



Original Article

Perceptions of professors from a private university about their skills and needs to develop and promote research

Percepciones de los docentes de una universidad privada sobre sus habilidades y necesidades para desarrollar y promover la investigación

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ABSTRACT. Introduction: University education must be based on teaching, outreach and scientific research. Honduran universities have education policies, but there are limited research achievements. The study aim was to evaluate professor profile and the research needs at a private university in Honduras. **Methods:** Data collection was carried out through a digital survey sent to professors at the Centro Universitario Tecnológico (CEUTEC), part of the Universidad Tecnológica Centroamericana (UNITEC) in San Pedro Sula (SPS). Study period was the third academic quarter of 2017. A total of 160 out of 233 professors were surveyed. Factors analyzed were professors' background, resources and interest in conducting research. **Results:** More than half professors reported having a master's degree. Additionally, 83% (132/160) stated they had the willingness to conduct research and publish papers. Almost all professors (94%; 150/160) reported being interested in improving their research skills. **Conclusion:** Based on the study results, the CEUTEC-SPS professors showed interest in training and research but need support to develop it.

RESUMEN. Introducción: La educación universitaria debe estar basada en docencia, vinculación e investigación. Las universidades hondureñas cuentan con políticas en educación, pero hay resultados limitados en la investigación. El objetivo de este estudio fue describir el perfil y las necesidades en investigación de docentes de una universidad privada en Honduras. **Métodos:** La recolección de datos se dio a través de una encuesta digital en el Centro Universitario Tecnológico (CEUTEC) de la Universidad Tecnológica Centroamericana (UNITEC) en San Pedro Sula (SPS) durante el tercer período académico en 2017. Un total de 160 de 233 docentes fueron entrevistados. Los factores que se analizaron fueron el recurso docente y el interés de los docentes en investigar. **Resultados:** De los 160 docentes encuestados, más de la mitad reportó tener una maestría. Adicionalmente, el 83% (132/160) de los docentes manifestó tener el deseo de investigar y publicar. Casi todos los docentes (94%; 150/160) reportó interés en mejorar sus habilidades como investigadores. **Conclusión:** De acuerdo a los resultados del estudio, la población de los docentes de CEUTEC-SPS mostró interés por capacitarse e investigar.

1. Introduction

Research must be a priority among university academic members. It should not be carried out just as a job. Rather, professors and students should consider it a passion and have constant dedication for it. Research can be done for pure curiosity, for the love of knowledge, and as a means to solve problems in countries (Sabato & Botana, 1968). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), “the experience of the past decade shows that higher education and research

contribute to eradicating poverty and fostering sustainable development” (UNESCO, 2009). Implementing such UNESCO’s proposal requires a dynamic development of critical thinking that must be promoted in each university career from the first to the last years, helping develop the disciplines and skills required to innovate in science. Research must be done from all fronts. Within each study field, research serves to generate new knowledge and update the existing one. On the other hand, education is a discipline that must be updated and advance by constant transformation (Vismara, Cambiasso, Bruno, & Burges, 2010). Professors may conduct research from their specific

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discipline or from their teaching activities with students. Another important reason for professors to carry out research is for their own growth (Zabalza, 2004). Professors must accept the fact that they keep in continuous training, just like the students. Professors are more advanced in a specific science field, but not in all. So, being exposed to innovation of knowledge is critical. The development of teaching skills must be constant. Those who teach cannot stop the training at any time, new limits should be explored. They must push forward analyzing and producing new science in the class and in their personal career (Hernández Arteaga, 2009; Sanz Blas, Ruiz Mafé, & Pérez Pérez, 2014)

In Honduras, most university professors are not trained to conduct research. They are usually experts in their own fields, they have work experience, but most need deeper training in teaching and research skills. Research is not only a process of cross-sectional formation, but a longitudinal one (González Agudelo, 2006). Those who teach at universities learn to do research by researching. Therefore, they should be motivated and receive assistance. Success does not arrive by telling them how important is research and what they "have to" do to succeed. There must be a constant support, an almost customized one.

Research is gaining momentum at Centro Universitario Tecnológico (CEUTEC) in San Pedro Sula, which has been operating since 2012. It is an institution establishing presence in research and more articles are in preparation to be published in local and international scientific journals. Both students and professors are devoting more time for research. However, the professor profile has remained constant, since the professors' turnover rate is low at CEUTEC-SPS. It means that some could develop research careers if the institution helps them to do so.

