

The Problem of Teaching Research at the University Level

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Abstract

This article analyzes the problem of teaching research at the university with reading and the planning of research courses within the curriculum as the central axis. It analyzes reading as an activity of perception and comprehension and also proposes basic contents of research courses. The objective is to propose the need for teaching research based on the teaching of reading, and making appropriate use of ICTs. As a result of research teaching experience, a proposal is presented for a line of research teaching to be followed through the curriculum. This proposal can be adapted to technology, without undermining the language, but, above all, it should be approached as a process of relationship between theory and reality.

Keywords: *research teaching, reading, curriculum.*

INTRODUCTION

The arrival of the 21st century has not been the expected change in higher education, especially in university education. Although technology has been a pillar of virtual classrooms, open to all, the desired results are still not achieved, either because of access to technology or because of the same conception that is still held of online education. Technology has two weak points in its application: the change of language and the application of Information and Communication Technologies (ICTs) in all activities without discrimination.

Education by nature is that which is transmitted in the family nucleus and society. Therefore, as a socialization process, one of its main tools is language, that is to say, the use of language and speech. Therefore, one of the detrimental factors of the resounding advance of technology is the significant influence on reading habits in general. And if ICTs are added to the teaching-learning process, the result has long-term consequences and these are translated once again not only in the handling of the language, but also in the learning process, since technological tools offer a wide range of didactic strategies that support teaching and allow the exchange of information, but can also give rise to different types of educational and communication dynamics, not necessarily fruitful in the educational area.

Research, as the primary activity of human beings to search and investigate, has been one of the essential architects in their development, from the conception of their environment and nature to their most abstract thoughts. In this sense, the University teaches to search

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the heavens and the earth to decipher their secrets and to analyze human beings and their organizations (Piñón, 2009), leading humankind to observe, reflect, and contrast their vision of the world. In this way, human beings carry out research activities to find regularities in their observation or the occurrence of a phenomenon or social fact, for example: when choosing a school and university, when looking for a job or creating their job, when getting married or divorced, when traveling, etc., in a constant search for data and information in their social activities.

In general terms, as stated by Aiello (2009), "research training is a process that takes place in the interplay of three inseparable components: teaching-learning-evaluation" (p.143), there is a need to formalize this process, since, from a simple inquiry, one moves to a formal, systematic and reflective process, called scientific research, which, through the application of the scientific method, allows to discover, describe, explain and generalize facts, events, findings and relations of this reality.

In this context, the problem focuses on the teaching of research at the university, whose pillar of organization, planning, and execution is centered on reading, with which the first encounter of reality with theory begins, the inquiry begins, the curiosity to find that void, that gap, that difficulty originating in the formulation of a research problem. It should also be noted that "one of the main problems in the teaching of social science methodologies is the excessive abstraction of the method which, in many research manuals, is presented as an agglomeration of techniques detached from reality" (Gugliano and Robertt, 2010, pp. 68-69), a subject that will be focused on in another opportunity since the existence of these different protocols or formats to develop scientific research have been designed to achieve uniformity not only in the presentation of research works but also to unify criteria in the scientific community, which is not always the case. For example, at the university level, the research works developed at both undergraduate and graduate levels can be the essay, the report, the monograph, and the thesis or final research report. The thesis may be submitted at the undergraduate level for graduation but is mandatory at the graduate level (master's and doctoral) for graduation, but the formats may differ depending on the educational institution.

We are going to refer to the basic activity of reading. Without reading there is no research. One of the strengths of any researcher is "reading" as an activity not only of perception but also cognitive and academic, even more so with all the information that flows today, especially on the Internet.

