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FORMATIVE RESEARCH: PERCEPTIONS OF COMMUNICATION SCIENCE STUDENTS AT A PERUVIAN UNIVERSITY

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Abstract

Formative research generates different perceptions in undergraduate students, and in order to know more about them, 80 were surveyed, and 12 Communication Science students were interviewed at a national university in Lima (Peru). The results evidence that they conceive of it as: training to conduct scientific research, curricular or extracurricular activities as part of or for scientific research, preparation for conducting research work for graduation or obtaining a qualification, the development of competences for researching in the profession, an instructional strategy to develop research competences, and a strengthening of the research culture, among others. But beyond these varied concepts, the estimation of the majority emerges that formative research has been neglected by the university, thus becoming a challenge to optimize professional training, requiring qualified instructors with pertinent instructional methods, as well as an updated curriculum, which strengthens the research culture, responding to social demands and ensuring resources for the development of research competences.

Keywords – University, Formative research, Scientific research, Research competence.

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1. Introduction

University research occurs in different modes: formative research or instructional research and scientific research. The former is oriented toward undergraduate students in order to train them in research through curricular or extracurricular activities; meanwhile, the latter concerns instructors who are dedicated to research. In this sense, Barros and Turpo-Gebera (2022) consider that "The research training scenarios make compromises possible in order to innovate or change teaching practices, translated into a

considerable increase in researchers," which also requires an investigative culture and training in scientific competences that ensure quality in the generation of knowledge at the institutions of higher education.

In the current situation at Peruvian universities, Amésquita-Amésquita, Patricio-Ávila, Quispe-Condori and Simón-García (2020) refer to the fact that "there is no culture of research, as compared to the developed countries. We are compelled to developing solely academics, leaving aside the role of the researcher" (Amésquita-Amésquita et al., 2020: page 33). Furthermore, the development of research seen as an essential or generic competence is primarily addressed in basic training, as indicated by Turpo-Gebera, Ore-Pérez and Pimentel-Cruces (2022): "the achievement of competences represents the mastery of essential capacities for today's world, and the university must provide" (Turpo-Gebera et al., 2022: page 271).

In this sense, there is an urgent need to focus on and emphasize formative research from the perspective of achieving quality professional training, which must be considered as an essential tool to promote the research culture from the instructional tasks in the teaching and learning of methodological lines of research and the development of research capacities, as stressed by Turpo- Gebera, Mango, Gonzales-Miñan and Cuadros (2019), who insist that the close relationship between formative research and teaching is revealed by the conceptions of the instructors. It is in this scenario that formative research has become an expression with different meanings in the perception of the members of the university community, such as: exploratory research, a means by which to incorporate knowledge, instructional strategy for research learning, research into the action and even as a resource oriented toward encouraging the approximation to the world of research.

In the endeavors of the university, the discussion arises regarding the relationship between instruction and formative research, as well as with regard to research training according to the purpose of the university. These questions must be answered and specified, defining the meaning of formative research and strictly scientific research, in such a way that the former corresponds to the initial, undergraduate training and the latter is associated with the research function and the ongoing or continuous training in graduate studies.

The training of professionals and the action of engaging in science in the 19th century imprinted two distinct and influential models of the university: the professional university and the research university, according to the emphasis placed by the university on a particular function: instruction or research. So far this century, demonstrating hegemony toward one model or the other, universities have oriented their activities toward and strengthened either their Professional Schools or their Research Institutes.

The instructional-research dichotomy needs to be strengthened in the university, but also amalgamated with the extension into the context of university social responsibility (USR). Medina (2018) indicates that in Latin American universities there is usually segmentation between teacher-trainers on the one hand and teacher-researchers on the other; however, it is maintained that there cannot be teaching without research. This formative and scientific research makes active participants of both instructors and students.

Restrepo (2003a) makes a distinction between formative and scientific research: the former emphasizes the act of teaching how to conduct research from a teaching perspective, while the other is dedicated to the generation of new knowledge. Likewise, Restrepo (2003b) indicates that the former makes it possible to promote a culture of research, and the other allows to carry out scientific research per se. On a similar note, he distinguishes among classes of formative research, expository research and learning through discovery and construction. In expository research, students only receive that knowledge which the instructor transfers and do barely any research work. In learning through discovery, students conduct research and the instructor is limited to posing problems, which is the equivalent of saying that students must finish planning and implementing the research process, tending to solve the problem initially outlined by the instructor.

Formative research conceived as an instructional strategy is used as a methodological resource to establish the research culture in students and develop the respective skills. In other words, research forms part of the instructional process by means of the performance of research activities. And "as an instructional device, it constitutes an organized mechanism aimed at the acquisition of new knowledge and skills.

Strictly speaking, it establishes an instructional meaning that incites reflection on the nature, styles and purposes, and the epistemological horizons to be considered" (Turpo-Gebera, Quispe, Paz & Gonzales-Miñán, 2020: page 3).

Restrepo (2004) refers to formative research as an instructional issue that is linked to the implementation of the curriculum and "has to do with training for research. When we speak of formative research, we are talking about research training or the use of research to train about research, in order to learn how to do research by researching" (Restrepo, 2004: page 2).

For university instructors committed to formative research, their teaching process must use research as a resource, from the framework of research instruction, which must be conceived of as a series of activities aimed at training students in the foundations, logic, ethics and methodology of research, in order to initiate students in their research experience. It is certainly true that there is no better way to guide research learning than by researching from a foundation of knowledge and skills to achieve this purpose. Guerra (2009) remarks that "*in all courses and curricular areas, research should be conducted and research skills strengthened. It is necessary to understand that research is the responsibility of the entire institution, better said, the entire educational community, not just science professors. It should therefore touch upon all the spaces and moments of scholastic life (and to the extent possible, to the extra-scholastic life)"* (Guerra, 2009: pages 305-306).

The dynamics of knowledge and society demand training professionals who meet the demands of the times. It will be possible to meet this challenge based on an updated curriculum. In this sense, Venegas, Esquivel and Turpo-Gebera (2019) stress that:

The restructuring and updating of the curriculum must be oriented toward changing the image of a professionalizing Peruvian university to an institution that is tuned into the social demand and the development of the country, forming professionals with research competences in order to contribute to innovation, development and solving multiple problems. This implies reinforcing research lines or curricular areas with the defined research competences and instructors whose experience allows them to achieve the professional profile. (Venegas et al. 2019: page 454)

Formative research has generated a democratizing predisposition with regard to research at Peruvian universities in general, which fit the professionalist model, far from that of research universities. Obviously, there are many factors that impede this change; however, efforts to promote a culture of research and develop research competences in students are an important breakthrough.

