

Development of Research Skills in New University Students

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Abstract. The objective is to reflect on the teaching strategies used by teachers to promote the development of skills for scientific research through the case study method. As a result, the paradigm shift of teachers on the teaching of research in new students with an impact on the improvement of educational practice, teaching and acquisition of learning at the group level, at the level of autonomous and global learning is highlighted ; the definition of lines of research as a basis for the development of teaching strategies such as the Student Guide, individual and group counseling, allowed obtaining results to connect research, diagnosis and subsequent social intervention from a real context; concluding that the main factor has been the promotion of confidence, self-esteem and empathy with one's own knowledge as a novel student..

Keywords: didactic strategies, case study, investigative skills, qualitative research.

1 Introduction

Worldwide and in developed countries such as China, European Union, Japan, Russian Federation and USA; At the Latin American and Caribbean level, Brazil and Chile have the highest rates in scientific research and publications (UNESCO, 2015). Globalization reaches us the latest advances in science and technology from the social context, these demands require the future professional to know and master - from the development of skills - scientific research. Thus, in university teaching, it is necessary to incorporate strategies according to the advances of technology to promote research processes in students, which contribute to the development of skills for scientific research (Martínez, Delgado, & Lilia, 2014).

In Peru, University Law 30220 gives impetus to scientific research as a basic aspect to be developed and evaluated by the SUNEDU (National Superintendence of Higher University Education) (Alarcón, Flores and Alarcón, 2018). Even so, there are few researchers, for every 5,000 people in the PEA, there is only one researcher in the country (CONCYTEC, 2017).

In Arequipa, research and scientific publications from the field of social sciences are very few. Therefore, it is necessary that, from university education, the professional profile be expanded by inserting the student into a research culture that scientifically supports his or her professional performance. In this sense, the university professor is open to paradigm changes regarding the teaching of scientific research, allowing to identify the research skills of students from their entrance to the university to improve them throughout their professional training; through the learning of qualitative research, the development of skills for research in the social field is promoted; where the case study method emphasizes to facilitate the knowledge of the phenomenon or fact of study, from an inductive approach, analyzing similarities and differences with other cases, identifying and understanding processes and changes to act from the social through proposals (social projects) based on scientific evidence (López, 2014).

In this process, one or several cases have been used as part of the qualitative sampling (Hernández et al, 2010), developing the classroom research and in a transversal way to all the subjects of the curriculum and articulated to the research lines in each area of knowledge of the social field. Which implies a change and move from teacher-centered learning and the presentation of master classes to another oriented to the student and their potential to implement the contents in real practice. This postulate addresses the educational process, which being an “intentional act” is necessary to be properly planned at the microcurricular level (Villalba, 2017).

It is the discovery learning strategies that were used to promote the acquisition of research skills; In this regard Yolanda Campos (2000) points out that these strategies are more applicative or operational, that is, to lead, facilitate, promote, and organize learning in new students. In the teaching of research it is explicitly oriented to obtain results to connect research, diagnosis and a subsequent social intervention (Pastor & Sánchez-Millán, 2014). Specifically, the case study method is applied in order to approximate research and teaching to professional practice (Morago, 2009), from which you must work on a teaching-learning model that facilitates the acquisition of skills and develop skills in students, whose research exercise, contributes to a better design, planning and implementation of social policies in our country.

Promote the development of research skills in new students, demand for the university teacher in the social field, demand the application of pedagogy of doing oriented to promote the scientific spirit and identify possible solutions for social intervention, and finally guide the student in the dissemination of the results of his research through the writing of a scientific article. This way of developing research skills is consistent with the four pillars in education promoted by UNESCO, which complement each other, so that university students can develop skills and adapt to a society in constant change and evolution. Learning to do also entails the teaching of the advisory teacher for the promotion of - confidence, self-esteem and empathy - for which the specialist advisory teachers designed didactic instruments for teaching learning and evaluation through rubrics to follow up on the acquisition of research skills (García and Tamara, 2018).

2 Methodology

In the development of experience, qualitative research has been used according to lines of research. With the term "qualitative research", we refer to the study of lived experiences, behaviors and feelings; the organizational functioning, cultural phenomena and interactions that occur in these processes (Strauss and Corbin, 2002). As part of the didactic strategy that the teacher has used is the pedagogy of doing, where "what is meant by doing has to do with content, knowledge and its use for life, societies, culture, professions" (De the Herrán, 2018).

The didactic strategy has been developed in stages: the structure of the research project, the methodological design, the data collection, the analysis and interpretation and finally the writing of a scientific article. The procedures used by the students to interpret and organize the data as part of the analysis process have been used based theory, through coding, elaboration of memos and families through an inductive analysis, for this whole process the new students used the Atlas.Ti software, facilitating learning from experiences and points of view of the people studied,

assessing processes and generating theory based on the perspectives of the participants.

