

Professional Competences for Educational Research in Mexico

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— Abstract —

This paper aims to analyze the main competencies identified by researchers in Mexico as crucial for their professional performance, considering personal and academic-occupational characteristics as well as the social recognition they obtain from belonging to national and state research systems. The discussion presented results from a quantitative research with a descriptive correlational design, gathering information through a questionnaire answered by 1,246 participants working in Mexican institutions. The results highlight educational research as a professional field that requires multiple competencies, among which three stand out as priorities. These are analyzed, showing variations corresponding to the academic working conditions of those who conduct the research. The results open routes to define educational research paths as a professional performance field.

Keywords:

Competence requirements; educational research; scientific researchers; higher education; Mexico.

Social reality is undergoing a rapid global transformation as a consequence to the Fourth Industrial Revolution, where educational and professional landscapes are being reconfigured based on the demands and requirements of the new global order. In this regard, in recent years the educational offer has begun a process of modernization concerning the “professions of the future” and the imperative development of human capital capable of responding to these emerging socio-professional dynamics (Schwab, 2016). Despite the few commonalities between emerging and traditional educational offerings, certain core pillars connect them, serving as bridges that facilitate a staggered yet continuous transition. Specifically, “[it will be necessary to maintain] mathematics, science, and computing...” (El Financiero, 2023,4:25) to the extent that staying at the forefront of the era of artificial intelligence and digitalization is desired. Hence, in each field of knowledge, there is an ongoing debate regarding the pertinent competencies that its members must develop to effectively operate in today’s professional world.

Based on the above, research is understood to be one of the most critical pillars in the education of new generations worldwide. The advancement of knowledge will help shed light on the scope, challenges, and horizons of 21st-century society amid whirlwind of change brought about by the current industrial revolution. The fact that the production of knowledge across various fields is inherently linked to the number of researchers in asymmetrical and alarming scientific and technological development among nations globally.

In this vein, and despite Mexico ranking 29th in scientific knowledge development worldwide in 2020 (Scimago, 2022), the country had an approximate population of 263 scientists per million inhabitants. This positioned it as one of the nations with the lowest level of training for the professional practice of science (Sandoval Villalbaz, 2019; UNESCO, n.d.), with the field of educational research being one of those possessing the least human capital for its development.

Educational research is called upon to address the serious issues facing humanity in this area, which are summarized in Sustainable Development Goal 4 of the United Nations 2030 Agenda (PNUD, 2023). Examining educational research as a professional field in Mexico becomes relevant in the search for pathways to achieve inclusive, quality education, improve learning across all levels of the National Education System (SEN, by its Spanish initials), and contribute to narrowing the economic, gender, and ethnic gaps, among others, that prevail today. To this end, it is necessary to identify the professionals tasked with this endeavor and determine the competencies to be developed to prepare the future generations who will bear this responsibility.

LITERATURE REVIEW

This literature review focuses on two key axes of analysis relevant to a deeper understanding of educational research as a professional and occupational field: first, the definitions and social impact of educational researchers; second, the professional competencies required for scientific work in education.

In the first axis, *Definitions and Social Impact of Educational Researchers*, some authors define the term as the human capital that develops their professional work between the design and coordination of research projects, the publication of their results, and the training of new cohorts of specialists in the field (Pérez-Reveles et al., 2014; Vásquez-Villanueva et al., 2020); other studies define these professionals as agents who interpret and explain educational phenomena from the context in which they occur (Lozoya, 2017; Pons Bonals & Espinosa Torres, 2020); on the other hand, there is research that defines them as autonomous individuals who educate themselves, with the support of human mediators of through practice itself (López Ordoñez & Nairdorf; 2017; Nájera et al., 2017).

For the purposes of this study, it is assumed that educational researchers are key actors who focus their professional practice on analyzing the social realities specific to their field, with the aim of contributing to the improvement or resolution of regional or broader educational problems, guided by the principles of ethics and justice for all (Acuña-Gamboa, 2022a); despite this, training in educational research remains a goal yet to be achieved almost worldwide (Colás-Bravo, 2021).