Montoya and Peláez (2013) refer to the fact that "formative research is treated as a pedagogical and instructional strategy that makes it possible to deploy the pedagogical model of institutions" (Montoya & Peláez, 2013: page 22). In this sense, it is a model oriented toward training students in research competences that poses an immediate and direct challenge to research instructors; in this regard, Banderas, Cárdenas and Martínez (2018) indicate that: "Training in this type of competences must be achieved in the field of research, either by supporting students as they conduct their own research or by directing the writing of a thesis in order to earn an academic qualification" (Banderas et al., 2018: page 589). They go on to say: "The contribution of university studies to solving problems in the environment starts with involving students in conducting research in the field of their professional training" (Idem).

Having resources is an important element for the implementation of research instruction within the framework of formative research, which implies considering it as part of the curricular design and execution of the programs of study at the universities. On this topic, Salazar (2017) indicates the different perspectives of the authors, "which converge in two alternatives, one of which is implemented in all courses as a cross-curricular axis. The other alternative is that its implementation is limited to courses in the area of research or methodology" (Salazar, 2017: page 82).

In order to truly train in research, it is important for research to be a cross-curricular axis in any program, involving and articulating the different courses or curricular experiences, based on the activities programmed in accordance with the courses in the research area of the curriculum.

Research instruction must meet the requirements of formative research. It is thus the way of approaching different resources and teaching methods of the instructor, as well as the corresponding resources and ways of learning by the student. Sánchez-Puentes (2014) states that:

When considering the different ways of teaching how to do research, we must not focus solely on the level of programmatic proposals, rather look for their reason for being in a more radical approach; i.e., in the different ways of understanding and doing science. Scientific research instruction cannot be divested from the concept and practice that is held of the research itself. The theoretical fate of the former is definitely tied to the definition and practice of the science in question. Accordingly, as there is not just one, but several notions and ways of practicing science, there is not just one, but several ways to teach scientific research. (Sánchez-Puentes, 2014: page. 49).

Methods	Purpose
Expository method	Transfer knowledge and activate cognitive processes.
Case study	Learn through the analysis of specific cases or scenarios.
Problem solving/exercises	Exercise, experiment and put into practice prior knowledge in order to achieve learning through interaction and group activity.
Problem-based learning	Develop active learning by solving problems.
Project-based learning (design and development of a project)	Execute a project to solve a problem, using the application of the skills and knowledge that have been acquired.
Cooperative learning (group work to execute a project)	Develop significant learning in a cooperative manner.
Learning contract	Develop autonomous, independent learning.
State-of-the-art analysis	Critically review what has been researched on a specific topic.
Drafting of academic essays	Develop, reflect and analyze a topic freely and expressing an opinion, based on the study of various sources.
Writing of research monographs	Integrate research elements with regard to a topic of an area or course in the curriculum.
Survey/field visit report	Perform an analysis and interpretation of the results of field work, highlighting the testimony of the work performed.
Documentary research	Analyzing phenomena of existing documentation, which directly or indirectly provides information.
Action research	Understand and interpret social practices, changing them.
Journal club (Learning community)	Develop skills of analysis and reasoning with regard to scientific articles and topics.
Research incubators (Group of students and an instructor)	Perform research activities that go beyond the formal academic setting and build the formation of research skills and competences.
Social outreach actions	Perform direct work with the community, aimed at solving a problem.
Evidence portfolio	Show productions, works, questionnaires or other artifacts that as a whole would indicate the achievement of learning.

Note. The first seven methods or instructional techniques have been adapted from De Miguel (2006). The rest are proposals by the authors

Table 1. Methods to implement formative research and the description of its purpose

The accreditation model for Higher Education Programs of Study proposed by the National Educational Quality Evaluation, Accreditation and Certification System (Sineace, 2017) shows the elements of the professional training process: the teaching-learning process, R&D and university social responsibility, which must match the university's vision and mission, as well as the labor-interest group environment. Likewise, the main protagonists of the instructional process, the students and instructors, are who must receive support from the university in order to achieve the desired result: students who attain the profile of graduates; this is the articulation of the program of study and part of the strategic management that leads from the program planning, guiding the instructional process, the achievement of which must be verified in each of the graduates.

In the case of Bachelor's degrees issued by the universities, the Superintendencia Nacional de Educación Superior Universitaria (SUNEDU) (2015) implemented "The Bachelor's Degree Model and its Implementation in the Peruvian University System", enacted in 2015, which established the basic quality conditions (BCC). The BCC IV refers to research, but without specifying formative research.

Within the framework of the BCC, it is important and inevitable for "the training and development of research skills [to form] the cross-curricular axis of training for research at the undergraduate level" (Martínez & Márquez, 2014: page 347); which Pérez and López (1999) refer to as a: "Mastery of actions (psychological and practical) that allow for the rational regulation of the activity, with the help of knowledge and habits that the subject possesses in order to embark on a search for the problem and its solution by means of scientific research" (Pérez and López, 1999: page 22). Furthermore, Moreno (2005) indicates: "The expression 'research skills' refers to a set of skills of a diverse nature, which start to be developed since before the individual has access to systematic processes of research training (Moreno, 2005: 527).

2. Methodology

The study conducted was mixed, in the sense that it used both quantitative and qualitative methodologies. The primary data from the sample were obtained through the administration of a closed questionnaire and a semi-structured interview, through which insights were obtained on the research training of students in the Communication Sciences at a national university in Lima. The sample selection was obtained based on three criteria: being registered, belonging to the 5th-9th cycle and being willing to comply with the data collection requirements.

The data for the quantitative analysis was obtained from 80 students in the 5th-9th cycles, keeping in mind that in the 2021-odd semester there were only odd cycles and students from the 1st and 3rd cycles were not considered for being less familiar with the topic of formative research. The data for the qualitative analysis were obtained from 12 students belonging to the aforementioned population, a number that was reached by saturation of data. In addition, convenience sampling was used to select the sample, as the subjects were favorably available. The questionnaire and interview were designed considering the characteristics, application and appreciation of formative research; in the case of the former, prior to application, the validity of the content was analyzed using Aiken's V coefficient and Cronbach's alpha for reliability, based on data from 30 students in the population; the validity in the latter was analyzed in a manner similar to the questionnaire.

Prior to the quantitative analysis, statistical techniques were used to perform the cleaning, coding and tabulation of the respective data. With regard to the qualitative aspect, the interviews were transcribed to conduct discourse analysis of the students, based on the categories, subcategories, coding, establishment of relationships, etc. In both cases, the aim was to identify and analyze the knowledge and perceptions of the informants with regard to formative research.