The case study method has been used “that allows us to understand how the participants of an investigation perceive the events” (Hernández et al, 2010). Regarding the number of cases that make up this type of study, it is framed in multiple or comparative cases (Castro, 2010), the same ones that have been obtained by selecting the works developed in each line of research. This experience has been developed since 2016 with new students in the field of social sciences, this group has been characterized as a competitive group consisting of a male and 26 female students; all of them on average with good academic performance and with regular enrollment, to whom a test on investigative skills referred to six items was also applied, this test has a reliability of 0.8, which allowed measuring the acquisition of research skills.

3 Results

The students analyzed the context where the professional of the social field performs its functions, as an “active” profession, based on the social demand of vulnerable populations in our country. Under these contextual considerations, the teaching advisor committed to teaching scientific research to new students identifies the didactics based on real practices and processes, fundamentally based on individualized training and training of students in each stage of the research process. (Sánchez 2014). As part of the didactic strategy, a student guide was developed under an articulating and multidisciplinary approach, according to academic programming and the requirement in each syllable by subject. This allowed the student to become familiar and incorporate in their daily language terms related to research. Díaz (2016), points out that the teaching chosen by a teacher facilitates, encourages and guides students in their learning through the use of strategies and techniques that guide teaching, promoting more efficient learning.

In this experience, two key strategies have been developed to encourage the acquisition of research skills. The first is to consider individualized and group counseling as part of the didactics, and the second, the application of the "Student Guide" as a methodological resource. The university professors of this field, offered to the students of the first year of studies of continuous way the consultancies, establishing like this a route to follow with the novice students. As part of the didactic innovation during the development of the consultancies, not only the acquisition of knowledge, techniques and instruments to develop qualitative research has been sought, but also as a main factor trust, self-esteem and the promotion of “empathy for

the development of the capacity of analysis as essential elements in the professions of the social field ”(Ramos-Feijóo, Lorenzo-García, Dellavalle, Ariño-Altuna and Munuera-Gómez, 2013). The teacher advisor has guided this process more in strategies that encourage the acquisition of skills in students, valuing their own “know-how of research” (Sánchez, 2014). The new students developed research projects using the “case study” methodology and had as research topics: learn about social relationships of a high school student who consumes alcohol, analysis of the problem of family violence, social management of the Pension 65 Program, accessibility work of the person with disabilities, innovating a model of social intervention with the elderly, social intervention in a patient with TB, child labor with children, among other issues.

In the opinion of Sánchez (2014) “the know-how is certainly a knowledge”, here we agree with the author's contributions in the sense that, promoting through the teaching didactics the acquisition of research skills does not remain at the level of knowledge: it is not merely conceptual knowledge, but it is a knowledge that guides and regulates acting. It is the knowledge that is acquired and applied “by doing” during the development of the “case study” research methodology.

The didactic used in this process, allowed from 2016 to have clear guidelines on how to articulate qualitative research and formative research. In the qualitative research experiences from the case study method, a descriptive study was developed in which the process of categorization, analysis and reflection of the corpus allows to reveal the investigative practice recognizing the heterogeneity, as part of the tensions, contradictions and own logic of the qualitative terrain as expressed by Ibáñez (2001).

Sánchez (2014), affirms that at present the “artisan way” of teaching to investigate is the one that is giving better results. By "artisanal means" is understood the direct and constant communication that the teacher advisor has with his student, based on the premise that he learns to investigate by doing, and this is linked to matters of more abilities and skills, which coincides with this experience.

The qualitative approach and the interpretive paradigm were used, in-depth interviews, non-participant observations were conducted, the students contrasted the results with other investigations and the research was related to the teaching of each subject. It is interesting to differentiate: (a) the methodology (method) in the field of research (Type, design, techniques, tools and research tools) and (b) the methodology in the educational field (teaching and learning methodology, techniques, strategies, activities and diagnostic and evaluation instruments) both methodologies complement each other in the field of research and education.

The correlation of all these dimensions in the research process creates a fabric, that is, a didactic of research, which is intentionally linked to favor the development of research skills, resulting in the teaching profile and its ability to promote them from the didactic chosen (León, 2016). Educators need and demand resources, training and strategies that allow them to find useful, realistic and effective answers to adapt and adapt education to the new social demands.

As part of the didactic strategies there are also the active learning methodologies that were implemented in this experience, fundamentally to complement the research skills with the soft skills as part of the student profile, so among the learning strategies used, collaborative work stands out, not only for the contents of the research, but mainly around the planning of time, organization and resources for the development of the assigned research works. Case studies have been constructed to analyze processes from the perceptions of vulnerable populations and people in poverty. These results have allowed students to assess the research skills acquired during this entire process, understood as the mastery of capacities for the actual research action under an orientation of problem identification for the search for solutions, displaying the potential that brings student for the development of qualitative research (Bravo, Illescas, and Lara, 2016).

