RESEARCH FROM CONTEMPORANEITY: INNOVATION FROM A CRITICAL RETROSPECTIVE?

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ABSTRACT

At every moment, mechanisms for improvement and innovation are generated with regard to research processes. Every day, it is more significant to pay close attention to the factors that have an impact on improving the execution of research alternatives in the field, that is, whether in the educational context or in the social field; in addition to this, these estimates are permeated by different strategies that seek to improve and innovate the quality of research processes and their actions in the context from where they intervene. In relation to this, this review investigates the different modes of innovation that research has used to consolidate itself as an essential mechanism in different environments that seek to investigate, research and explore, through science, to give a clear, concrete and effective answer to questions that do not have a concise and precise answer from the superficial. To face this relationship, research is seen as a dynamic, consensual and active process, where innovation emerges as an essential foundation to improve and undertake new theories, which will allow to focus on important constitutive elements within a research management that responds to social, educational, economic, religious and other problems. With all that has been explored and reviewed, it should be clear that research should not only have its genesis in the academy, but should be constituted as a fundamental element in every space or area where there are tools that make it possible, in addition to providing services that contribute to social development and that contribute to the social debt in research that swarms in spaces that are supposed to be the main axis.

Keywords: research, innovation, academia, emerging factors.

INTRODUCTION

Research, seen as an approach that complements and allows the generation of theories in different sciences of knowledge, is a significantly essential resource that leads or tends to provide answers to major challenges that arise in everyday life, contributing not only to the theorization or breadth of knowledge, but also to a decisive understanding in the social, academic, political, health, etc., but also to the strengthening and implementation of strategies that have their genesis in the results highlighted in each research developed. Drucker (2002) states that, in spite of the recognition of the primordial role played by research in different contexts to make possible alternative solutions to past and present problems, it has been possible to see that the innovation that has taken place in research processes generates better and more effective results at the moment when it is necessary to rethink, project or apply the tools that a research has yielded, once there are already results or a social impact.

In this order of ideas, it is COLCIENCIAS (2020) who, in Colombia, for example, points out the clear guidelines or directives that must be taken into account for the systematization, organization, application and evaluation of a research work, therefore this organization highlights that research corresponds to the development of: *"experimental or theoretical work that is undertaken mainly to obtain new knowledge about the foundations of phenomena and observable facts, without thinking of giving them any particular application or use"* (p. 23).

Since 1968, COLCIENCIAS (2020) considered as the Administrative Department of Science, Technology and Innovation has as its mission:

> *"to guide the formulation of policies, plans, programs and strategies, as well as their monitoring and evaluation, in order to promote the generation of knowledge and strengthen the capacities of research and development, with emphasis on those that allow taking advantage of opportunities and contribute to the solution of the country's challenges, in order to achieve sustainable social and economic development"* (p. 4).

From this perspective, research training from the academic role is and will continue to be a key component for the promotion of science and technology transversalized by innovation notes that, every day, arise to motivate the researcher and his subjects and population to bring forward solid theories that bear fruit and allow them to be reapplied in other contexts (Latapi, 1994). The quality of the results of research depends on having good theoretical foundations to support it, the methodology used and the strategies implemented and, logically, that the research is included in

a framework of strategic processes, being massified and redefined in regional or national contexts where appropriate. If researchers dedicated only to the transmission and reception of knowledge were also transformed into generators of knowledge, then the research processes would become decisive actors that would transform minds, lives, cycles, cities and thoughts (Ismodes, 2010).

In short, it is necessary to rethink all those strategies in which the research model, according to Arredondo (2002), to which it is feasible to have access, projects or inserts innovations that seek to encourage the research career, in addition to the fact that this requires financial support at the municipal, departmental and national levels; This will lead to rethink the raison d'être of research, gaining followers, but also alienating all those people or researchers who are stagnant decades ago, but the importance lies in making the substantive part of the research collective and not being deconcentrated by ideological biases that only seek to slow down the innovation processes in the determining context (Suarez, 2010).

RESEARCH AND INNOVATION

It could be said that a research process is always present before, during and after each innovation strategy. To determine the way in which they are linked and the characteristics in which they are different, it is only necessary to analyze their concepts and then, based on this, study the similarities and critical points of view, analyzing the complexity that, in one way or another, links them (Biggs, 2001).

According to Aguerrondo (2002), research is *"a group of procedural actions that have clear and determinant objectives supported by a theoretical framework and bibliographic references tending to support or justify their arguments; a specific work scheme with a detailed schedule is used for its construction"*. In this order of ideas, it also involves describing, interpreting or acting on a defined reality; with this, new knowledge and theories are reached that result in modifying those that exist or are currently held; at the end, results and conclusions of the intervening processes or phases are proposed, being presented through a final report (p. 75).