Reading is a process through which one decodes the messages, meanings, and structures existing in writing; from the transformation of written signs into spoken words to a thorough identification and assimilation of the meaning of the text and its relationship with realities external to the text. Reading has a univocal relationship with writing, the use of graphemes (writings), and the ideas or concepts we want to express. Reading not only increases cultural knowledge but also broadens the vocabulary: synonyms, antonyms, technical terms, etc.; spelling rules, syllabic phenomena, morphology (suffixes - prefixes), and grammar in general, which strengthens writing. Bos and Schneider (2009) identified two sources of difficulty: they do not have the requirements to approach new learning, and they deficiency in an understanding of the concepts or fundamental aspects of the theory in the development of their courses. Reading is then configured as a problem of interest and is the primary activity for designing the state of the question and initiating the research process.

A breaking point between reading and writing is reading comprehension. The habit of reading is built little by little, from simple and motivating texts to more complex ones. So, should we first teach how to read, how to understand what we read, and then how to research? Technology makes it difficult because the average college student is used to emoticons, gifs, images, and videos. They no longer write. They no longer read. They

need and demand summaries or the professor's presentation (ppt), because it is easier, faster, or dynamic or so it is for them.

Books are already in electronic format and they prefer databases rather than going through catalogs in a library. Yes, it is technology and it has to move at its own pace. However, going back to the first statement, reading is one of the essential activities in the research process, especially reading comprehension, a source of writing problems. And despite this range of forms of communication, the book (as a printed document) remains the most traditional form of formalization and dissemination of knowledge.

METHODOLOGY

The present study was developed using a qualitative design. In this context, the method to be used is the case study, through which important documents (curricular plans and research protocols) of six higher-level educational institutions -universities- in Peru were reviewed, and inferences are based primarily on observations from this database (Gerring, 2014). Likewise, they used the following data collection techniques: Direct observation, whose objective is to observe through the participation of the phenomenon or fact of study, and documentary analysis, through which the documentary and bibliographic review of the theoretical bases, which revolve around the study categories, is carried out. To this end, the documentary analysis is based on the content analysis of documents, which, as Berelson stated, is considered a "research technique for the objective, systematic and quantitative description of the manifest content of communications, to interpret them" (Sierra, 2003, p. 287).

RESULTS AND DISCUSSION

The university, as a center of higher education par excellence, must develop a line of follow-up in the teaching and practice of scientific research: for example, at the undergraduate level, through the course of study methods or methodology of university work, from and in function of the first instrumentation courses (language and/or communication, foreign language, mathematics and/or statistics, etc.) or general studies.

The development of a tracking line allows the university to:

- Establish an organizational structure for research
- Develop research capacity
- Encourage the formation of multidisciplinary research groups.
- Develop a more competitive scientific activity
- Become a source of technological culture
- Value research at the university

Let's take a look at the following proposal:

a) Undergraduate Tracking Line:

The first courses or semesters at the university are very important not only because they constitute basic and comprehensive training, but also because they provide the student, who begins his professional training, with an academic space for the integration of knowledge and a space for reflection and academic discussion³.

The course of study methods or methodology of university work introduces the student to the first contents of the research area: from the origin and concept of the university,

³ The student can identify even more with the chosen career or can opt for other proposals.

through study techniques, to the elaboration of the monograph. This first step is very important since it places the student, who has just begun his professional training, in his new environment: the university. His identification with this institution of higher education will be the motivation, not only to complete his professional career, but also to fulfill his duties and rights as a student and as a person responsible for the positioning of the university, but above all as a foundation for the welfare of society.

The study techniques, having reading as the axis of development, are the first cognitive activities that guide the student to take his first steps in the research practice, such as: underlining, summarizing, essay, organization strategies: outline, synoptic chart, concept, semantic and mental maps; and the fiching⁴.

Finally, the first research work is the monograph or the study of a specific topic - determined according to the student's career-, developing a logical and systematic exposition of the different theories, approaches, proposals, etc. The monograph, being a panoramic study, must be descriptive; it is limited to pointing out the characteristics of the phenomenon to be studied and providing basic or preliminary information -which may later be the basis of a research thesis-. It could even be said that it is documentary research (ID) that exercises the student in the reading of study and analysis, in the archive, and the construction of the theoretical framework.