This study was conducted to identify professors who have research experience and those who express interest in conducting research at this institution. This study is the first one and it should be carried out annually in order to follow-up on professor's research performance after interventions such as trainings and other strategies developed by the University.

2. Methods

The study had a quantitative and descriptive approach. Data was collected through a survey directed to a representative sample of CEUTEC-SPS active professors during September 2017. The sample allowed to do appropriate inference on the professor population. For sample determination, a confidence level of 95% and a margin error of 5% were used. The survey was formulated to interview 146 active professors to achieve result validity.

The survey was sent in digital format to professors by email through a University platform. A total of 160 out of 233 professors participated in the study. The digital survey had 27 questions, with nine questions that generated open answers, while 18 questions generated closed answers.

Questions were divided into five categories (Table 1). The study was approved by the University authorities. Those interviewed gave their consent to participate.

3. Results

A total of 233 active professors were active during the CEUTEC-SPS third academic period in 2017. Only 69% filled out the survey (160/233). Regarding their profiles, results showed that slightly more than 50% (83/160) of them reported having a Master's degree (Figure 1). Additionally, 19% (31/160) of professors were studying a Master's degree. In terms of doctorate training, only 2% (3/160) and 3% (4/160) of professors had a PhD or were studying a PhD, respectively.

In terms of research production, only 3% (4/160) of professors reported publishing in indexed journals located in well-known databases. However, only one of the scientific articles was cross-checked as properly being indexed in an international journal.

Table 1

Survey categories and questions made to professors at CEUTEC.

Categories	Survey questions
Personal data	Name, email, mobile number
Professional data	Academic load area, initial work date at UNITEC/CEUTEC, training level.
Training and knowledge	What languages do you speak? What is your undergraduate degree? Do you have a Master's degree? If so, what is your Master's degree? Do you have a PhD? If so, what is your PhD area? Are you planning to continue undergraduate studies or take any particular professional course/ training? What would it be?
Research history	Have you published in indexed journals? What articles have you published and in which journals? Have you published books or book chapters? What books have you published or in which books have you collaborated publishing a chapter? Have you done presentations at conferences? Write your title, year, conference name, city and country in which it was held.
Research interest	Are you interested in conducting research and writing articles?, In what areas or topics would you like to do research? Would you be interested in improving your skills as a researcher? What specific type of research related skills would you like to improve? Do you have an article ready to be published? What is the title of the article that is ready to be published or in writing process? What collaboration do you expect to receive from the CEUTEC-SPS Research Committee?

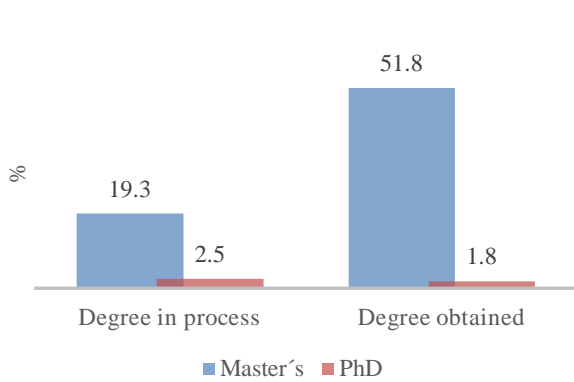


Figure 1. Professors who had a Master's and/or PhD degree.

Additionally, 1% (2/160) of professors reported that they published in commercial journals or in non-indexed journals. One professor published four literature books in English and another professor collaborated with a chapter for an office text. Noteworthy, CEUTEC-SPS professors had nine articles to be published and 21 articles in writing mode in 2017.

Regarding participation in scientific conferences, 14% (23/160) of professors had carried out presentations in some congress. However, most presentations were dissertations for a non-academic public. Most professors were interested in research, as 83% (132/160) of them responded positively (Figure 2). In terms of improving research skills, a large majority (94%; 150/160) of them reported that they would like to improve their research skills (Figure 2).

Considering the lines of research proposed by Revista Innovare, the scientific journal of the university, the most popular areas between the professors interviewed were teaching-learning (44% (70/160) and technology and innovation (29% or 46/160) (Figure 3). Other interesting research areas for these professors were social, economic and political development (22%; 35/160) and business development and management (21%; 34/160).