For Boshier (2008), research is understood as all inquiry, from phases, which will result in transmitting something new from the planning and execution of proposed activities that will lead to discover and innovate what is already theorized. This novelty or innovation, which is generated from the research, will not be only from the foundations that one has, since research always generates different results, innovative ideas, key concepts, etc.

From the above concepts, Hughes (2001) establishes some coinciding elements: the existence of premeditated features and processes carried out and supported from the theoretical framework, leading to the discovery of new theories, concepts and results, and, likewise, of new forms of behavior and attitudes that enrich the research. It also highlights the conceptualization given by Aguerrondo (2002) in his intention to outline that research is not a basic effort of inquiry of information or reflections about facts or problems presented, but the implementation of strategies based on attitudes that seek to innovate what is already pre-established or theorized (p. 54).

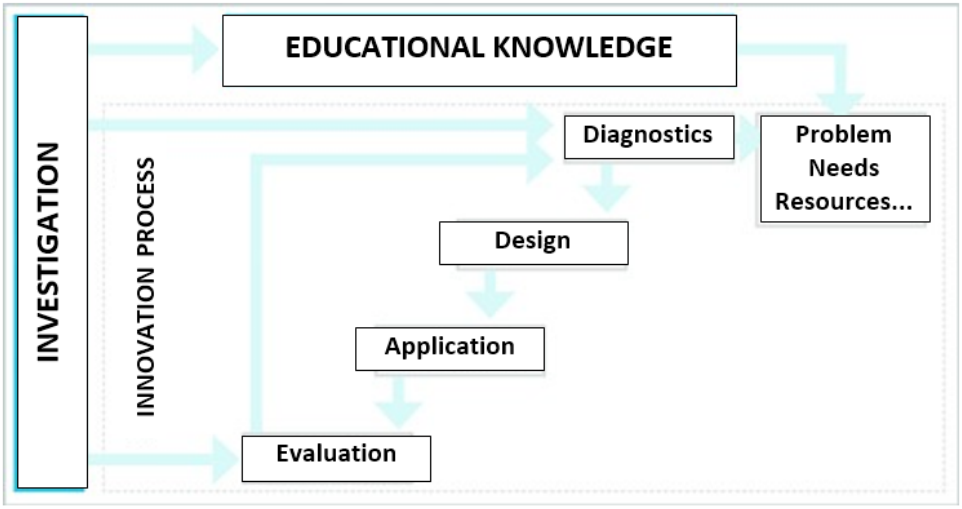
Research, then, has the ultimate goal of producing knowledge, but there are multiple approaches that characterize the emphasis on different concepts of the variety of objects studied (Brew, 1995).

According to Messina (2000), in a research process new theoretical ideas are produced, without this leading to an immediate execution; in approaches more sensitive to what is done in the field, such as action research, theories are produced that seek to influence a given problem with the full purpose of enriching it. When innovating, different problems must be studied, analyzed and investigated in order to arrive at alternative solutions to solve them, just as in research, where a problematizing question is posed and an answer must be sought based on solid theoretical references (Campbell, 1991). Similarly, Moreno (1995) summarizes that, in order to provide an answer to a research problem, there must be planning, development of instruments and evaluation of results.

In research, answering a question requires the conception of innovative knowledge (understood as the renovation or re-foundation of already structured knowledge). This new knowledge produces new theories, ideas, new concepts, and so on. With all this, it can be stated that innovation is based on research, but it should be clear that not all research leads to innovation (Ramirez, 2007).

Illustration 1.

Research, innovation and knowledge



Note: the illustration shows the relationship between research, innovation and knowledge. Taken from https://www.researchgate.net/profile/Enrique-Navarro-Asencio by Eduardo Navarro (2021)

Illustration 1 shows a legitimate relationship between what is called research, innovation and knowledge; in it there is a proportional and direct relationship between research and knowledge, from which different processes or stages, such as diagnosis, design, application and evaluation, all of them sheltered by innovation processes that, at every moment, try to give a new plus or a new ingredient to the research process to make it less difficult and more striking. Rogel (2008) calls this process research and innovation oriented to the logical sequence of complementarity and interrelation between one topic and another.

INNOVATION FOR RESEARCH GROWTH

Jamison (1996) in his book *"The change of political agendas in science and technology"* establishes that the changes at world level and the need required for the transformation of archaic and stagnant structures in time have evidenced the exigency to adopt strategic points of view on the duty to innovate and, with it, the acquisition of advanced theories, demonstrated theories and objective and transmissible or applicable results in other situations or problems that may arise. Innovation in contemporary times depends on the capacity to change paradigms through different models, especially when the transformation of ideals, the innovation of criteria and phases of research and the willingness to offer critical and credible solution alternatives are an unavoidable need (Kreimer, 2003).

