



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 10, October 2021

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.569

Analytical Study of the Relationship between Professional and Research Competencies in Higher Education

Dr. Ajay Krishna Tiwari, Dr. Deepmala Kaushik

Academician and Research Guide, Sr. Lecturer of CTE / BTTC - G.V.M & Sr. H.O.D Department of Education, India

Assistant Professor, Department of Zoology, Dhanauri P.G College, Dhanauri, Haridwar, Utrakhand, India

ABSTRACT: First of all, while confirming the urgency of the problem identified in the title of this research article, we note that for the past twenty years, the formation and development of research competencies in higher education have been increasingly promoted, with professional competencies on different occasions. Are made. Do the two types of competencies take different forms, or are they closely related? In this research article, professional and research competencies are examined, as well as their dialectical relationships that characterize professional relationships. The building and development of professional competence during the training process and after graduation is determined by their performance in the professional field. Happens slowly and continuously. For the development of professional competence, the individual characteristics of each individual should be taken into account, although this is done regularly by the Teaching Training Group.

KEYWORDS: Research competencies, Professional competence, Teaching-learning, formation process, Epistemology, Dialectical relationship,



Research competencies

- Professional competence



Teaching-learning

- Formation process



Dialectical relationship

- Epistemology

I. INTRODUCTION

The formation and development of research competencies in higher education, due to the need for education for the demands of the workplace, is regarded in the United States and Japan as a way to efficiently achieve the relationship between the demands of the university and the labor market. Is offered to do.

Professional competencies aim to provide solutions to professional problems from the various roles the individual can play (Estrada, 2014). According to Verdean (2011), the role is conceived as a generalization of specific methods, characterized by the qualifications of the profession and the professional relationship with the subjects, regardless of



where they work, of the professional in the field of action prescribed. Represent action. . The individual appropriates a professional competence or an established role in the learning process from his or her training process.

II. THE DEVELOPMENT OF PROFESSIONAL SKILLS IS SAID TO BE THE LINK BETWEEN THE UNIVERSITY AND SOCIETY.

The link between the university and society (Horuitiner, 2009) allows university students to devote a significant part of their study time to develop skills and competencies in various labor, productive, and service institutions, whereby the study links- Work is encouraged, which affects the development of professional skills.

These competencies are developed during the rationalization process, which is why education finds a way in this regard for students to have appropriate vocational competencies as a way of influencing their efficient performance in the workplace. According to Horuitiner (2009), this relationship is called the developer dimension. According to Angora (2000), efficient performance is named for the individual's ability to perform the tasks, duties, and obligations of his position or professional work that the job requires; so the term specifies what the professional does with his job and not what he knows how to do.

III. PROFESSIONAL COMPETENCIES ARE ALSO CONSIDERED AS A PSYCHOLOGICAL CONFIGURATION

Professional competence is built and developed gradually and continuously by their performance in the professional field, during the training process, and after graduation. For the development of professional competence, the individual characteristics of each individual should be taken into account, although the training is done by the teaching group.

Professional competencies are also considered as a psychological configuration (Gonzalez, 1995 & Castellanos, Castellanos, Livia, Silverado, 2003). It integrates motivational, cognitive, and personal resources into its structure and methodology that allows it to demonstrate responsible and efficient professional performance. So, as Gonzalez (1995, p. 12) states:

IV. DEFINITION OF PROFESSIONAL DEVELOPMENT POTENTIAL-

One characteristic of the definition of professional development competence is that it includes a complete set of integrated knowledge, processes, and attitudes, in the sense that the individual "knows how to do", "knows how to be" and "how to be" for professional practice.

Mastering this knowledge enables you to be "competent" effectively in professional situations. In this sense, didactic alternatives from higher education have intensified over the past 20 years, in which students of work or professional practice demonstrate mastery of these competencies in their performance not only from the practice of the profession but also from scientific research activity. For this, they in turn have to master investigative competencies.

V. THE UNIVERSITY GENERALLY CONSISTS OF THREE BASIC PROCESSES: TRAINING, RESEARCH, AND UNIVERSITY EXTENSION -

Now, are professional and investigative capabilities related? How are they related to building investigative competencies? The university typically has three basic processes: training, research, and university extension (link with society), all closely related to each other, which allows it to fulfill its mission before society.