In terms of social impact, some authors assume that such impact is closely linked to the formative processes through which researchers develop the skills necessary for the research profession, where institutionalized training plays a key role in raising awareness of social needs and demands in the field of education in order to address them (Acuña Gamboa & Pons Bonals, 2019; Reis-Jorge et al., 2020); however, there are also studies that argue that educational researchers have sidelined their capacity for agency in the face of the socio-educational problems and needs of their contexts of impact, becoming human capital eager for credentials for the sake of social, symbolic, and economic recognition (Acuña-Gamboa et al., 2023; Ocampo-Gómez et al., 2019; Turpo Gebera et al., 2021).

In the second axis, *Professional Competencies for Scientific Work in Education*, some studies argue that personal competencies (sensitivity to social phenomena, the ability to listen, as well as critical, reflective, and independent thinking), interpersonal competencies (communication, teamwork, and leadership in the field), intellectual competencies (creativity and decision-making), and organizational competencies (resource management and environmental responsibility) are necessary for engaging in research (Guerrero Useda, 2007; Moreno Bayardo, 2002). A second line of thought supports the idea that correctly framing research problems, formulating rigorous research questions, knowing how to review the state of the art and theoretical frameworks, designing and validating research in-

struments, mastering data analysis techniques, preparing and presenting scientific papers at academic events, as well as having knowledge of languages and general culture, are the necessary competencies that must be developed for the practice of research, which are typically acquired in institutional educational settings (Numa-Sanjuan & Márquez Delgado, 2019; Quijano Aranibar, 2020; Pérez Díaz et al., 2019; Rivas Tovar, 2011; Vásquez-Villanueva, 2020).

On the other hand, other documents refer to the development of these competencies through guidance from an expert (using a traditional approach) (Chávez Vera et al., 2022; Gorostiaga, 2017; Sánchez Puentes, 1987). On a different note, some authors emphasize the need to develop competencies in the use and application of information, communication, knowledge, and digital learning technologies (TICCAD) that contribute to the understanding of social reality and the analysis of findings within it (Acuña-Gamboa, 2022b; Chumaceiro Hernández et al., 2022).

Finally, beyond the development of professional competencies for conducting educational research, it is evident that the principles of research ethics are fundamental to the effective practice of the research profession, since it is by upholding these principles that one can make a tangible impact in the social field (Espinoza Freire & Calva Nagua, 2020; Hortigüela Alcalá et al., 2017; Ruiz-Guanipa, 2020).

Based on the aforementioned, it is evident that studies related to the educational research community and its competencies have a long history; however, these works rely on generic classifications of such competencies that, to date, do not allow for an understanding of the educational researcher's profession in terms of the academic, cultural, and symbolic capital that enables them to assume that role; Thus, it is of interest to analyze the professional competencies with which Mexican educational researchers carry out their professional practice, and their relationship with personal and training spaces, as well as with the systems of recognition for research merit that the country's scientific community relies upon.

METHOD

This is a quantitative study with a descriptive-correlational design (Arias González & Covinos Gallardo, 2021; Hernández-Sampieri & Mendoza Torres, 2018), using a survey technique to collect data via a questionnaire, with the aim of identifying factors that influence the subject of study—namely, the competencies that define the professional conduct of educational researchers in Mexico. The objective of the research discussed in this article is to identify the key competencies that researchers in Mexico consider essential for their professional performance, taking into account personal characteristics (age and gender), academic and employment-related factors (highest level of education and type of employment contract), as well as the social recognition they derive from belonging to national and state research systems.