3. Results

The results are shown below for each item on the questionnaire that was applied to the students in the sample:

Of four ideas related to the act of researching, 77.5% of students surveyed considered that the idea that best describes it is that related to "collecting and analyzing information that makes it possible to respond to a question that is raised", an idea associated with topics that are developed in the research methodology courses or subjects; it is broader than the three additional ideas, which only indicate a particular procedure, since they are related to: formulating hypotheses and selecting methods and techniques to verify them (for 17.5%); proposing problems based on a difficulty, as well as formulating their respective objectives (for 3.75%), or designing a timeline of activities related to a certain study (for a small percentage of 1.25%). These figures reveal that most of the students have a clear idea of the meaning of research.

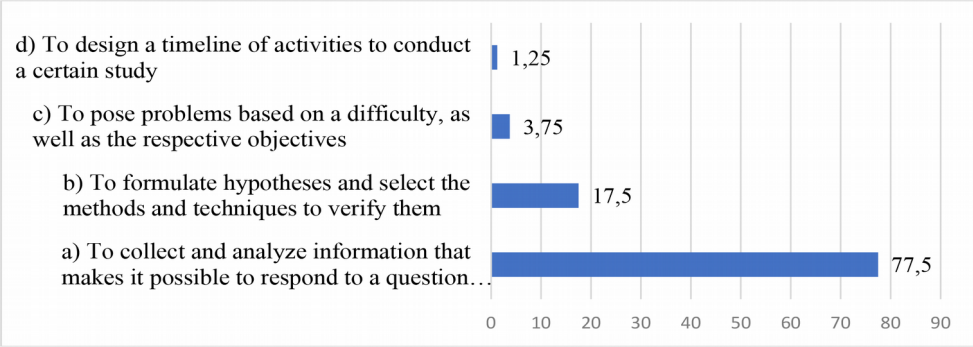


Table 2. What is the phrase that is the closest to research?

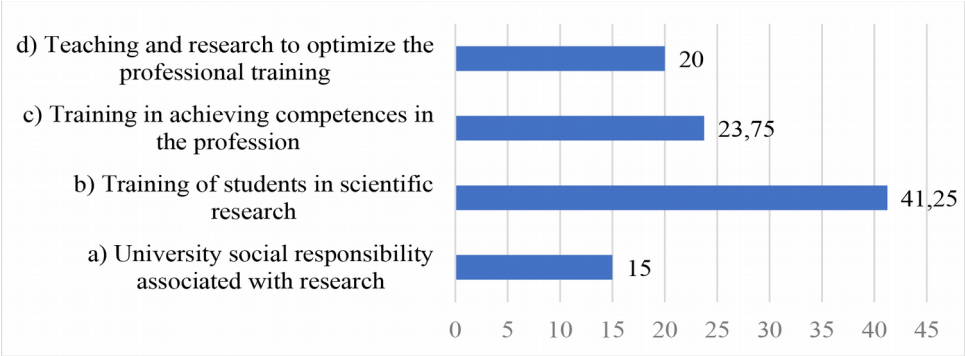


Table 3. What do you believe is the most neglected by the university?

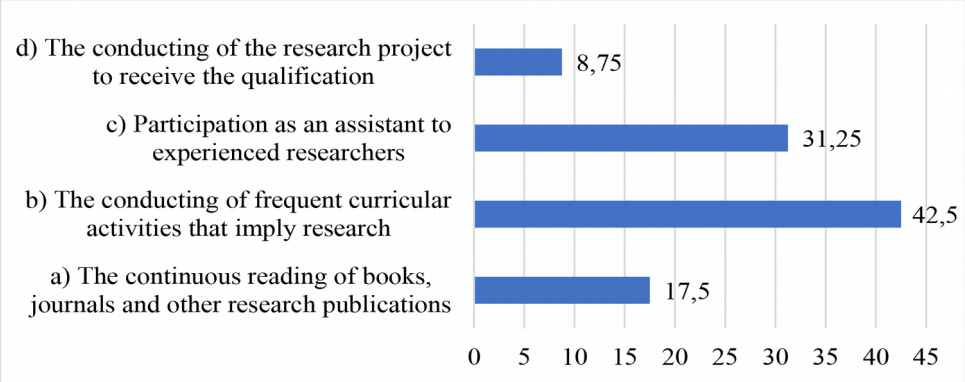


Table 4. What procedure is sufficient to learn how to do research?

Most of the students surveyed stressed a weakness with regard to the attention given to research; a 41.5% majority considered that training in scientific research is the most neglected, which is a revealing aspect that exceeds even training in the competences of the profession, which was considered by 23.75%. Likewise, the lack of attention given to research in combination with instruction was perceived by 20% of those surveyed and the lack of attention given to research in conjunction with university social responsibility was perceived by just 15%. Therefore, in light of the figures presented, more than 75% of the students perceive a lack of attention to the area of research in their professional training process, which they consider to be an important articulating axis, a vision of research as an inherent element of professional training.

According to the figures in the table above, the students surveyed called attention to a weakness in research training during the professional training, stressing the procedures that they consider pertinent to learning how to do research. A 42.5% majority considered that in order to learn how to do research, frequent curricular activities must be relied on that imply research; in other words, learning how to do research by doing research in the execution of the curriculum is something quite different from learning how to do research merely through the execution of activities or contents in the courses or modules in the

field of research. Likewise, a significant 31.25% believe that learning how to do research is associated with performing activities as assistants to instructors with experience in research; in other words, learning how to research based on research practice. 17.5% call attention to the importance of learning how to do research based on acquiring theoretical foundations based on the reading of different sources: books, journals and different publications on research. Only 8.75% think that students learn how to do research based on conducting research projects for the purposes of earning the qualification in the final part of professional training, which reflects a common reality in universities during the last century.

In relation to the question "what activities optimize formative research?", a significant 43.75% indicated that it is participation in educational activities that imply research, which is the equivalent of learning to do research through practice. 32.5% highlight relying on data processing under the guidance of experienced researcher-instructors; this figure exceeds 17.5% of the opinions which refer to formative research as a matter of co-participation in specific research projects alongside researchers. Only 6.25% believe that formative research implies the writing of reports on pre-professional practice, which demonstrates that the students surveyed envisage research separate from practice, which is to the detriment of attaining optimal professional training.

With regard to the question "what is the activity in which formative research is most evidenced?" a majority of 47.5% of the students surveyed believe that it is conducting research work in order to obtain the professional qualification, which indicates that it is the culminating phase of formative research that must form part of the educational activities that are implemented in the execution of the curriculum; meanwhile 27.5% of those surveyed associate it with the writing of essays or monographs, activities that are carried out throughout the professional training; for 15%, formative research is perceived as a matter of designing and implementing data collection instruments, a significant element in the research process, but it is not sufficient. Only 10% associate it with the systematization of pre-professional practice experiences, which agrees with the perception regarding the writing of reports on the professional practice experiences.

