI: Un nuevo compromiso. Recuperado de <http://unesdoc.unesco.org/images/0012/001229/122938so.pdf>

Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura [Unesco]. (2015). Informe de la UNESCO sobre la ciencia hacia 2030 resumen. 30 de enero de 2018, de Ediciones UNESCO Sitio web: <http://unesdoc.unesco.org/images/0023/002354/235407s.pdf>

Reyes, G. & Suriñach, J.(2010). Los nuevos ingresos como candidato a investigador en el SNI, 1996-2003. *Perfiles educativos*, 32(127), 8-37. Recuperado en 19 de junio de 2018, de http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0185-26982010000100002&lng=es&tlng=es.

Reyes, G., & Suriñachi, J. (2012a). Las evaluaciones internas del SNI: coherencias o coincidencias. *Secuencia*, (83), 179-217. Recuperado de http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0186

Reyes, G., & Suriñachi, J. (enero-junio, 2012b). Las publicaciones de los investigadores mexicanos en el ISI: realidad o mito del SNI. *Sinética*, 38. Recuperado de <https://sinetica.iteso.mx/index.php/SINECTICA/article/view/97/89>

Sánchez, V. (2017, 14 septiembre). Enrique Cabrero, el reto de dirigir el Conacyt. *Agencia Informativa Conacyt*, p. 1. Recuperado de http://www.conacytprensa.mx/index.php/sociedad/personajes/18163-enrique-cabrero-reto-dirigir-conacyt?fb_comment_id=1646174742122114_1650702185002703#f24bf9de43287b8

Santos, A. (2017). Flashes de emancipación en la actuación docente e investigación universitaria de los miembros del sistema nacional de investigadores (SNI). (Spanish). *Roteiro*, 42(1), 11-35. doi:10.18593/r.v42i1.11547

Soto, M., Mazo, I., Mazo, C., (2017). Sistema Nacional de Investigadores: vicisitudes en el ingreso y permanencia. *Revista de Alta Tecnología y la Sociedad*. p. 99-104. Recuperado de <https://drive.google.com/drive/folders/0B4GS5FQQLif9NkFydDJROEIRZFU>