Instrument

The results presented here are based on an analysis of the responses to a questionnaire comprising 33 items distributed across 6 dimensions (see Table 1), which address the need to account for the most important professional competencies for conducting educational research in Mexico. These items were developed based on various models of training for educational research, both nationally and internationally, that emphasize the most important competencies for this profession (Evans, 2011; Fieldman et al., 2013; Hunter et al., 2006; Moreno Bayardo, 2002; Moreno Bayardo & Romero, 2011; Reeves et al., 2012; Rivas Tovar, 2011; Pérez-Reveles et al., 2014). Said questionnaire was specifically designed and shared via the SurveyMonkey platform. The questions were multiple-choice, using ordinal scales with five options (most important, very important, important, somewhat important, and not at all important). The questionnaire included a special section for items that collected personal characteristics (such as age and gender), academic and employment information (such as highest level of education and type of employment contract), and information regarding their social recognition as researchers (membership in national and state research systems).

Table 1
Scope of the data collection tool

DIMENSIONES	ATRIBUTOS	
	1	Profesiográficos
	2	Reconocimientos al mérito en investigación educativa
	3	Relevancia formativa para la dedicación a la investigación educativa
	4	Historias de vida para la dedicación a la investigación educativa (vocaciones científicas)
	5	Beneficios profesionales y personales de la dedicación a la investigación educativa
	6	Compromisos profesionales y personales

To calculate the internal consistency of the instrument, McDonald's Omega coefficient (ω) was used, as it is considered the most appropriate measure for the validity of instruments that use ordinal-type items; furthermore, it is not affected by the number of questions in the validation process or by the number of response options in the questionnaire (Frías-Navarro, 2020). In this regard, a value of $\omega = .805$ was obtained; this indicates that the set of items is reliable in measuring the construct.

The findings of this article correspond to the third dimension, which addresses the competencies, requirements, and/or knowledge that educational researchers consider necessary to work professionally in educational research. This allows us to capture the perspectives of those who currently make up this knowledge-generating

community and to uncover the academic and personal conditions underlying their considerations regarding what is important in their professional work.

Sample

For this research study, a non-probabilistic, opinion-based sampling method was carried out, which selects representative samples qualitatively by including typical groups (Hernández-Ávila & Carpio Escobar, 2019). Based on the above, it was necessary for candidates to be part of the sample to meet two criteria of particular interest to the research: 1) that they be active academics at a public or private higher education institution in Mexico, and 2) that they conduct research in the field of education as part of their professional work.

To select the sample, an open call was held in which participation in the study was voluntary, resulting in a sample of 1,246 participants. Data collection spanned approximately 70 days, and given the goal of ensuring representativeness across Mexico's states, we chose to collaborate with a company specializing in communication, surveys, and polls (SociaLightMX). This collaboration resulted in the design of communication and public relations strategies involving a number of public figures who helped promote the survey, leading to the following actions:

- Compilation of a directory of principals, university presidents, department heads, education officials, teachers, and researchers.
- Contacts with key figures in the education sector: directors, professors, university presidents, and high-level education officials (DGESuM, UNAM, IPN, UAM, UAEM, Sistema Universitario Jesuita, Secretarías de Educación locales, Subsecretaría de Educación Superior, Conahcyt, among others).
- First contact and dissemination of information to educational authorities outside the immediate area, to establish communication and provide information about the research instrument.
- Use of own databases (over 35,000 email addresses).
- Use of social networks and digital platforms.
- Direct contact with teachers and researchers.

Data analysis

The data collected via Survey Monkey was exported to a Microsoft Excel file, to undergo a rigorous data cleaning and validation process. This stage ensured information integrity by filtering out incomplete responses. Subsequently, all data were subjected to a coding process to facilitate their importation into specialized statistical analysis software; for this study, Statistical Package for the Social Sciences (SPSS, version 28) was utilized. Once the data had been imported into the system, a

primary and descriptive analysis of the database was conducted, including analyses of frequencies, means, standard deviations, and skewness coefficients. To estimate the factors that influenced the development of professional competencies among researchers, contingency table analyses were conducted using Pearson's chi-square (X^2) test, and to identify the strength of these associations, Cramer's V was calculated. Additionally, Spearman's correlation coefficient was used to determine other associations between the study variables.

