Perception of Colombian university students on the subject of Research Methodology

Abstract

This article aims to explore the perception provided by Colombian university students regarding the subject Research Methodology. A descriptive empirical-analytical methodological apparatus was used to develop this work. The data were located using Facebook search operators and temporarily adjusting the broadcast period (2019-2022), after they were then systematized into an external matrix for descriptive review and an internal one for analytical inspection. The collected student perceptions warned the subject as an irritating and inconsequential space to study and easy to pass. In the same order, the thematic nuclei built from the social network pointed to the pedagogical practice of the teacher and the curricular content seen in the subject as causes of negative assessments. The findings invite Colombian universities to reflect on the management of knowledge and scientific interest that they are generating within the students to increase the research attitude and fully empower the subject.

Keywords: research; learning; university students; resume; social media
Introduction

Investigating is an enunciative action that has a low predisposition in Latin American students enrolled in higher education (Barrios and Delgado, 2020; Estrada-Araoz et al., 2021; Palacios-Serna, 2021). In an attempt to understand this event, the scientific society has approached the identification of possible factors, finding in the workload, semester completed, teacher-class relationship and reduced research funding approximations to the disinterest provided (Ortega-Carrasco et al., 2018; Rojas-Solís et al., 2021).

Although the previously exposed circumstances are striking in approaching the problem, Palacios-Serna (2021) also delved into the elements associated with the low attitude towards research around Latin America, discovering pedagogical and curricular causes within the subjects and spaces programs intended for teaching the investigative process, a fact that coincides with what was projected for Colombia in previous years by Rojas-Betancur and Méndez-Villamizar (2017), the common factor being the inability to have a positive impact on the part of the Research Methodology subject. It is for this reason that the authors of this text have considered the analysis of the perceptions that Colombian university students have towards the subject.

In order to equate what the university subject called Research Methodology prescribes in this work, it is necessary to refer to a classic source in the area of science such as the philosopher Karl Popper, who expresses the following:

The man of science, whether theoretical or experimental, proposes statements or systems of statements and contrasts them step by step. In particular, in the field of empirical sciences, he builds hypotheses or theory systems and contrasts them with experience through observations and experiments (Popper, 2004; p.30).

Based on the above, it is possible to view research as an ordered process and the researcher as a subject capable of abstracting from reality. Likewise, science and knowledge are understood as contiguous constructs in a scheme in which the existence of one element invites us to discover the other; however, two questions arise from this process of creating scientific knowledge. The first associated with the factor by which the subject becomes a researcher and the second refers to the mobilization of knowledge to the particular scientific sphere. The first question is resolved by Bunge (2000, p.3) outlining "the perception that the stock of available knowledge is insufficient to handle certain problems" as the main motivator of investigative conduct, while in relation to the second question, there is a consensus academic in pronouncing rationality, systematicity, reproducibility and fallibility as axes that mobilize knowledge to the scientific scenario (Guerrero-Dávila and Guerrero-Dávila, 2020; Thomas, 2021; Reyes, 2022).

What Bunge (2000) distinguished as insufficient perception of knowledge, Papanastasiou (2005) later operationalized under the concept of attitude towards research, conceiving this
as the cognitive, behavioral and affective-emotional propensity of the individual to question with perspective the sufficiency of knowledge landscape that surrounds it. Based on the previous statement, it is possible to infer that any individual can arouse devotion to research, however, the scientificity with which a subject carries out this process depends on multiple biological and environmental variables, with the educational instruction received in matters such as Research Methodology one of the factors that have the greatest incidence in explaining this phenomenon (Brito-Gaona et al., 2018).

**Research methodology: a state of the art**

In compliance with the needs and obligations necessary for official recognition in the global scientific field, since the end of the 20th century, Colombian universities established within their institutional educational project (PEI), specific pedagogical and curricular strategies with the goal of articulating knowledge acquired from university students with a strong critical-scientific sense. For this reason, the subject of Research Methodology is assigned as a fundamental subject of the Colombian higher education plans aimed at the appropriation of scientific knowledge (Law No. 115, 1994).