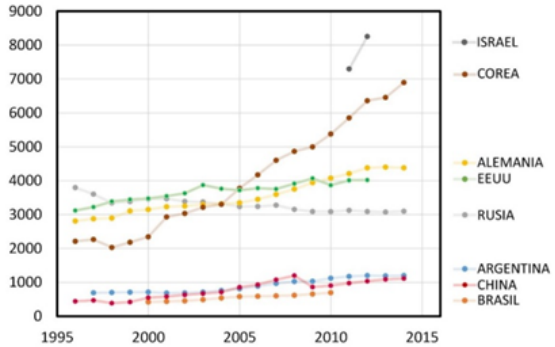
From this same point of view, the strategies linked to research processes should be oriented to innovation, as summarized by Naidorf (2009) when he analyzes the changes that have occurred in the academic culture of public universities. Research has consistently been made visible as an essential resource for the development of systems, be they economic, educational, political, social, religious, etc. However, viewing research from the perspective of innovation brings about paradigm shifts in the work of researchers and the institutions in which it is carried out (Wagner, 2008).

According to Ortega (2010), research and innovation feed each other, not only from specific or general knowledge, but also require the ability to find common differences, to infringe some beliefs and regulations on the subject. In general terms, innovating requires an attitude as a person and a critical spirit, i.e., the strength or ability to transcend and innovate conventional practices that, sometimes for reasons without argument, are accepted by society, including by researchers themselves (Sutz, 2013). These authors, according to Vielle (1989), establish relationships and differences between innovation and research, considering that they bring closer and integrate, but also move away, which results not only in innovative explanations but also in the opening of new ideas and new life scenarios in the face of solution alternatives that are proposed or supported.

With all the information provided, it is clear that innovation is an essential mechanism to achieve the Sustainable Development Goals (Jaimovich, 2017). For this reason, it is essential to make investments and follow up on them in terms of Research and Development from research, which drives innovation among countries; below (Illustration 2) some data related to the investment made by governments worldwide can be observed, it should be clarified that countries from different continents are included in order to make evident the gap between one and the other.

Figure 2

Degree of investment in research innovation



Note: the illustration shows the degree of investment made by the governments of some of the world's countries in science, innovation and research, highlighting the gap that may exist between them. from https://www.infobae.com/tendencias/innovacion/2017/ 12/10/argentina-invierte-7-veces-menos-en-investigacion-y- development-the-most-innovative-countries/

Illustration 2 shows that the governments of several countries have made it their mission to increase, little by little, the percentage of investment earmarked for research innovation. It should be noted that the countries belonging to the European Union have set themselves the goal of reaching 3% by 2023.

Argentina, for example, is lagging behind in order to reach the stipulated goal and if there is no investment that is increased year after year, then there will be problems that will be reflected in other aspects of state responsibility. Objectively, it can be interpreted that the situation is very poor in Latin America, except for Chile, which is the best placed country in the investment ranking, occupying 46th place, followed closely by Costa Rica (53rd) and Mexico (58th). In this ranking, the first two positions are occupied by Israel, Korea, Germany and the United States, where their governments allocate 3% of their Gross Domestic Product to innovation for research.

CONCLUSIONS

It is an essential foundation that, in contemporary times, basic and applied research is done in different areas, whether academic, social, political, economic, etc., and, with greater reason, in countries where the proportional levels of research are almost nil, logically due to the lack of support and investment, for which and in addition to what has been said, it has become an imperative to innovate. Innovation, through time, has strengthened people's capacity to investigate, turning them into active, dynamic subjects with increasingly deeper knowledge in the field of knowledge theories. Innovating from a critical retrospective helps to generate strategies that generate investment possibilities and research training, which benefits both researchers and the academy itself.

The different governments of the world should privilege and stimulate innovation and research, since this strengthens science and knowledge, builds new theories and can generate positive impacts between the results of research and their appropriation and expansion in other situational fields where they apply; if interdisciplinary teams are integrated in research training and there is a true vocation to work, then there will be no limits to the strengthening of the theoretical field and the multiplication of scientific knowledge.

Each country must have clear policies in the management of science and innovation, for example, they must use academic campuses and their research strength so that there is a clear and objective possibility of transmitting knowledge from generation to generation through theories

that are critically supported. With all this, the possibility of increasing the number of teachers and students who do research with quality, relevance and objectivity should be expanded. If the research processes are good, then there will be relevance. It should not be forgotten that the reason for what is built in common is a benefit for all and from the research strength that if it is innovative, so will be the fruits of its results.

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