From this first product of their research practice, it is advisable that in subsequent courses of their professional training, for example, in the basic training courses, it is established as part of the evaluation, the writing and/or presentation of reports, essays, and monographs. In this way, the student continues in the research exercise, and the last cycles, in the research subjects, called methodology of scientific research and/or thesis seminar, the student is in the exercise of research:

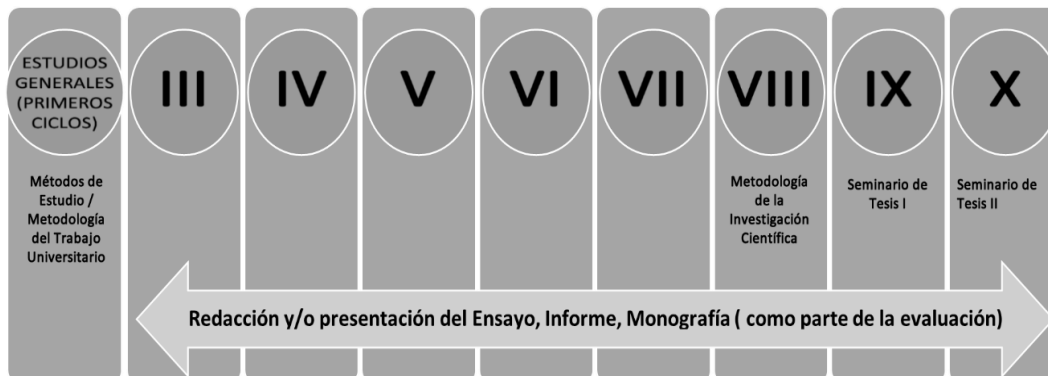


Figure 1. Undergraduate Tracking Line

The scientific research methodology course should provide the theory and practice of scientific research, to understand the logic of the research process and the scientific method to carry out academic research such as thesis writing.

The thesis seminar courses should be developed based on the collaboration of the teacher and student in the elaboration of the scientific work, developing critical thinking, and improving their written and oral expression skills.

In this way, the graduate of any professional career will be able to sustain his or her first academic degree: a bachelor's degree, starting in scientific research.

This is a proposal that can help to build a cognitive scaffolding in our students about scientific research and, in this way, reduce certain conflicts and/or gaps in research that are observed in students.

⁴ Contents that, although they have been developed at school, still need to be reinforced, but above all, put into practice.

As teachers in the area of research, we have been able to appreciate that there are other reasons why it is difficult to start a research project, in general, if it is started, why it is not completed:

- A research project or thesis cannot be initiated because the thesis candidate has very little work or practical experience in his or her field, which implies that his or her prior knowledge prevents or hinders the problematization of the research. The general factual framework is a primordial input in this intellectual process: prior knowledge.
- A second factor is the deficient training in scientific research. In many cases, despite the methodology and thesis courses, the student did not care to give them due importance⁵, by complying with the requirements for the approval of these research courses⁶.
- On the other hand, there are also difficulties in advising and teaching scientific research: sometimes we find teachers who emphasize the teaching of research entering the field of epistemological discussion, without the necessary preparation of students, which makes them lose interest. The issue of advisors is debatable and delicate considering that some of them do not have the necessary competencies or experience for this purpose⁷.

Regarding the culmination or completion of the thesis,

- We have identified as a predominant factor the lack of identification of sources of information. For example, some thesis students report that they do not find sources of theoretical information related to their research topic, and this is because the research problem is not well defined. The problem was not placed in a theoretical context.
- Also concerning bibliographic research, it may happen that they do not have the appropriate tools or sometimes there is no access to them, such as specialized libraries, identification of research repositories of the different universities, or specialized computer search engines.
- There are also cases in which there is a lack of knowledge in the choice of the type of instruments for hypothesis testing. Some thesis students have difficulties in how to elaborate the instruments for data collection of their research: for quantitative research, surveys are related to the hypothesis to be contrasted, and for qualitative research, ethnographic techniques, case studies, etc.