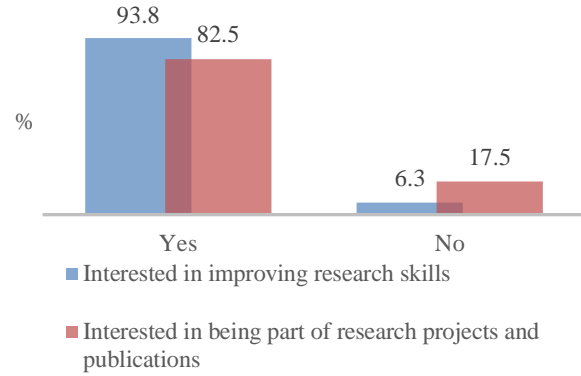


Figure 2. Interest of professors in some research aspects.

Professors reported willingness to learn or improve their research. More than half of the professors (58%; 92/100) documented that they would like to learn or improve skills in research methodology (Figure 4). Additionally, 43% (68/160) of active professors reported interest in willingness to learn or improve skills in research idea generation (Figure 5). The percentage of professors who expressed interest in learning or improving skills in data management and theoretical framework writing was 38% each. A lower percentage of professors reported interest in learning or improving skills in writing research results (33%; 53/160) and in conclusion and recommendation structure (27%; 43/100). Table 2 shows professors' responses in terms of the research support they expect from the local Research Committee and the University.

4. Discussion

An important percentage of active professors of the CEUTEC-SPS university community reported having a Master's degree during the third academic period in 2017. On the other hand, very few of them had a PhD degree or publications. Almost all professors reported willingness to improve their research skills.

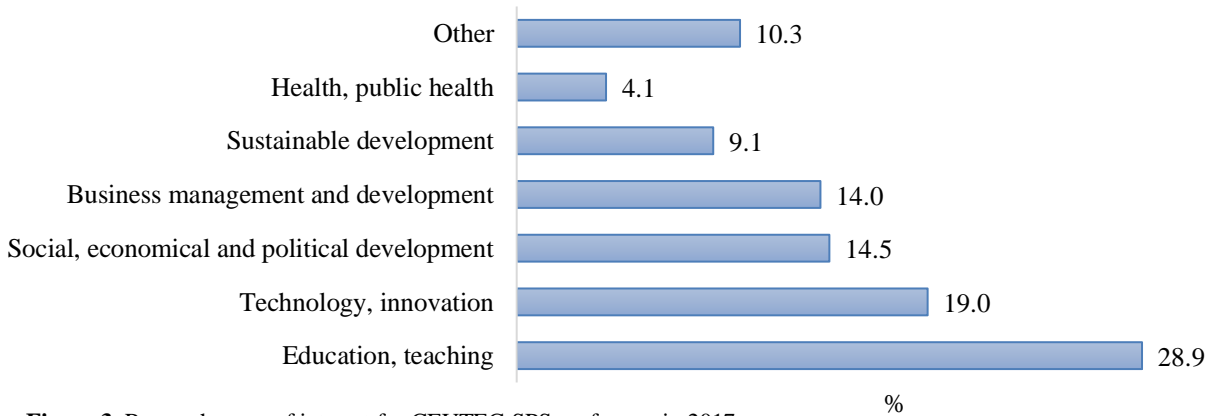


Figure 3. Research areas of interest for CEUTEC-SPS professors in 2017.