Even so, within the different higher education centers in Colombia, and particularly in the field of social sciences careers, it is possible to identify notable differences between universities based on the time dedicated to scientific research and the way in which it is taught. While some educational institutions link aspects of the careers to the research content, other centers simply exclusively refer the research to the methodological body ¹. In the interest of deepening the research background associated with the subject around our closest environment (Hispanic America), a review of the most recent works has been carried out (Table 1):

<table>
<thead>
<tr>
<th>Authors of the publication</th>
<th>Main results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mucching-Toscano et al. 2018 (Colombia)</td>
<td>Irrelevant consideration of the subject (51.4%). In the same way, the quality of counseling judged by the teachers was rated as bad (45.7%) and very bad (17.1%).</td>
</tr>
<tr>
<td>Pastora-Alejo et al. 2020 (Cuba)</td>
<td>The subject is conceived as a space to recognize the paradigms, processes and paths that research has gone through throughout history.</td>
</tr>
<tr>
<td>Acosta et al. 2021 (Cuba)</td>
<td>The subject does not contribute to the comprehensive training of the university professional due to the survival of the</td>
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¹A review of the curricula of some Social and Human Sciences programs of several Colombian universities (many of them occupying high positions in the prestigious U-Sapiens ranking) makes it possible to see that the simple title of the Research Methodology subject varies according to the career studied and/or the educational center. In undergraduate degrees such as Social Work, Sociology and Anthropology it is usually called Research Methods, while in Psychology it is frequently titled Research Design and/or Research Methodology. Other popular names are Research Models or Research Foundations.
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Country</th>
<th>Research Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alvarez-Gomez et al. 2021 (Cuba)</td>
<td></td>
<td>Relationship between teacher training and subject quality (p=0.003), research results (p=0.001) and student satisfaction (p=0.000).</td>
</tr>
<tr>
<td>Espinoza-Freire and Kovacević Petrović. 2021 (Cuba)</td>
<td></td>
<td>31.7% of the students perceive that teachers almost never dedicate the time concerning each topic, while 43% state that they are moderately trained in project development and 52.8% outline that teachers do not teach with specific examples.</td>
</tr>
<tr>
<td>Guzman-Caceres. 2021 (Argentina)</td>
<td></td>
<td>Inverse relationship between the attitude towards the subject and academic achievement. The student body manifests fleeting learning results.</td>
</tr>
<tr>
<td>Seid and Conrad. 2021 (Mexico)</td>
<td></td>
<td>The subject allowed the student body to give meaning to the research techniques in their work settings, reflect on the weaknesses they have, operationalize the variables of interest and become aware of the skills necessary to investigate.</td>
</tr>
<tr>
<td>From Seine and Dettano . 2022 (Spain)</td>
<td></td>
<td>The socio-sanitary framework disrupted the feelings associated with the subject. The student body is reluctant to the learning process as a result of the disconnection of the subject with the real scenario.</td>
</tr>
<tr>
<td>Vega-Umana and Barrantes-Aguilar. 2022 (Costa Rica)</td>
<td></td>
<td>48% of the student body considers the communication received in the subject as bad and very bad. Despite having carried out formative research, they are unaware of the protocols and the current institutional framework.</td>
</tr>
</tbody>
</table>

The previous compendium of cited research presents ambivalent results as the reader has been able to see. If we specifically analyze academic works from Colombia, it is striking that retrospective works by recognized authors in the field such as those by Rojas-Betancur (2009; 2010) and Rojas-Betancur et al., (2012; 2017) focus exclusively on the student's attitude towards research and the subject of Research Methodology itself has not been analyzed as an object of study. Only recently, works such as those by Mucching - Toscano et al. (2018) inquired about specific information about the Research Methodology subject as an element of study.