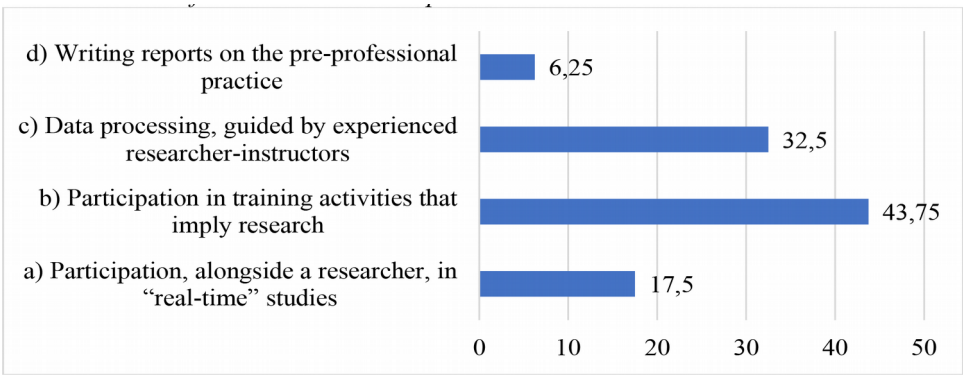


Table 5. How is formative research optimized?

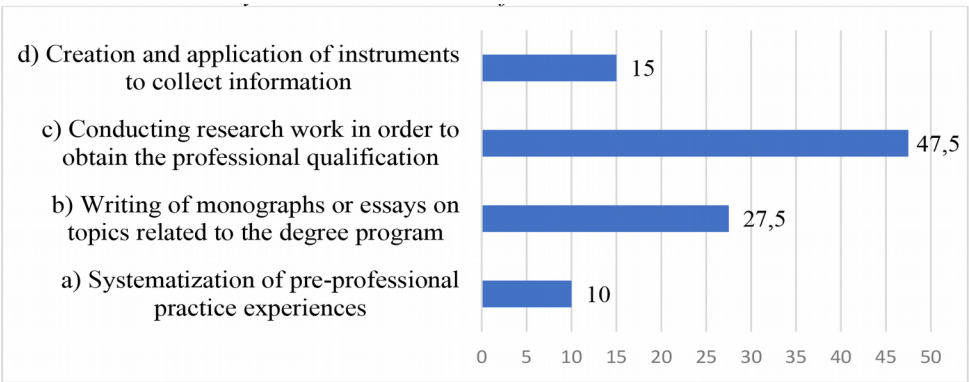


Table 6. What activity is most evidenced in formative research?

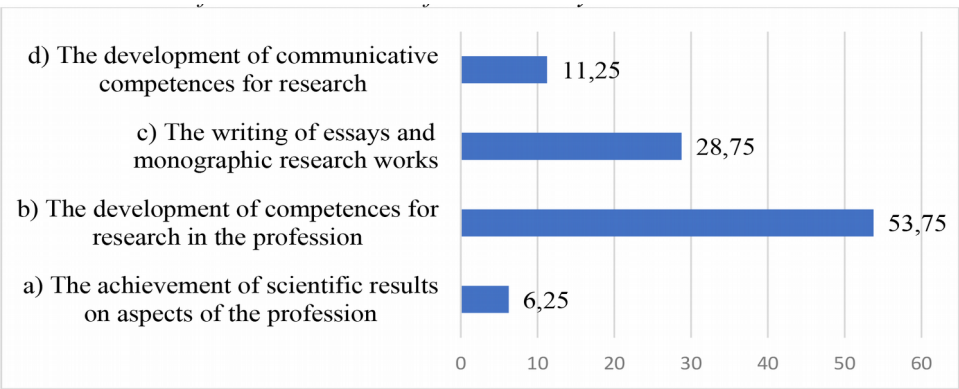


Table 7. What is formative research fundamentally intended to do?

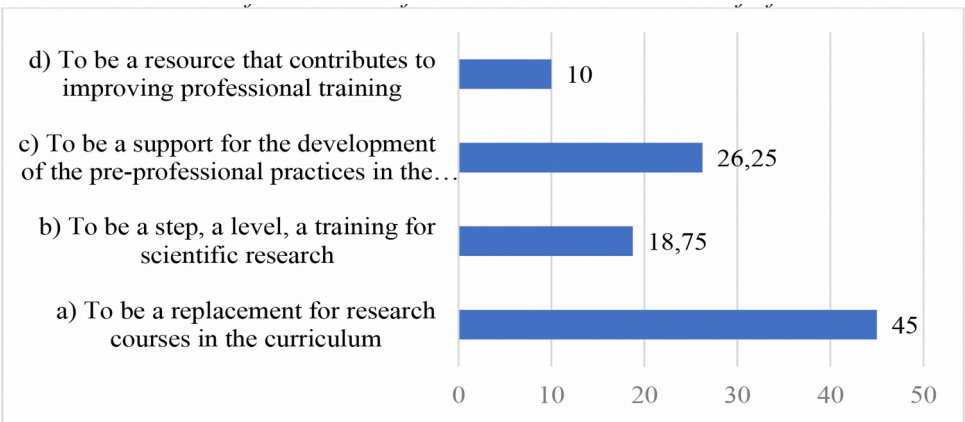
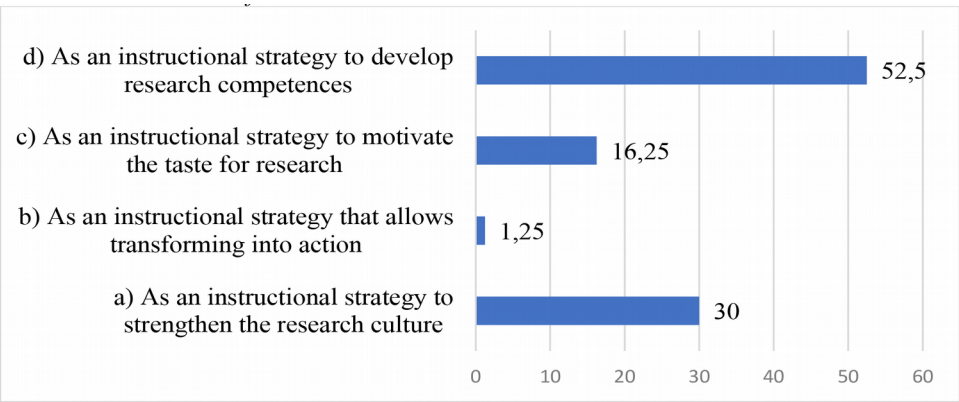


Table 8. What is the function that formative research does not fulfill?