This study analyzes information regarding the professional competencies required to work in educational research in Mexico, based on the personal characteristics (gender and age), academic and professional characteristics (highest level of education and type of employment contract), and symbolic characteristics (national recognition in research) of the study participants. First, the ranking established by the study participants is presented, including 19 professional competencies in their field; subsequently, the three competencies that rank highest in the overall data set are analyzed. Given that, as explained earlier, the responses included five answer options, the extreme pairs were analyzed (most important and very important on one hand, and unimportant and not at all important on the other), excluding the responses in the middle.

In order to identify the personal, academic, and professional characteristics, as well as those related to social recognition, that influence the definition of what are considered the three most important competencies for conducting educational research, the responses were correlated with gender, age, highest level of education, type of employment contract, and membership in national and state recognition systems.

RESULTS

The following section presents the results of the survey regarding the professional competencies required for conducting educational research in Mexico, with a more in-depth analysis of those competencies that the educational researchers who participated in this study consider most important.

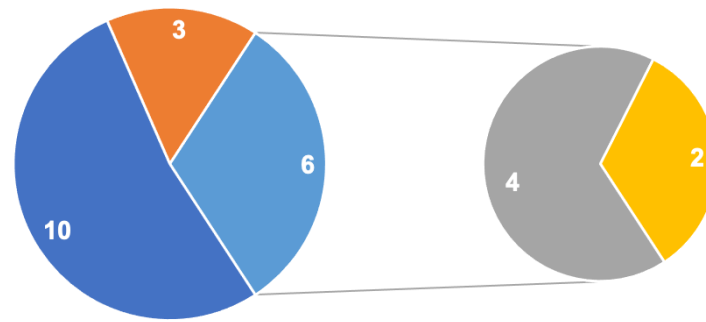
Of the 19 competencies listed in the questionnaire, more than 65% of respondents identified the following three as the most important:

- Having specialized knowledge within one's discipline.
- Conducting systematic literature reviews (state of the art) to support objects of study.
- Structuring scientific papers and demonstrating extensive proficiency in scientific writing techniques (see Table 2 and Figure 1).

Table 2*Key competencies for professional performance in educational research*

COMPETENCE	The most important or very important (%)
Having specialized knowledge within one's discipline.	69.9
Conduct systematic literature reviews (state-of-the-art) to support the research topics.	65.6
Structure a scientific paper and have a thorough understanding of scientific writing techniques.	65.5
To serve as a bridge and mediator between scientific knowledge and the various educational stakeholders interested in it (specialists, teachers, students, and the general public).	63.6
Possess teaching and/or pedagogical skills to foster an interest in science among students.	63.2
Be able to present findings and conclusions at national and international academic events.	63.2
Be proficient in quantitative and qualitative data analysis techniques.	63.2
Formulate research questions rigorously	61.8
Rhetorical skills: how to persuade and construct logical arguments.	61.8
Develop and validate research models.	61.1
Master and apply knowledge of technological tools for the production and communication of science.	60.0
Belong to one or more national and/or international networks for professional and research activities in education.	48.8
Proficiency in languages and knowledge of universal art and culture.	54.7
Have published a paper with a recognized expert in the field of national and/or international educational research.	52.8
Belong to an Academic Body or a Research Group.	49.4
A doctoral degree is required.	46.4
Have completed research stays at the national and/or international level with highly respected scholars in the field of education.	42.1
Hold a master's degree.	40.1
Have completed at least one year of postdoctoral research or studies.	31.8

Source: Author's own elaboration.



- Competencies considered the most important by more than 60% of the participants
- Competencies considered the most important by between 51% and 60% of the participants
- Competencies considered the most important by between 41% and 50% of the participants
- Competencies considered the most important by less than 40% of the participants