The authors of this document have observed that no study mentioned above has considered the revision of the virtual participation scenarios that university students generate on the Research Methodology course. It is for this reason that the research team has considered answering the following question: what are the student perceptions raised on the Internet by Colombian university students regarding the Research Methodology subject?

**Methodology**

This article follows the structure proposed by the model quantitative studies that proposes the approximation to reality from the construction of patterns, indicators and metrics (Thomas,
2021) is of a descriptive nature and has a non-experimental nature. Content analysis was chosen as the method of receiving and interpreting the data due to its implications in deepening the meanings (generalities) and signifiers (formal features) that the Research Methodology subject has, it should be emphasized that this method allows the exploration of the communications innervated to the digital archives (Igartua-Perosanz, 2006).

The revised documentary corpus corresponds to the publications issued on Facebook by student pages of this Andean country in the last four years. For the selection of the content, the subject of Research Methodology was matched with related concepts such as research, investigate, methods and science. For this, the search operators AND, OR and parentheses were used, the latter containing the word Facebook. The inclusion criteria (Table 2) revolved around the following conditions:

**Table 2**

*Inclusion criteria associated with the selection of the documentary corpus*

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Justification</th>
<th>App</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temporality</strong></td>
<td>Brings research closer to contemporary findings</td>
<td>Illustrations with temporal equivalence to the period (beginning of the year 2019-mid of the year 2022) were compiled.</td>
</tr>
<tr>
<td><strong>Exclusiveness</strong></td>
<td>Enables focus on a single collection medium</td>
<td>Illustrations that were only published on Facebook were selected</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>Parameterize the object of study</td>
<td>The material from Colombian student pages was compiled with periodic issuance of illustrations that issued perceptions towards the subject Research Methodology</td>
</tr>
</tbody>
</table>

The collected publications were submitted to an external and internal review form. The first one extracted the descriptive characters of the material (year of publication, origin, date of publication, name of the page) while the second review deepened in making sense of the illustrative content that had been found in the first process, exploring the perceptions constructed by the Colombian student body through the comments collected in response to the digital content studied (memes). A total of 500 comments were extracted, which after

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2The research team decided to explore this media niche due to its reach in Colombia. During the year 2022 Facebook has concentrated 80% of all visits to social networks in this nation (Statista Research Department, 2022).
being deductively coded, were displayed in five thematic nuclei, based on their common characteristics.

**Results**

A total of twelve (12) digital contents created by Colombian university students who had a direct relationship with the Research Methodology subject were made visible and analyzed in depth. Based on the year these student memes were produced, it is worth mentioning that the time period with the greatest media coverage of digital content was a time in which university education was completely virtual due to the Covid-19 pandemic: the years 2020 and 2021 (66.66% of digital content with respect to the total); followed by the year 2022 (blended teaching / 16.66% digital content compared to the total) and 2019 (face-to-face teaching / 16.66% digital content compared to the total). Regarding the comments presented in this social network on the subject analyzed, the year 2022 was the most prolific moment in which there was greater social interaction, followed by the years of full social isolation (2020 and 2021). Assuming in this way that online teaching promoted the generation of memes related to the field of research in Colombian university students.

The review of the discussions present on Facebook by Colombian university students regarding the Research Methodology subject allowed us to identify that three quarters of the digital content produced by the students described the subject from a negative valence. In greater detail, 41.16% of the memes found (5 out of 12) could be grouped into the *Irritating* category, stating that the class has a very high level of difficulty or that its content is too abstract; 33% of the memes (4 out of 12) would label this area of knowledge as *Inconsequential*, considering this course as unnecessary and/or irrelevant to the career. Only 25% of the memes (3 out of 12) would give a positive factor to the discipline (calling it *Easy*), particularly when Colombian university students assume that Research Methodology is a subject with acceptable requirements for their academic improvement.