One of the characteristics of the university is its scientific nature (Horuitiner, 2009 & Estrada, Blanco y Ciudad, 2015), where professors and students engage in scientific work as part of their daily work. Against the course competencies and investigative skills, CAS defines (Horuitiner, 2009; Castellanos, Castellán Silverado, 2003 and Estrada, 2014), that the student must show an electronic copy.

VI. RESEARCH AND DEVELOPMENT OF THE INSTITUTE -

Through research works, course work, workshops, seminars, diploma work, presentation of final reports in various disciplines, and presentation at scientific events; In addition, students are allowed to participate in research and development (R&D) projects of the institute as per their knowledge, skills, aptitude, skills, and values.



Investigative competencies have been investigated by several authors, such as the one cited by Estrada (2014) in his Theoretical Systematization of 15 Years, where it is regularly expressed that this competence is related to the stages of scientific research.

Regardless of the concepts addressed by each of the authors above, all agree that the assimilation of investigative competencies requires an integration of knowledge, skills, habits, attitudes, and professional ethical values related to the investigative activity.

Concepts provided by Castellanos, Castellanos, Livia, Silverado (2003), for the author's consideration; Gómez (2009) and Estrada (2014) are the most complete in terms of investigative capacity, as they take into account the bio-psycho-social character of human beings from a historical-cultural perspective and the components that make up that ability, which is, metacognitive, motivational, personality traits (professional moral values) and the subject's own social experience. The theoretical systematization done by Estrada (2014) states that the main regularities related to investigative competencies are:-

Competence is the integration of several components such as cognitive, metacognitive, motivation, and personal qualities that allow efficient performance in research activity.

Academia-discovery and labor-search relations should be taken into account.

It deals with the stages of scientific or technical research, identifying specific skills for each stage. Teamwork, interpersonal relationships, and interdisciplinary consideration should be given (Estrada, 2014, p. 189).

Although all authors agree that research ability is reflected in the subject's performance in research activity in a profession, it is not explained how it is possible to contribute to the development of said potential, based on the work activity of a profession. The use of the scientific and investigative method (Estrada, 2014, p. 189).

It declares that the field of investigative competencies is given in the practice of the profession and basically in the execution of a scientific investigation. In this sense, it is expressed that scientific and professional knowledge are interconnected and integrated into the training process from professional and labor practice.

Scientific knowledge is beyond facts: it discards facts, generates new facts, and explains them. In this sense, various authors have addressed the definition of science, with all agreeing that it is a set of systematic and systematic knowledge.

VII. EXAMPLES OF THE CONCEPT OF "SCIENCE" CAN BE SEEN BELOW:

- Kalinin (1966) expressing the dialectical view that science is the supreme synthesis of human knowledge and that the method of science is the engine that drives everything related to science.
- Bunge (1985, p. 15): «Science, in determination, grows from common sense and with its growth surpasses it».
- Bunge (1997) defines it as a style of thought and action, the most recent, most universal, and most profitable of all genres, and states that it is a work (research), a product (scientific knowledge). Generates.
- Nunez (2005, p. 45) Understands Science:

Not only as a system of concepts, propositions, theories, hypotheses, etc. but, at the same time, as a specific form of social activity aimed at the production, distribution, and application of knowledge about the objective laws of nature and society. In addition, science is presented to us as a social institution, as a system of scientific organizations, the structure, and development of which, along with the economy, politics, cultural phenomena, are closely related to the needs and possibilities of a given society. Is.

VIII. THE USE OF SCIENTIFIC METHODS CORRESPONDS TO THE STAGES OF SCIENTIFIC RESEARCH-

Scientific knowledge is beyond facts: it discards facts, generates new facts, and explains them. In this sense, various authors have addressed the definition of science, with all agreeing that it is a set of systematic and systematic knowledge. The use of scientific methods corresponds to the stages of scientific research, although there is no single one regarding these stages. There is no consent. Many writers have dealt with them, for example:-



- For Radio (1986), they correspond to reflective thought processes in a general way, such as 1) warning, definition, and understanding of difficulty, 2) search for a provisional solution, 3) experimental verification of adopted solutions, 4.) verification of the results obtained, and 5) the design of a mental plan about future situations for which the current situation will be relevant.
- According to Hernández, Fernandez, and Baptiste (2010), the phases or phases are topic selection, problem formulation, hypotheses, objectives, theoretical framework, research strategy determination, population, and sample selection. , application of techniques and tools, collecting data, and analyzing results.
- According to Capstan (2014), the phase is more about this source text required for additional translation information Question: Definition of problem, formulation of hypothesis, data collection, and analysis, confirmation or rejection of hypothesis, results, and conclusion.
- For Castellanos and Hernández (2001), these are the search for reality; planning scientific activity; Execute research-development, technological innovation, or thesis projects; process information; to communicate scientific-technical results and, finally, to present and generalize scientific-technical results in practice.
- The position of Castellanos and Hernández (2001) is considered because in scientific research the introduction and generalization in practice are also conceived following what is established in the definition of science expressed by Nez (1999) by the results obtained.