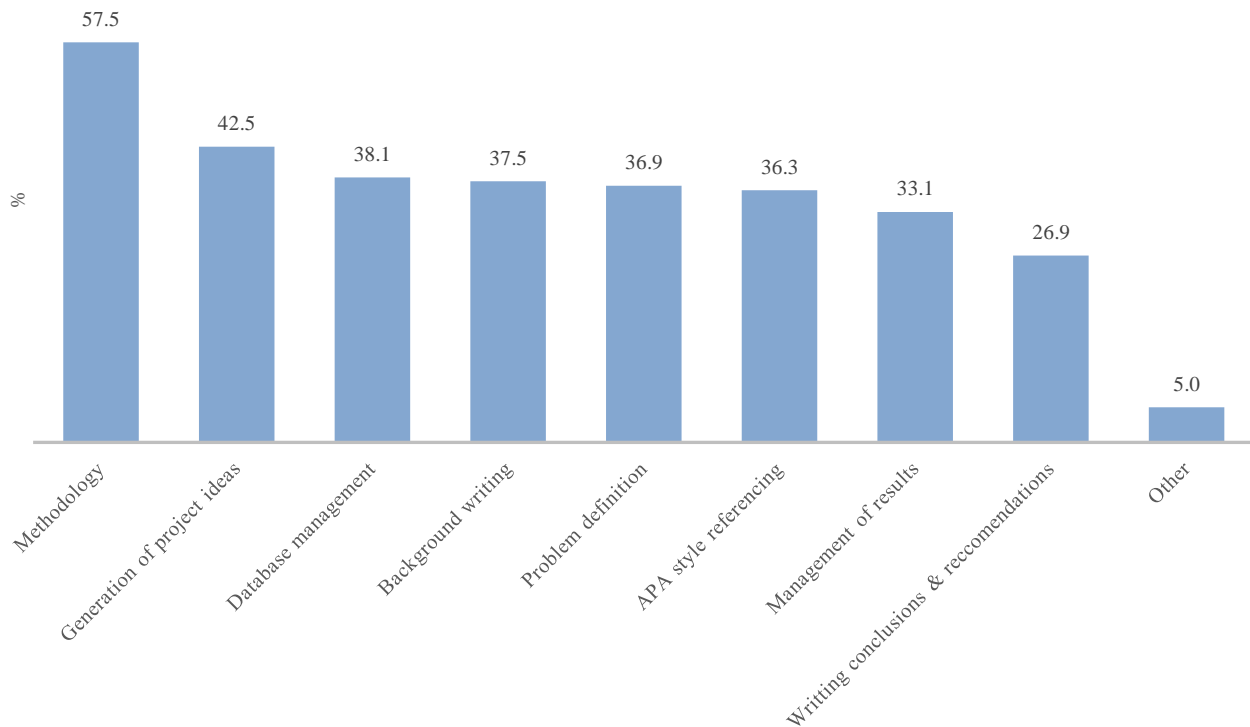


Figure 4. Research competencies that professors would like to improve.

It should be noted that despite the low research production of CEUTEC-SPS at the time of the survey, nine academic articles were ready to be published and 21 were in writing process in 2017. This study shows a clearer picture regarding teaching and research skills at this university campus in San Pedro Sula. This University prefers to hire professors with Master's degree. However, almost half of professors do not have one.

In Honduras, professionals who study a Master's degree might not get the support they need to do research as part of their training. According to the profile of CEUTEC-SPS professors, more than half of the them could be expected to be active in research. The reasons why they do not develop projects need to be addressed.

Professors interviewed reported interest in research, as almost all of them had the willingness to do research and improve their skills. The institution has the human resources to carry out research and improve its research goals, but strategies are needed to help that. Professors seemed to be aware of the importance of research for their self-training and student development, as stated by Carrizo Estevez (2010): "it is through research that knowledge is extended, the impact of proposed actions is evaluated, the best way to apply a measure is determined, hence the structuring of strategies in the curriculum that allows an undergraduate student, during his training, work in an articulated way the

different perspectives of human knowledge. Only an integrative way of learning about the reality allows the professional to build coherent explanations" (Carrizo Estévez, 2010).

Considering the above, special attention should be given to provide CEUTEC-SPS professors the guidance and resources they need. This will impact research development in the campus. These professors listed the needs they expect to be solved by the CEUTEC-SPS Research Committee. Some of the needs were guidance and mentoring, training, research and event promotion, motivation, incentives and logistics and human resources. By doing follow up on the professors' requests, both the University and professors will benefit, and students will be exposed to a higher level of education.

CEUTEC-SPS academic authorities support research and follow guidelines from the University. In this respect, a full-time professor receives training and is part of a support teaching program. In addition, outreach is governed by a national institutional regulation. At this campus, career coordinators and academic leaders manage a support committee for academic initiatives, constantly aiming the three pillars that universities follow: teaching, research and outreach. The importance of these pillars was documented by James Bowen in 1976 (González Agudelo, 2006; Comité Editorial Innovare, 2017).

Herrera-González (2010) suggested there should not be a single model of training in research, because the model will depend on the scientific output and the area of science considered. Our study findings confirmed this statement, as the professors' suggestions were diverse and included research training in basic sciences, languages, humanities, and design. There needs to be flexible training plans and/or several experts from different disciplines who can be consulted to resolve research issues at CEUTEC-SPS.

One goal to pursue is the establishment of collaborations with government offices and private sector in order to develop research oriented to national problems (Ranga & Etzkowitz, 2013)

Table 2

Requests made by CEUTEC-SPS professors to the Research Committee and the University.