*Figure 1*

*Examples of Colombian university memes associated with Research Methodology*  
(Facebook, 2019-2022)

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3A look at the actors that converge in this communicative practice allows us to place the pages called *University Memes* and *UIS Memes* as the digital spaces created by the Colombian university students themselves with the highest number of publications (32% of the total).

4Although the valence of this last perception has been classified as positive, an in-depth analysis clearly identified that the explanation for the jocularity of the meme results in the inconsistency established between having passed the subject and the null learning obtained by the university student.
Once the digital contents were found and grouped into the categories already indicated, the main thematic nuclei of these memes, which have been elaborated by the university students in the comments section presented by Facebook, as a social network, were the following:

- **Teacher's pedagogy**. This thematic nucleus made up 25.60% of the total comments and made reference to the practices and/or procedures with which the educator builds knowledge in the classroom. Most of the circumscribed remarks within this dimension justified the student pessimism assumed towards the subject as the product of the pedagogical approach that the teacher outlined in this specific chair.

- **Justification of the subject**. This component contributed 20% of the collection of opinions and within it the reasons why the students considered it important (or not) to study the subject of Research Methodology were presented. It was found as a common element that justifies the very existence of the subject its implication for the future elaboration of the degree theses so that young Colombians can graduate and finish their degree. Other repetitive arguments in the comments were the detection of plagiarism by the teacher in works requested as conduct not accepted academically and learning the rules of scientific writing and the formulation of projects as a basis for writing reports and future job proposals.

- **Thematic content**. This axis reflected 20% of the total student comments, focusing on criticism of the agenda that the subject proposes. In this way, many university students expressed in the Facebook comments a supposed inconsistency in the teaching plans of the subject, as there are certain aspects that would be overrepresented (writing and citation rules, etc.) compared to other topics that would be reduced to their minimum expression or that must be studied independently (research ethics, etc.).

- **Consequences of the omission**. With 19.2% of the comments compiled, this thematic nucleus recorded the opinions of university students based on possible adversities for not taking the subject or not having learned enough in it. A significant sample of the material analyzed has determined that omitting the importance of the Research
Methodology subject disfigures the production capacity and construction of future scientific knowledge, particularly the specific cases of students who are doing their undergraduate theses and cannot terminate for such knowledge gaps.

- **Difficulty of the subject**. This dimension occupied 15.2% of the comments and referred to the testimonials that the students contributed in relation to the cognitive resources that the subject demands for its improvement. Unlike the visual aspect of the meme that has cataloged the subject Research Methodology as Easy, paradoxically in the writings of the students a clear tendency to distinguish a high level of difficulty for the subject was identified.

Below is the internal analysis matrix with the aforementioned thematic nuclei and some of the codes extracted from the students as representative examples (Table 3):
<table>
<thead>
<tr>
<th>Thematic Core</th>
<th>Total Number of Comments</th>
<th>Direct Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Pedagogy</td>
<td>128</td>
<td><em>Honestly, it was the course that I liked the most during my career. It also depends on the teacher to be as didactic at the time of writing in the research.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>With our teacher it is impossible to sleep.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>I loved methodology, it depends a lot on the professor you take and without a doubt it is essential to avoid watering it down with the writing of an investigation.</em></td>
</tr>
<tr>
<td>Justification of the</td>
<td>100</td>
<td><em>unnecessary until they end up accusing you of plagiarism for not knowing how to cite.</em></td>
</tr>
<tr>
<td>Subject</td>
<td></td>
<td><em>And thinking that it is unnecessary is that there are so many graduates without finishing their thesis.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>The methodology is basic for any research project. Only high school kids think it's unnecessary.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>When you review seminary, you're going to wish you'd given it the attention it deserved.</em></td>
</tr>
<tr>
<td>Thematic Content</td>
<td>100</td>
<td><em>Fucking professors screw up with this matter, if it's necessary for the jobs and then one doesn't even know how to do it or to quote.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>It really is a good subject, I wish the teachers would divide the topics better and not focus only on the practical ones.</em></td>
</tr>
<tr>
<td>Consequences of</td>
<td>96</td>
<td><em>Believe me, if it is necessary, when I have to do research as a team, I prefer to do everything myself because they don't know how to cite or make a minimally acceptable document.</em></td>
</tr>
<tr>
<td>Omission</td>
<td></td>
<td><em>Some friends had their contract terminated for plagiarism, curiously they blew this subject away when I saw it.</em></td>
</tr>
<tr>
<td>Course Difficulty</td>
<td>76</td>
<td><em>I burned my head trying to understand this subject.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Currently I look at her and try not to stress.</em></td>
</tr>
</tbody>
</table>
Discussion and final considerations