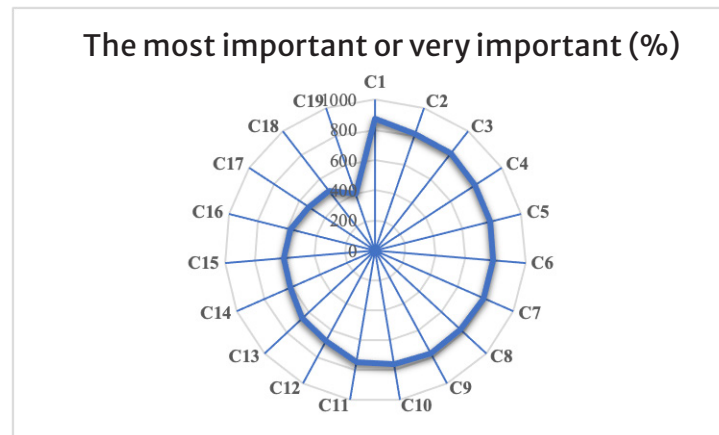


Figure 1. Distribution of the 19 competencies considered most important for professional performance in educational research. Source: Author's own elaboration

As for the negative responses—that is, those skills considered to be of little or no importance—the percentages are low, with only the following three exceeding 21%:

- Hold a master's degree
- Have completed at least one year of postdoctoral research or studies
- Have completed national and/or international research stays with highly respected scholars in the field of education (see Figure 2).

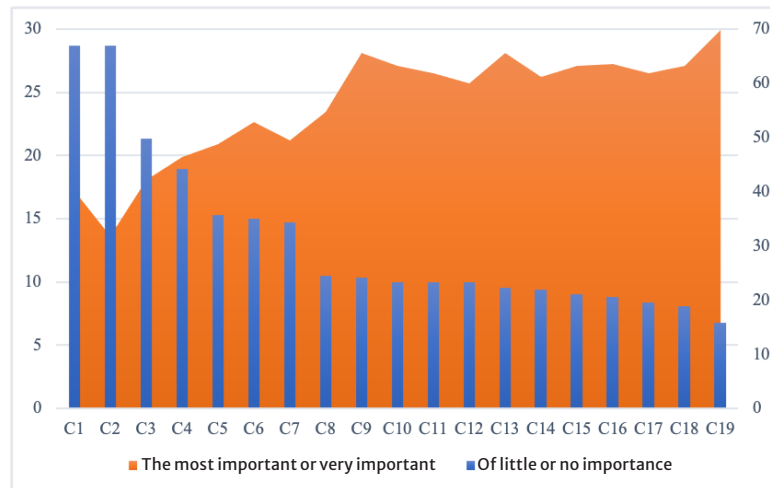


Figure 2. Comparative breakdown of responsibilities. Source: Author's own elaboration

The figure above shows a pattern of agreement: Competency 19 (*Having specialized knowledge within one's discipline*) was previously selected by 69.9% of participants as the most important, and this finding is confirmed by the 6.8% ($n=85$) of participants who chose it as the least important competency, thus underscoring that for seven out of every 10 participants, this competency is essential. On the other hand, an analysis of the two competencies that received the highest percentage of responses reveals that Competency 1 (*Holding a master's degree*) and Competency 2 (*Having completed at least one year of postdoctoral research or studies*) were selected by 28.7% of respondents ($n=358$). Given that the respondents to the questionnaire are educational researchers and, as such, possess certain characteristics that enable them to take a stance and express opinions regarding their professional work, the responses were analyzed to identify the three most important competencies, highlighting the variations that emerge when taking into account gender, age, highest level of education, type of position, and affiliation with research systems.

Of the total number of responses, 174 respondents—equivalent to 14% of the total—identified as members of the LGBTIQ+ community; 452 (36.3%) identified as female, 592 (47.5%) as male, and the remainder (2.2%) chose not to answer.

Regarding the gender of the study participants, of the total responses identifying specialized knowledge in one's discipline as one of the most important competencies for conducting educational research, 44.2% were provided by male participants, 41.6% by female participants, 10.7% from the LGBTIQ+ community, and 3.5% chose not to answer, showing percentages similar to the gender composition of the sample, with a slight increase in female participation in defining the importance of this competency.

This slight increase is even more pronounced when it comes to conducting systematic literature reviews (state of the art) to support research topics, with 45.3% of female respondents prioritizing this skill, as well as in structuring a scientific

paper and having extensive knowledge of scientific writing techniques, where the percentage rises to 43.8% (see Figure 3).