With regard to the question "what is formative research fundamentally intended to do?", a notable 53.75% stress that it is related to the development of competences to conduct research in the profession, which implies that there is an appreciation for a future professional with a research profile; meanwhile, 28.75% state that formative research is associated with the same process of professional training through the production of essays and monographic works, which is associated with bibliographic or documentary research, and which is most common in the training process of students on a theoretical level. For 11.25%, formative research is intended to develop communicative competences for research and for the rest, achievement of scientific results on aspects of the profession. This indicates that a minimum percentage of 6.25% associate formative research with a tool for conducting research and achieving results referring to topics of the profession, which is the equivalent of viewing research as an inherent part of professional training.

With regard to the question "what is the function that formative research does not fulfill?", 45% believe that formative research does not fulfill the function of being the replacement for courses in the research area of the curriculum; 26.25% consider that it does not fulfill the function of supporting pre-professional practice, which more than not being a function, reflects what actually occurs in practice; 18.75% believe that being training for research is not a function of formative research, and for 10% it is a resource to improve professional training. In the latter two cases, beyond not being a function, it is what really occurs and how it is perceived by the students.



Note. The alternatives are associated with common acceptations of formative research in the literature that was consulted.

Table 9. How should formative research be conceived?

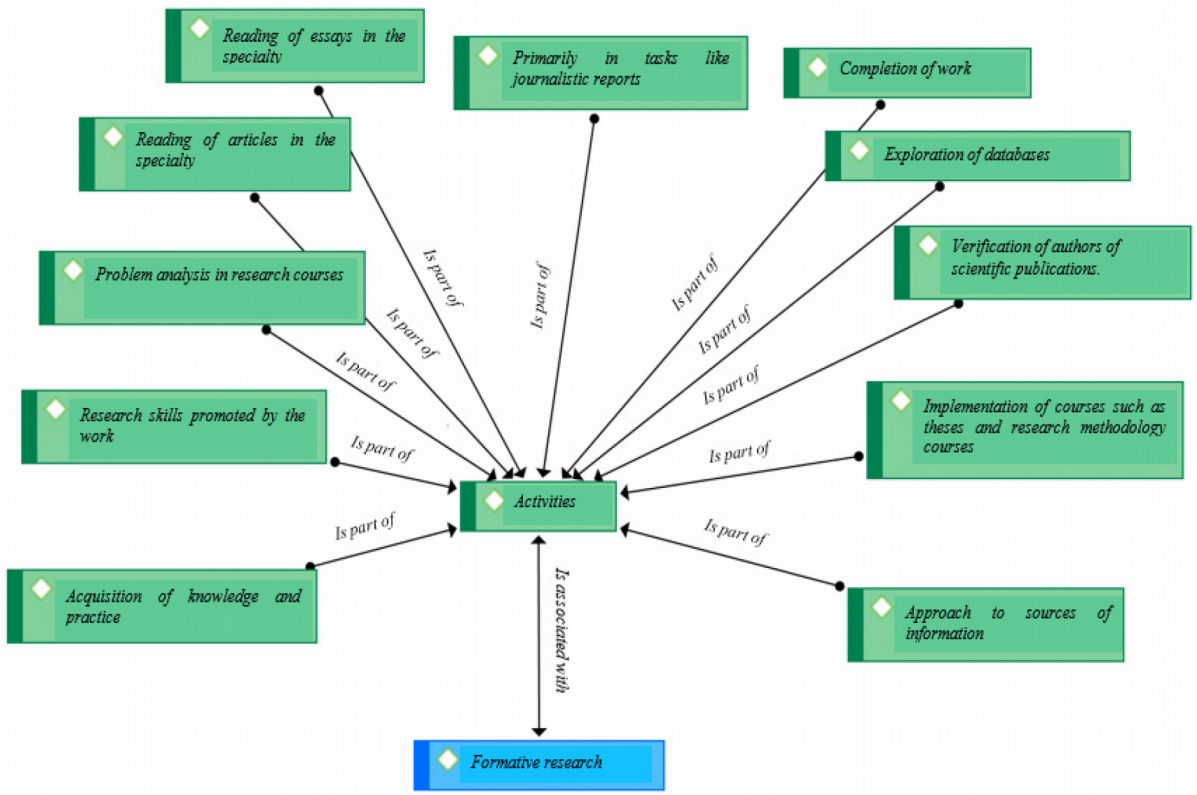
With regard to the question "how should formative research be conceived?", 52.5% of the students surveyed conceive of formative research as an instructional strategy to develop research competences; 30% see it as an instructional strategy to strengthen the research culture; 16.25% conceive of it as an instructional strategy to motivate the taste for research; meanwhile, only 1.25% see it as action research, as a resource for transforming into action. As can be seen, more than 80% of the students surveyed believe that formative research in university students is associated with forming research competences or a research culture, an idea that is familiar among those studying the topic.

The qualitative analysis of the research was oriented based on the coding of the data obtained in the interviews with twelve students who participated in the semi-structured interview, from which opinions were obtained that were analyzed with Atlas ti version 9 software. The data collected were organized taking into account: (i) the recording and transcription of the interviews, (ii) open coding of the opinions assigning codes, (iii) verification of theories on formative research, (iv) creation of code networks, which made it possible to identify the relationships among the codes generated on formative research based on the student opinions. The codes assigned with the Atlas ti analysis tool were established based on the reading and interpretation of the opinions given by students to each question of the interview, among which four groups of codes were identified: activities, purposes, participants and university actions.

Codes	Code groups
● Acquisition of knowledge and practice	Activities
● Research skills promoted by the work,	Activities
● Problem analysis in research courses.	Activities
● Reading of articles in the specialty.	Activities
● Task assignment.	Activities
● Use of databases.	Activities
● Verification of authors of scientific publications.	Activities
● Implementation of research methodology courses.	Activities
● Approach to sources of information	Activities

Note. Table with codes assigned to the opinions of students on the formative research activities.

Table 10. Coding of the opinions on the formative research activities that are performed by Communication Science students



Note: Diagram with opinions of students on the activities that they do on formative research. Source: Interviews with students from the sample.

Figure 1. Student opinions on formative research activities

The interview of twelve students on the formative research activities revealed that most consider the common activities to be reading essays, works, articles from the specialty and tasks like journalistic reports:

Acquire greater knowledge and practice in order to do research works. (Student 1-A1, Student 3-A3, Student 7-A7). Likewise, the research works are beneficial as a form of practice for the students, as they require sources, bibliographic references, expert statements and other information that favors research (A1, A2, A8, A11, A12). Reading and writing of articles, essays or specialized reports (A2, A6, A7, A9). The instructors mainly assign writing journalistic reports (A3, A5, A8, A11). There was agreement with regard to the fact that the formative research actions were oriented toward developing research skills, problem analysis, database use and research methodology courses or subjects. (A1, A3, A4, A6, A10, A12). An important aspect was that only two students (A3, A5) considered that the activities regarding the identification of sources, problem analysis and scientific publications are associated with formative research. Furthermore, the use of verification of authorship for a publication allows us to search for authors for the concepts that are required in the research, activities focused on describing or recognizing characteristics of social problems and methodology courses were primarily concerned with delimiting the topics suitable for research and making scientific publications (A2, A3, A6, A7, A11, A12).