Our challenge is to promote and strengthen the development of research at the university. The presentation of the research thesis or final report should not only be a graduation requirement but also a satisfaction or satisfaction, above all, as a contribution of the research work of the thesis student, and therefore, as Doyle and Mezzell (2007) state, the importance of research courses in the curricula should not be minimized, especially at the undergraduate level (bachelor's degree).

The teaching-learning process demands from teachers, at this juncture, more active participation in the scenario of the overwhelming development of science and technology, which is immersed in our daily work and intellectual development. Teachers must develop research activities, either in the full meaning of the word or only in its basic

⁵ It is a classic to hear: when I finish studying, I will start my thesis

⁶ There is a myth or a wrong perspective about research courses, deeply rooted in students, especially in graduate school: You cannot fail these courses or there is no way to fail these courses, since you only present your work and/or progress and continue with the next course. This reduces the importance and significance of the research courses.

⁷ As students, we have had teachers who present their methodological prescriptions, which end up being absolute truths; some of them have reached a certain cult-like attitude towards some formats or schemes, which end up being straitjackets and in the worst cases, eccentricities and total illogicality.

conception.⁸ The number of research teachers is still not sufficient, which makes it even more difficult to build a cognitive bridge that allows questioning, debate, and criticism of our students. There is still teaching without research⁹.

Today it is essential that the training of professionals is based on the state of the art of the specialty, a bibliographic research that should already be part of the teaching work. Faced with a university reality that every day demands an increase in the number of students, the challenge is to balance massiveness with university quality.¹⁰

Thus, research becomes a continuous and systematized process that will allow the teacher to develop his cognitive, pedagogical, didactic, and methodological competencies, reflecting his consolidation in one of the bastions of society, if not the most important one: the university - the axis of the birth of thoughts, debates, reflection and analysis of the problems of the country and the world. In this way, the university strengthens its insertion in society by fulfilling its purposes, that is, not only training professionals but also carrying out "scientific" research, a fundamental pillar of university activity, and promoting the exercise of critical thinking based on the theoretical and practical problems of our society.

Since research is an activity inherent to the person in all its extensions, it is basic and necessary to achieve the attitude of scientific research in our students. Our society requires researchers and the university is responsible for their training: observe a reality, define a problem, formulate a hypothesis, collect data, test the hypothesis (if any), formulate deductions, etc., depending of course on the product of the research, according to the academic standards of the university: monograph, essay, manual, research paper and thesis also called degree work: The development of a research paper in correlation to the logic of research: (Popper, 2008) proposes to have prior knowledge and then pose the problem as a decision of the researcher at the beginning of the research.

In correlation to the author's proposal, then, we must teach to read, to understand what is read, and then to investigate. The student or thesis student must be motivated in the development of the research and transmit that the research process is simple, viable, feasible, interesting, and even motivating, consolidating one of the characteristics of scientific knowledge: that of being universal.

CONCLUSIONS

Reading is related to theory and research and is the bridge between theory and reality. Reading is also a form of self-education; education makes us better people because education is a value and therefore has a positive connotation; we educate ourselves for the well-being of our society and ourselves.

The teaching of research should identify the research process that allows students to identify from the formulation of the problem to the conclusions, based on the habit of reading and the proper use of ICTs throughout the process.

Regarding the teaching for the development of the thesis, we consider two formal and primordial requirements to initiate the research process: (1) the research protocol (format) of the project and thesis, and (2) the research lines of the corresponding area. The first provides the methodological guide in the development of the research and the second situates the science research. And two non-formal, but also primordial requirements:

⁸ Research also means updating the contents of the syllabus, the bibliography and even the teaching materials.

⁹ And it is a shared responsibility with the university and with the State as well, in the case of public universities.

¹⁰ To tell the truth, an approximation to what is called quality, since this construct is so complex and subjective.

previous knowledge of the topic, and motivation, taste, and/or liking for the chosen topic, since selecting a topic that we are not passionate about, will turn the development of the research into a martyrdom or anguish, which will finally make us give up our research task.

The sequence of research courses in the study plans aims to achieve order and continuity in the development of scientific research at the university.

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