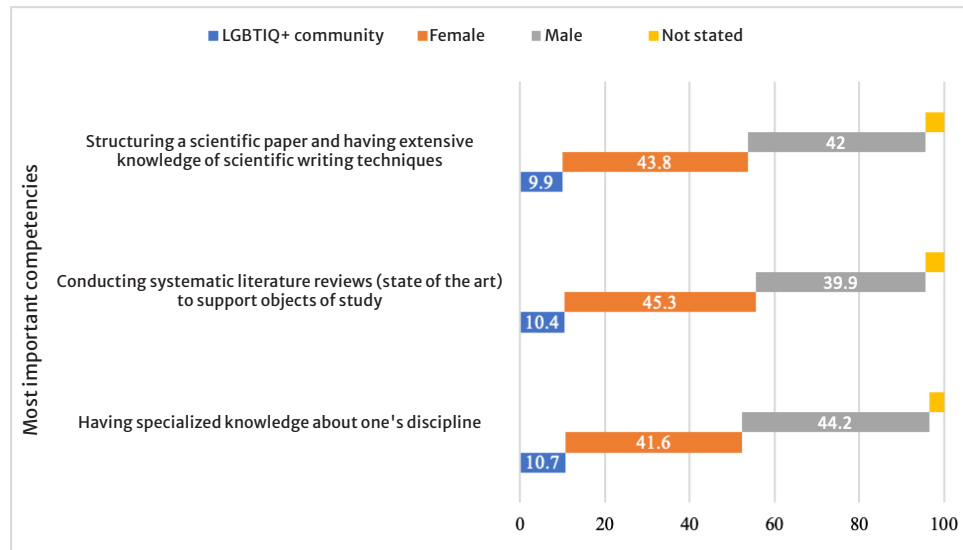


Figure 3. Gender distribution of the selection of competencies deemed important for professional performance in educational research. Source: Author's own elaboration

Looking at the age distribution of the group of educational researchers included in the study, 86 (6.9%) are under 30 years old, 310 (24.9%) are between 31 and 40 years old, 497 (39.9%) are between 41 and 50 years old, 264 (21.2%) are between 51 and 60 years old, while 89 (7.1%) are over 60 years old.

Table 5 shows the percentages of responses for each age group that highlight the three competencies identified as most important for the professional practice of educational research. According to the information presented, it is the older age groups (51 to 60 and over 60 years old) that show a higher tendency to prioritize these competencies, particularly the one related to conducting systematic literature reviews (state of the art) to support research topics (see Figure 4).

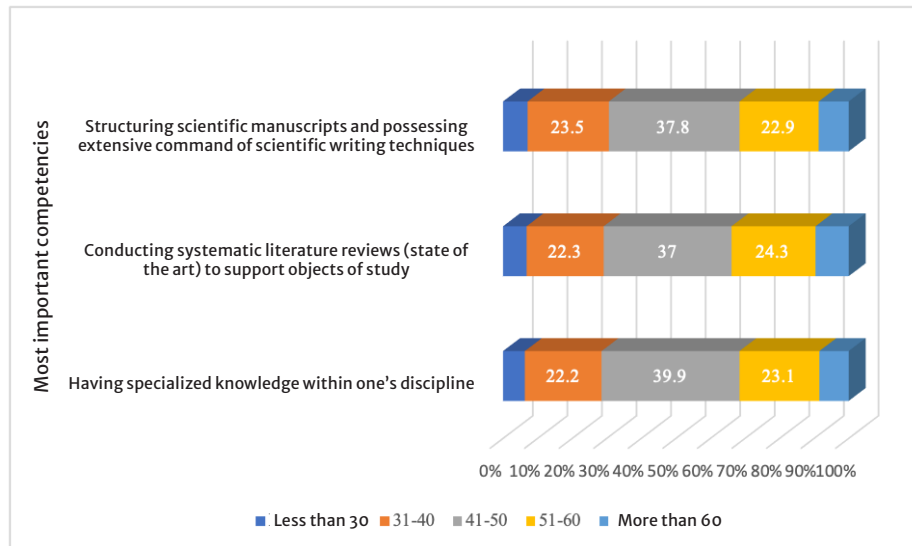


Figure 4. Gender distribution of the selection of competencies deemed important for professional performance in educational research. Source: Author's own elaboration