Another category for the analysis was the purpose of the formative research, for which the group of codes was established that refer to the performance, training and professional profile, since the students state that the research contributes to their personal and professional development.

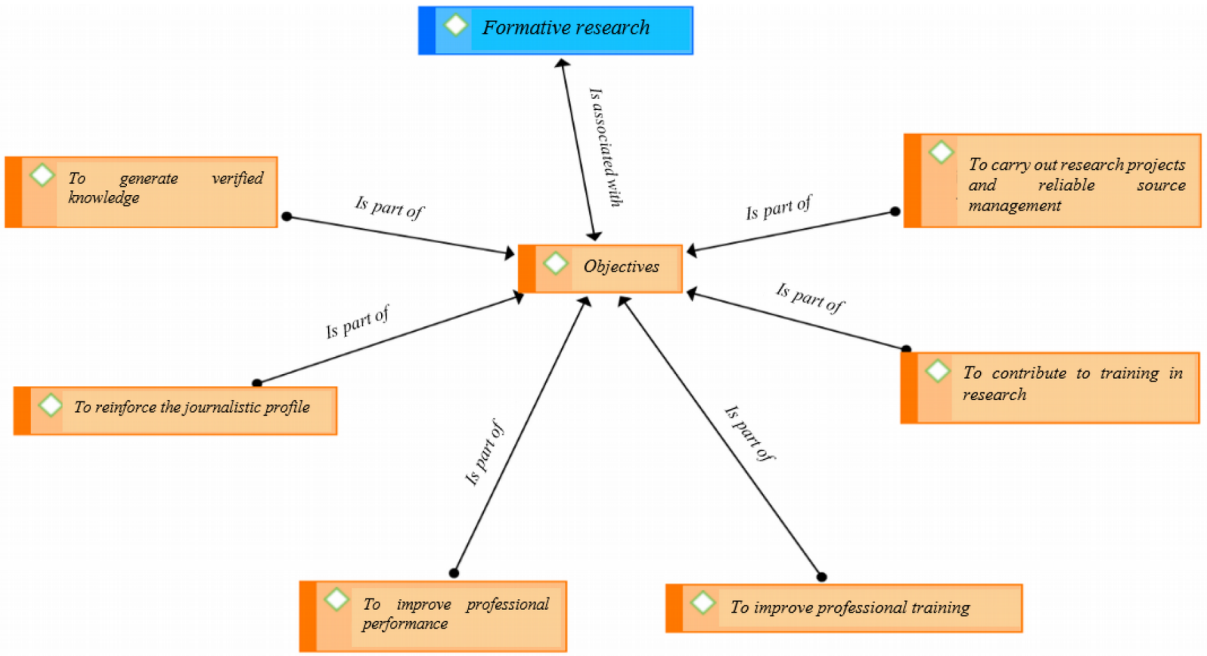
Formative research has multiple purposes, according to the opinions of students. These are aimed at generating verified knowledge and the development of research theses and the management of reliable sources, as indicated by a majority of the students (nine out of 12 students in the sample).

Codes	Code groups
● To generate verified knowledge	Purpose
● To reinforce the journalistic profile	Purpose
● To improve professional performance	Purpose
● To improve professional training	Purpose
● To contribute to training in research	Purpose
● To carry out research projects and source management.	Purpose

Note. Codes assigned to the opinions on the purpose of formative research.

Table 11. Coding of the opinions on the purpose of formative research by Communication Science students

The codes on purposes or intentions of formative research highlight the need to reinforce the profile, which implies opting for curricular updating and innovation.



Note. Diagram of the opinions of students on the purposes of formative research in their professional development. Source: Interviews with students from the sample.

Figure 2. Opinions of students on the purpose of formative research in their professional development

In order to have the necessary tools to tackle complex work, such as the thesis, and to become familiar with the useful resources to conduct the research we do in our professional life (A2, A3, A5, A8, A12). In order for our research, either individual cases or news, to meet the basic conditions of accuracy and, above all, verification when issuing or publishing a note or publication in any media source (A1, 13, A4, A6, A7, A9, A11). It is essential for students to be trained during their studies in research premises. This will enable students in the future to always be willing to research and investigate throughout the field before making any statement (A2, 13, A5, A6, A9, A11). It is important to enrich the knowledge and learning of students, for them to obtain the necessary skills to carry out an academic research project and in the Communication Science program, in which reliable sources must be exhaustively used, providing support to professional development (A1, A4, A5, A6, A8, A12). Likewise, students consider that formative research contributes to their professional performance and journalistic profile through which they can report on events to the public. This situation contributes to the development of their professional profile and subsequent performance in the professional setting. It is significant in order for the communicator to have better performance and projection of the solution to communication problems like making the correct message reach a certain group of citizens or working on a team or in an

organization (A1, A3, A4, A6, A10, A12). Thus, the formation of a knowledgeable and investigative journalistic profile is promoted and reinforced in Communication students (A2, A4, A6, A7, A10, A11). This ensures that all are trained under the best circumstances and are thus prepared to perform any type of academic and professional investigation (A2, A4, A5, A7, A8, A12).

Another category for the analysis was the identification of the participants who take part in formative research, for which the group of codes was established that refer to instructors and students, due to the fact that the students associate the work of the main agents in the teaching-learning process.

Codes	Code groups
● Undergraduate and graduate students	Participants
● Instructors and students	Participants
● Students and instructors as a basis for research	Participants
● Communication Science Students	Participants
● Trained instructors	Participants

Note. Codes assigned to the subjects committed to formative research.