IX.SCIENTIFIC RESEARCH IS A DYNAMIC, CHANGING, AND CONTINUOUS PROCESS-

The above implies scientific research is a dynamic, variable, and continuous process. In this sense, the steps in which it is included have a systemic nature which implies the manifestation of the elements or parts that comprise it. This type of research has its special expression in the professional field, for which surveys focus on solving scientific or business problems.

In the object of the study of professions, responding to a professional means, among other processes, identifying and justifying the said problem; determine which tools, techniques, procedures and scientific, professional, and statistical methods to use; Determination of theoretical-methodological foundations; Model the problem and its solution; implement the proposed solution; design, implementation, and evaluation of the results of the validation strategy; and introduce them and generalize the results to objective reality (society, organization, social sphere, etc.).

The above implies the need to master professional and investigative competencies to perform efficiently in a job or professional role. In this sense, a connection between scientific and professional methods is expressed.

Decisively, the field of investigative competencies from the practice of the profession (also known as professional or labor practice) is integrated into the field of professional competencies, as the latter added the first specialties in both the investigative process and goes. In the professional, identifying techniques, methods, and processes specific to each science (Figure 1)

X. CONCLUSION

The training and development of investigative and professional competencies from professional or work practice is conceived in an integrated manner, as in the practice of the profession the student is studying scientific methods and university career functions.

The fact that a professional has the knowledge and skills that allow him to solve professional problems efficiently does not make him competent. It is necessary for him to show motivation based on professional interests and values and to have personal resources that allow him to act flexibly, reflectively, with initiative, perseverance, and a future perspective; all this will be the result of a competent professional. Investigative abilities seek the autonomy of the individual and are oriented towards the subject's self-realization, as a way of completing an important project that meets the needs of the community.



REFERENCES

- 1-Anorga, Julia (2000): Glossary of Advanced Education Terms, Ministry of Education, Havana, Cuba. pp. 79-97
- 2- Estrada, ODIL (2014): Theoretical Systematization on Search ability. Educate Electronic Journal (Educate Electronic Journal), Vol. 18, No. 2, Costa Rica, pp. 177-194
- 3-Estrada, ODIL & Blanco, Sahara M. (2013): "Methodical Guidelines for the Development of Research Capability from the Software Development Process", Pedagogic University, Vol. 18, No. 5, pp. 105-121,
- 4-Estrada, ODIL; Blanco, Sahara M. and Ciudad, (2015): Didactic demands in the didactic design of tasks for the development of investigative skills", Enseñanza and Teaching, Vol. 33, No. 2, pp. 5-15.
- 5-Bunge, Mario (1997): Science, its method and its philosophy, Sudamericana, Buenos Aires. CASTÁN, YOLANDA (2014): «Introduction to the scientific method and its steps», pp-03-16.
- 6-Castellanos, B.; Castellanos, D.; LLIVINA, M. J. & SILVERIO, M. (2001): Towards a Concept of Learning. Project Collection, "Enrique José Verón" Higher Educational Institute, pp.76-79.
- 7- Castellanos, Beatriz; Fernandez, Ana Maria; Livia, Miguel J. (2003): Technical Report of Results: Conceptual, Referential and Operational Planning on Educational Research (ECRO). Project: Management of scientific activity in the Educational Zone, (MINED), Center for Educational Studies, pp-45-52.
- 8- GONZÁLEZ, REY (2016): "Subjectivity, Culture and Qualitative Research in Psychology: Science as a Culturally Situated Production", Laminates. Writings on Psychology and Society, pp. 13-36.



**Impact Factor:
7.569**



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 **9940 572 462**  **6381 907 438**  **ijirset@gmail.com**



www.ijirset.com

Scan to save the contact details