As shown in the figure above, the three competencies are proportionally represented in the choices made by each gender group that participated in the survey. The differences ranged from 0.1 to 1.3 percentage points for those aged 31 to 40; for those aged 41 to 50, the range was 0.8 to 2.1 percentage points; and, finally, the range was 0.2 to 1.4 percentage points for those aged 51 to 60.

On average, this means that for the three age groups in which the majority of responses were concentrated, the percentage differences ranged from a minimum of 0.36 to a maximum of 1.6. This therefore implies consistency or stability in the perception of the importance of these competencies within each of the age groups. The highest level of education among researchers: 983 (78.9%) hold a Ph.D., 255 (20.5%) hold a master's degree, and only 8 (0.6%) hold a postdoctoral degree. The responses prioritizing the three competencies identified as most important for the majority of those conducting educational research are more significant among those with a doctorate and postdoctoral degree, while there is a slight decrease in the percentage of those with a master's degree as their highest level of education (see Figure 5).

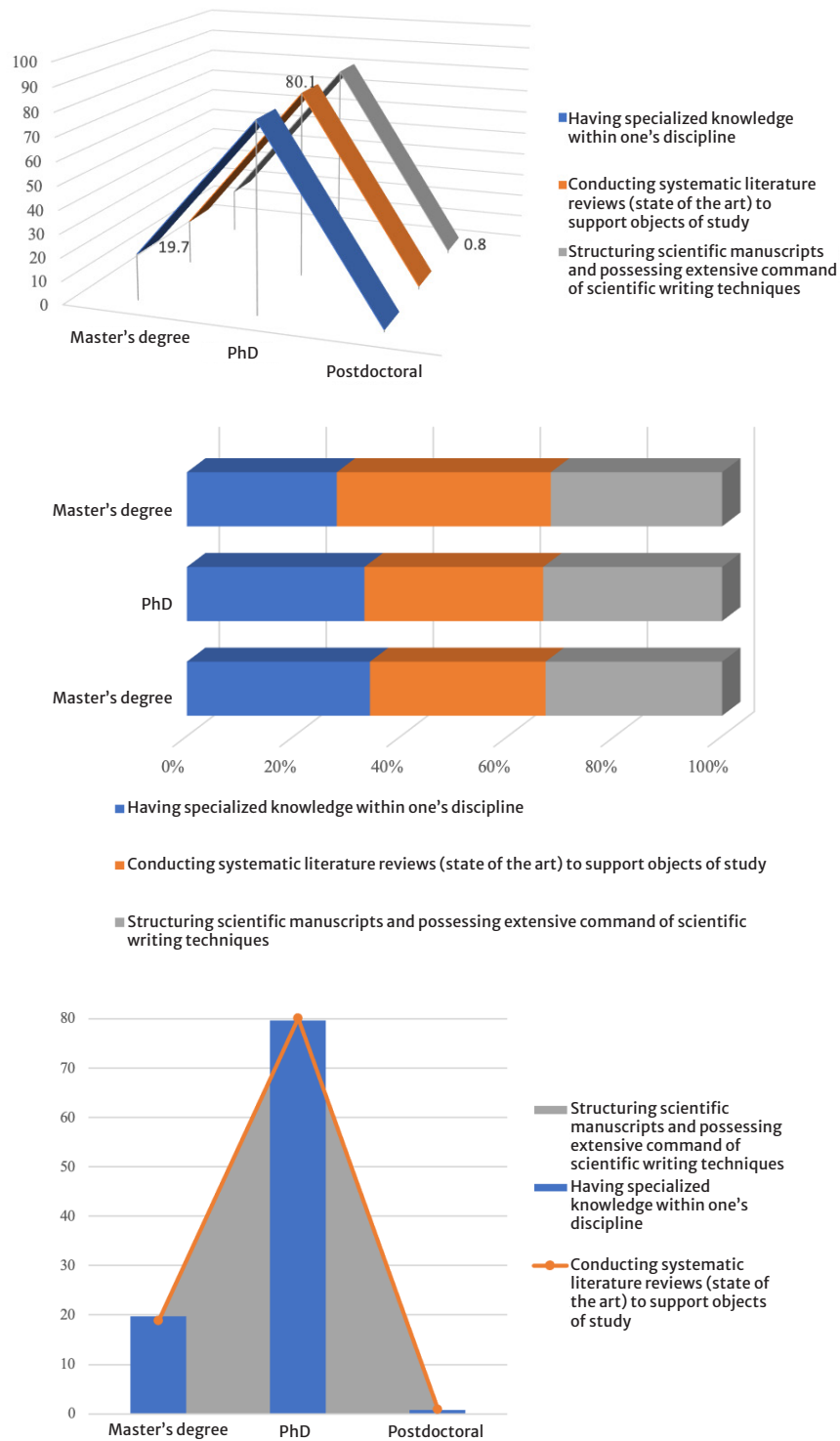


Figure 5. Key competencies for professional performance in educational research, based on the highest level of education attained by educational researchers. Source: Author's own elaboration