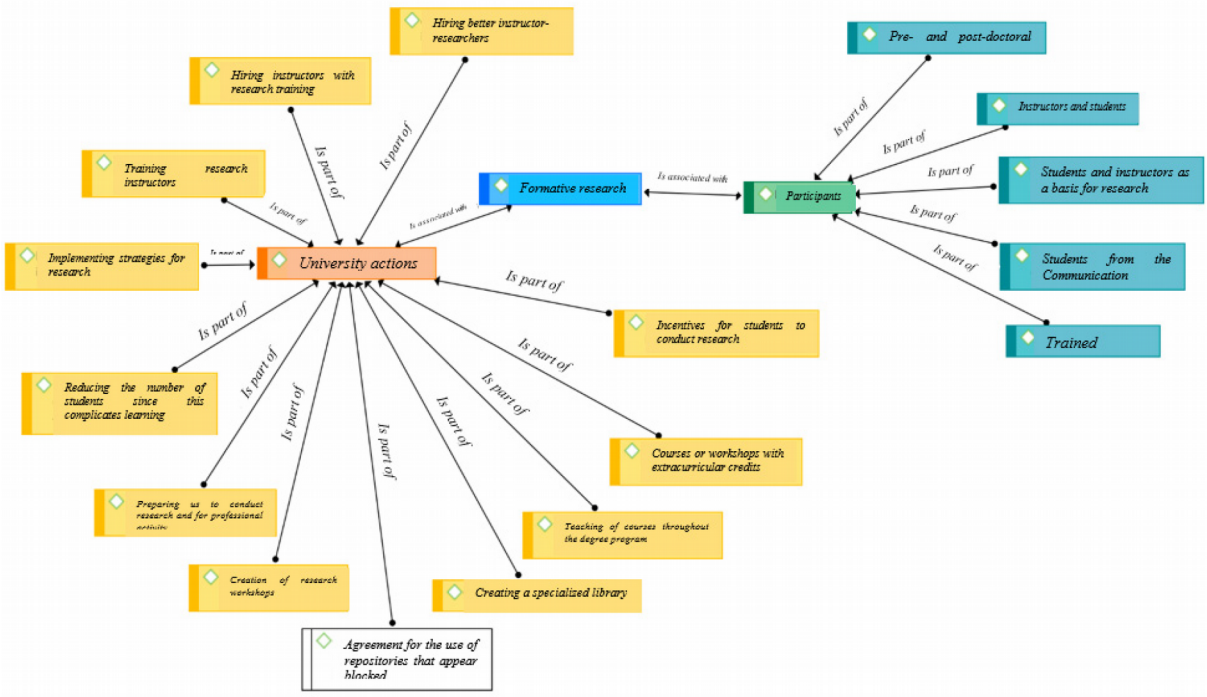
Table 12. Coding of the participants in formative research

Codes	Code groups
● Hiring better instructor-researchers.	University actions
● Hiring research instructors.	University actions
● Training research instructors.	University actions
● Implementing strategies for research.	University actions
● Reducing the number of students, since this complicates learning.	University actions
● Preparing us to conduct research and for professional activity.	University actions
● Creation of research workshops.	University actions

Note. The table shows the codes assigned to the opinions on the actions that the university must take to strengthen formative research. Source: Author's own work.

Table 13. Coding of opinions on the actions of the university for formative research

The participation in formative research is crucial for developing scientific competences and the formation of research incubators; in this sense, it requires commitment on behalf of students and instructors. In this regard, all the students agreed that the instructors and students in the Communication Science program should participate in different ways, such as by supporting research tasks, training in rational thought, improving research capacities, contributing to lines of research and creating the environment and favorable habits for research. The instructors must be the ones who support and create the research bases in the students (A1, A5, A7, A8, A10). All undergraduate and graduate students, besides the instructors (A2, A4, A6, A7, A9, A12). Communication Science students should participate, as should in a general sense any student who wishes to improve their research skills and keep them up to date. This also applies to those who wish to have comprehensive training for the benefit of society (A3, A8, A11). In this research, all students at the school must participate, but they must be guided by skilled teachers in these research processes; all the professors must also share the same line of research and the same syllabus, so that there is no conflicting information among the students (A3, A5, A8, A12). All students and instructors must participate in the formative research in order to create this environment. This in turn will develop the habit of research. By becoming a habit, it will be easier to conduct in-depth research or it will simply permit professionals to base themselves on truthful sources, being able to develop a well-founded opinion and much more, which will serve them in both their professional and private lives (A1, A6, A7, A10, A11).



Note: The figure presents the opinions of interviewed informants on the participation and actions that the University should implement to strengthen formative research. Source: Interview with the students of the sample.

Figure 3. Student opinions on the participants and actions of the university regarding formative research (Interviews with students from the sample)

Another category for analysis was the actions of the university for formative research, for which the group of codes were established that refer to the hiring of prepared instructors and researchers.

The responsibility of the university in terms of training researchers is part of its responsibility, which in the opinion of the students, has certain requirements, such as having better and well-prepared instructors who teach about research; these perceptions are shown in the opinions that demand that instructors engage in their research work in the university classroom.

Hiring better professors who are knowledgeable about research and who have a vocation for teaching and closely guiding students (A2, A4, A5, A8). All professors assigned to these courses must be monitored and it must be ensured that all professors teach the research process correctly to all students on an equal basis (A1, A3, A6, A10, A12). On the other hand, there is an unmet demand by the university with regard to the strategy that allows for the implementation of formative research with workshops, student limits, acquisition of repositories, financing, generation of scientific databases and the creation of libraries specialized in the Communication Sciences; these unmet demands by the university, according to the opinions of students, require agreements, the hiring of instructors who reinforce the development of general competences, economic support for students who conduct research and holding scientific events. Holding workshops generated by student research work and that contribute to their training in academic research (A2, A4, A6, A7, A11). Hiring a greater number of instructors for the general courses focusing on training researchers. Most of these courses are held with a large number of students, and this complicates the development of competences and more personalized guidance (A1, A3, A5, A8, A12). Giving visibility to or providing more incentives than are currently given to students who present novel projects. New strategies could also be implemented in terms of conducting activities, as well as the mandatory citing of sources in the works carried out (A2, A5, A7, A11). Creating a specialized library (A3, A6, A10). Supporting with resources so that students develop research competences (A1, A2, A9, A10). Training workshops that encourage us to conduct research and be more productive in our professional life (A3, A5, A6, A11). Agreements should be made with other national and international repositories, since some contents appear as blocked, making it impossible to establish the basis of our research, which is the background information (A4, A6, A8, A12). The university could provide courses or workshops that

promote research among the students and that also serve as part of the extracurricular credits that are needed for student graduation (A2, A5, A7, A11). Research groups should be implemented, in addition to events or symposiums where topics of interest are presented and debated among the students in the field of Communication. Workshops should also be held to delve deeper into these topics (A3, A8, A10, A12).

4. Discussion

The results presented here show revealing figures, such as the considerable percentage (41.5%) of those surveyed who perceive that training in scientific research is what receives the least attention (Table 3), which shows that Law No. 30220 is not being followed, which indicates that students must "Receive quality academic training that gives them general knowledge for their professional performance, as well as research tools". And if there is no research in which students participate under the guidance of their instructors, the university will continue to be the path of information consumption, repeating what has been created by others. As Sánchez (1985) states, if the university does not conduct research, it does not create anything; it only repeats, a situation that generates "dependence and colonialism (imitation, replication and subordination)" as indicated by Padrón (2004). The university is the reflection of the poor attention by the State. For example, in November 2014, the year the current university Law was passed, at the 9th International Foreign Trade Summit, the Lima Chamber of Commerce revealed that the expense on research and development represents only 0.12% of the gross domestic product (GDP), a figure below the mean for Latin America of 1.75%. But the problem in research is also the scarce efficacy of the expense in the area of research, since during the 2014 fiscal year, the 45 national universities spent approximately 1.5% of the resources received from levies (mining, fishing, etc.). According to the results, the perception of students with regard to the little attention paid by the university to research during training is due to both external and internal factors, and as Amésquita-Amésquita et al. (2020) state, there are efforts to overcome the deficiencies in research at the universities, hinging upon implementing flexible programs with attention paid to research and assigning resources that are available for this purpose.