The case studies developed by the students are used as material for the development of the subjects, thus establishing a relationship between them, these subjects are Social Research - Social Diagnosis and Social Programming; from which the acquisition of research skills in students is encouraged. The skills they acquired with this experience are those related to planning, organization, methodological skills, skills related to the use of technology and scientific language (García and Tamara, 2018). Specifically, the new students presented development of research skills regarding research planning (case project) reached an average of 3.40, elaboration of the state of the art (X of 3.20), methodological design (X of 3.70), use of technology (X of 3.89) use of database and repository (X of 3.51) and writing of scientific article (X of 3.6). This entire process of developing research skills is reflected in the academic performance of the students during the different periods or cycles. As shown in figure 1.

. Figure 1.

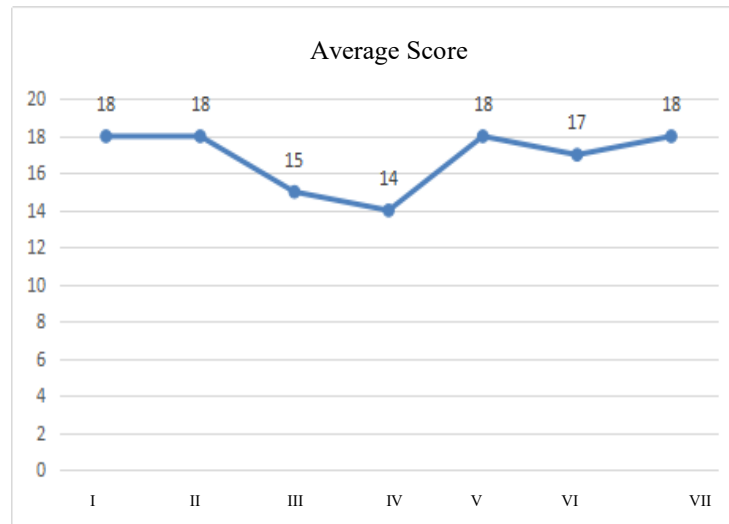


Fig. 1. Student performance is announced, this shows that learning reaches an average of 17 among novice students.

4 Conclusions

The process developed since 2016, has allowed in the first place in teachers a paradigm shift on the teaching of research stating that it is possible that the new student has their own skills for the development of research processes, which at the discretion of Sánchez (2014), the “know-how of research” of each student is a good starting point for the development of research in the social sciences.

From this paradigm shift in teachers, the planning of teaching strategies is incorporated to not only develop scientific research from each subject, but fundamentally, establish collaborative and group leadership to design, establish and institutionalize the “Student Guide”, as didactic strategy that has allowed the novel student to go hand in hand and step by step along the path of qualitative research learning through the case study method.

The articulation of the student's guide with specialized subjects such as Social Research, Qualitative Analysis, Social Diagnosis and Social Programming, which constitutes a great contribution for professional intervention based on scientific evidence; incorporating at the same time this teaching approach based on the case study method, articulating the domain of qualitative research with curricular, academic and labor.

Secondly, individualized or group counseling has been developed as didactic strategies, facilitating learning about epistemological review, methodological aspects, as well as the use of techniques and instruments, to build new knowledge in a real context, which requires the management of practices in writing and oral and written expression, to support and argue a topic. Whose primary point to highlight is the development of soft skills for the promotion of learning in scientific research such as empathy, boosting the development of self-confidence - self-esteem, decision-making capacity and willingness to work in a team, collaborative and leadership.

Third, the use of qualitative methodology and its tools allowed students to first identify and then develop skills that allow them to plan, design and execute research projects under the qualitative approach, strengthening their knowledge thus achieving meaningful learning from the articulation of specialized knowledge and real problems.

This experience confirms that novice students can be taught to investigate, which invites a paradigm shift in some university teachers. It is necessary to continue innovating, deepening and integrating qualitative methods based on case studies, their learning and application in real research; as well as continue to deepen the analysis and measurement of the research skills acquired by the students.

The process of training research skills in new students emphasizes as a strategy for future professional and scientific work the "real" approach to what will happen in their professional performance, this experience contributes to improve educational practice, teaching and acquisition of learning, for the benefit at the level of group, autonomous and global learning, in the search for answers to real and concrete problems, corresponding to the professional context.

Considering the results obtained, it is possible to continue betting on deepening the impact of the didactic strategists on the academic performance and their contribution to the student's graduation profile based on the definition of the research lines and their attitude towards a practice based on scientific evidence.

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