Despite the fact that the data presented does not allow a generalization of the findings, they do bring researchers interested in this subject closer to continue investigating the subject. That is why the results provided by this manuscript coincide with those developed by Guzmán-Cáceres (2021), the generic rejection of Colombian university students for the Research Methodology subject being reiterative. Far from considering the matter important in the planning and organization of knowledge processes posed by Pastora-Alejo et al., (2020), the students are reducing it to the schematization of the citation rules and the preparation of thesis and only assume that the subject is important when they are unable to advance in their career due to a lack of academic skills.

The perception collected in this study in relation to the teacher's pedagogy by the student group agrees with the results presented by Espinoza-Freire et al. (2019) and Álvarez-Gómez et al. (2021), given that the quotes analyzed related the importance of teacher-tutor training to the quality of the class; thus reaffirming the correspondence between the learning process and the inter and intrapersonal resources that the educator holds. A look at the thematic content also patents the relationship between what is observed in this text and what is proposed by Acosta et al. (2021). Despite the fact that the Research Methodology subject has the didactic objective of generating and distributing scientific knowledge for the future professional development of the student in their respective professional field, Colombian universities focus on purely theoretical issues and this aspect causes a rejection in the student regarding the subject. It must be emphasized that in order to carry out studies and practical work, the theory must first be known. A no-brainer that unfortunately is not so obvious for Colombian university students.

Regarding the difficulty perceived by young people towards the Research Methodology subject, in our data we find similarities with what was theorized by De Sena and Dettano (2022) due to the fact that the student perceptions of both investigations distinguished a high level of complexity to pass the matter, although in our text the ambivalence regarding the ease-difficulty of the course according to the students was a more extreme characteristic than what was found by De Sena and Dettano (2022), when comparing our results with those of Espinoza-Freire et al., (2021) an interesting contrast is perceived since their sample indicated that the Research Methodology subject had a medium level of difficulty. It is therefore assumed that regarding the perceived difficulty towards the Research Methodology subject, it is not possible to speak of a generalized pattern in the student body.

At a practical level (in the medium term), the inputs obtained in this work can allow an improvement in the teaching of the subject in Colombian universities. Thus, it is recommended that Colombian higher education institutions accompany the teaching of the Research Methodology subject, taking into account technological advances and the psychopedagogical conditions that students have (such as the interests of young people in ICTs, etc.) to bring scientific knowledge closer to the new generations. It is difficult for a university
student to understand the importance of science with examples from outside their immediate environment or if only in class the scientific writing citation rules are repeated without giving the relevant context and the student only tries to memorize these rules without achieving their understanding. The new object of study of this article serves as a possible way of approaching the university student and in this way to be able to get their attention.

Thus, the communicative practices that Colombian students emit in social networks show data of a significant nature that, when analyzed, could guide certain academic modifications in a subject that is not very attractive to university students, such as Research Methodology. For this reason, virtual communication spaces and memes consolidate an emerging field of research that would bring together work on education, psychology, and social communication, among other disciplines of knowledge. It is for all of the above that it is invited to continue the study of student perceptions associated with the subject of Research Methodology and other subjects in order to constitute a body of knowledge that allows for future pedagogical improvements.

References


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