Guidance and mentoring	<ul style="list-style-type: none"> • General advice during research design • Guidance on how to build to prepare manuscripts for publication • Support in the publication process • Corrections by peers • Help with style reviews for manuscripts • Guidance and plans to develop research careers
Training	<ul style="list-style-type: none"> • Training in specific research topics • Structure design of scientific articles • Learn or improve skills to write essays • Constant training, but not on-line • Specialization courses at the graduate level • Participation in conferences to expand the know-how to do research • Collaborations and teamwork • Guidance and training to support students about to graduate who are preparing thesis • Strengthen research skills • Programming and database management
Promote research and events	<ul style="list-style-type: none"> • Proposals and announcements about new research openings, courses and conferences • Inclusion in an existing research project. Information on research and event dates
Motivation	<ul style="list-style-type: none"> • Motivation to do research (initiate and finalize research activities) • Research meetings • Experienced professors share good and bad research experiences to professors who are initiating research activities (strengthen communication and teamwork)
Incentives and logistics	<ul style="list-style-type: none"> • Incentives to start research projects • Funding and personal logistics. Sponsorships and/or grants. • Facilitate software installations to promote innovation and/or experiments. • Help to access a scholarship to get a Master's in Languages
Expectations from the University	<ul style="list-style-type: none"> • A full-time research coordinator who collaborates and contributes to research and logistics activities. • Hiring researchers with PhD degrees.

There is opportunity to relaunch a new research motivating process for professors at CEUTEC-SPS, which research production should be improved to get it published in journals, including those indexed in the Scopus database. Such development will improve the University rank in QS Stars and Scimago systems (De Moya et al., 2017; QS Quacquarelli Symonds Limited, 2014). Additionally, it is important to design a plan to promote professors and students to read articles published by the University's researchers. This will encourage the citation and the application of results by other professors and students.

From the institutional point of view, it is vital that CEUTEC-SPS professors continue their research development. When the publication output improves, the institutions should pursue more ambitious goals.

In the research process, there should always be collaboration between the Research Committee, researchers, academic coordinators and other.

5. Conclusion

In order for CEUTEC-SPS to have a higher production of published scientific articles, coordinated efforts are required to improve professors' research skills. Yearly follow-up studies after interventions by the institution should be done.

6. Conflict of Interest

The author declares that she does not have any conflict of interest related to this article.

7. Bibliographic References

- Carrizo Estévez, J. D. (2010). Importancia de la investigación en la formación de Pregrado. *Panorama Cuba y Salud*, 3-4.
- Comité Editorial Revista Innovare. (2017). Producción científica de los investigadores de UNITEC en el extranjero en el año 2016, *Innovare*, (1), pp. 117-129.
- De-Moya-Anegón, F., Herrán-Páez, E., Bustos-González, A., Corera-Álvarez, E., & Tibaná-Herrera, G. (2017). Ranking Iberoamericano de instituciones de educación superior. SIR IBER 2017. Barcelona, España: Ediciones Profesionales de la Información SL.
- González Agudelo, E. M. (2006). *La investigación formativa como una posibilidad para articular las funciones universitarias de la investigación, la extensión y la docencia*. Universidad de Antioquia. Colombia.
- Hernández Arteaga, I. (2009). El docente investigador como creador de conocimiento. *Tumbaga*, (4), pp. 185-198.
- Herrera-González, J. D. (2010). La formación de docentes investigadores: el estatuto científico de la investigación pedagógica. *magis, Revista Internacional de Investigación en Educación*, 53-62.
- QS Quacquarelli Symonds Limited. (2014, Julio 31). QS Stars: Methodology. Retrieved from QS Top Universities: Disponible en: <https://www.topuniversities.com/qs-stars/qs-starsmethodology>
- Ranga, M. Y. Etzkowitz, H. (2013). Triple helix systems: an analytical framework for innovation policy and practice in the knowledge society. *Industry and Higher Education*, (27), pp. 237-262.
- Sabato, J. A., Y. Botana, N. (1968). La ciencia y la tecnología en el desarrollo futuro de América Latina. *Revista de la Integración, INTAL*, Buenos Aires, (3), pp. 15-36.
- Sanz Blas, S., Ruiz Mafé, C.Y, & Pérez Pérez, I. (2014). El profesor universitario y su función docente. *ESPACIO i+D, Innovación más Desarrollo*, (5), pp. 97-112.
- UNESCO. (2009). Conferencia mundial sobre la educación superior - 2009: la nueva dinámica de la educación superior y la investigación para el cambio social y el desarrollo. Paris, Francia.
- Vismara, B. M., Cambiasso, A. I., Bruno, M. J., & Burges, M. V. (2010). La investigación en la formación docente en la provincia de Buenos Aires. II Congreso Internacional Artes en Cruce. Buenos Aires: Universidad de Buenos Aires. Argentina.
- Zabalza, M. Á. (2004). *Diarios de clase. Un instrumento de investigación y desarrollo profesional*. Madrid: Narcea S.A.