With regard to the procedure that is sufficient in order to learn how to conduct research, 42.5% of those surveyed coincide that there must be frequent curricular activities that involve research, followed by 31.5% who believe that students must participate as assistants in research tasks alongside experienced instructors (Table 4), which agrees with the opinion regarding hiring better professors who are very knowledgeable about research and who have the desire to teach or closely guide the students, according to the opinion of most of those surveyed. These impressions agree with Parra (2004), who stresses that the instructor must be an instructional strategist, and considering the link between formative research and teaching, as indicated by Turpo and Miñan (2019).

In relation to the activities that optimize formative research, 43.75% believed that it is participation in the formative activities that involve research (Table 5), a result that is in agreement with most of those interviewed and is the equivalent of learning how to conduct research in practice, a position that is in agreement with the opinion of Restrepo (2004), regarding the fact that formative research is the use of research in order to learn how to conduct research. While it is done by conducting studies, this type of activity does not exactly lead to the discovery of new knowledge, but rather it has an educational intent. In other words, an instructor is required who can combine the role of a researcher with the educational function, considering that the researcher can teach how to conduct research, as indicated by Banderas et al. (2018). Likewise, the opinions expressed by the students agree with those of Vilá et al. (2014), who stress that formative research positions students as the main characters in their learning process, under the guidance of a researcher-instructor. According to Flores, Loaiza and Rojas de Ricardo (2020), this type of instructor is someone who conducts research and teaches how to conduct research.

The activity in which formative research is most evidenced is the development of research work in order to obtain the professional degree or qualification, which is the opinion of the majority (47.5%) of the students surveyed. It agrees with the version of most of those interviewed, which is evidenced in the final phase of the professional training, requiring that formative research forms part of the educational activities implementing the curriculum, which contribute to forming research competences, as indicated by Banderas et al. (2018). Meanwhile, 27.5% of those surveyed associate it with the writing of essays or

monographs, activities that are carried out throughout the professional training for discussion and bibliographic exploration, as stated by Montoya and Peláez (2013). For 15%, formative research is the design and application of data collection instruments, a substantial task in the investigative process.

45% of those surveyed believe that formative research does not replace courses in the research area of the curriculum, which implies a set of instructional strategies that are applied in different curricular and extracurricular activities during the implementation of the curriculum, as highlighted by most of those interviewed, when they point out that the university could contribute with courses or workshops that promote research with extracurricular credits. Similarly, the results are in line with those of Pirela, Pulido & Mancique (2016), for whom formative research is a core strategy of the curriculum in order to empower students with the tools to interact and form a dynamic part of the activities of intellectual production. This is also in agreement with the opinion of Restrepo (2004), who conceives of it as a sequence of activities in and for research, which are carried out during the professional training, in scenarios that require innovation or the change of teaching practices, as indicated by Barros and Turpo (2022).

52.5% of the students surveyed perceive formative research as an instructional strategy to develop research competences, which coincides with the opinion of most of those surveyed, and the vision shared by Becerra, Bravo and Sandoval (2017), De la Ossa, Pérez, Patiño and Montes (2012) and Turpo-Gebera et al. (2022). Restrepo (2003a) has a similar opinion, stating that formative research refers to teaching how to conduct research from the implementation of instruction, as does Parra (2004), who refers to formative research as an instructional strategy, as do Montoya and Peláez (2013). Also commenting in the same sense are Venegas et al. (2019). The described situations and perceptions must be taken into account when redesigning the undergraduate curricula.

5. Conclusions

In the current situation in Peru, the professional training model of universities prevails; however, slowly and gradually, research has been incorporated into university legislation and in the year 2014, research took on certain legal importance. The product of this regulation, Vice-Chancellor's offices for research have been established. However, the term 'formative research', related to student training, does not form part of the current University Law, as it does in some other countries in the region. Formative research is thus not just a legal weakness, but rather it is also an institutional and curricular one, and one that students perceive as a shortcoming or weakness in their training.

In the information era, Peruvian universities cannot continue to be limited to its mere consumption. The dynamics of information and knowledge, the progress of science and technology, require a continuous restructuring and updating of the curriculum, aimed at ensuring that the university is tuned in with the knowledge generation, social demands and the sustainable development of the country. In this sense, it must reconsider and reinforce the curriculum of any program, curricular area of research and curricular and extra-curricular research activities. Due to their omission, professional training would prove to be lacking if the research competences are not developed that optimize work performance at the time.

The literature on the topic reflects formative research as an expression with different meanings in the university environment, just as the students perceive it in our study sample. Accordingly, it can be perceived as: an instructional procedure to guide students on the quest for information, in order to expand their set of knowledge on research; an instructional strategy so students learn about research; a procedure that allows scientific methodological knowledge to be applied to problem solving, as action-research; and as an educational resource to disseminate information; an educational resource to motivate the taste for research, among other complementary perceptions.

Formative research poses challenges for the university, which in the opinion of the students, must implement significant improvements in the concurrent and committed participation of research instructors in the teaching of research and students in activities aimed at developing research competences, the formation of research incubators, contribution to lines of research and the creation of favorable environments for research.

Formative research from an instructional perspective is oriented towards learning how to do research, by inciting active participation on the part of students in the assimilation of scientific research knowledge and its subsequent generation. In this sense, the work of instructors must be focused on the design and execution of strategies and resources for the training in research competences framed within innovative curricular policies. However, the students in the study perceive that the aspect receiving the least attention from the university is training in research, which is something that has been neglected and which requires a change in the curriculum and even a change in the current professional training model of the university.

The strengthening of the research culture of university students is the effect of formative research, which must be the corollary of the strengthening of the research culture of instructors and the development of instructional and research activities during the implementation of the curriculum, considering the needs and interests of the students, the problems related to the profession and the demands and needs of society and the environment or setting, according to the perceptions of the students in the sample.

The students surveyed and interviewed perceive that formative research is in fact validated by the training received to carry out research work for the purposes of graduation or earning a qualification, although hypothetically, they consider it to be associated with the development of competences for conducting research in their profession. Likewise, with regard to function, the opinion exists that formative research does not fulfill, such as the fact that it is associated with the development of courses in the field of research that are established in the curriculum.

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