Figure 6 shows that the three competencies are proportionally related in the choices made by each group of participants, based on their level of education. For participants with a Master's degree, the difference in choice among the three competencies varied by only 0.45 percentage points on average. For the Doctorate and Postdoctoral groups, the difference is even smaller, with an average difference of 0.35 and 0.2 percentage points, respectively. Generally speaking, the three groups of participants rated these three skills as being of virtually equal importance or indispensable, as the differences between them were less than 1%.

Regarding the employment status of those conducting educational research who responded to the questionnaire used in this study, it is reported that 515 (41.3%) hold part-time positions, 481 (38.6%) hold full-time positions, 203 (16.3%) are employed on a per-course or hourly basis, and 47 (3.8%) have an unspecified employment status.

Figure 6 shows that the responses defining the importance of the three competencies for the professional performance of educational researchers—which are identified as the most important—are concentrated, in terms of employment status, among those in full-time positions, followed by those with contracts based on course load or hours, as well as those with unspecified employment relationships. Otherwise, the percentage share of responses from part-time researchers—who make up the largest group among all participants—shows a considerable decrease. This situation is similar across all three competencies considered.

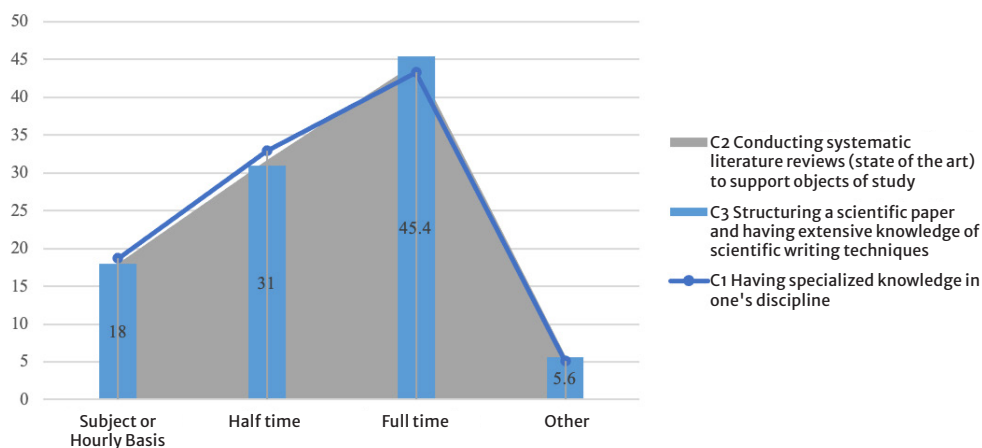


Figure 6. Most Important Competencies for Professional Performance in Educational Research According to the Employment Status of Educational Researchers. Source: Author's own elaboration

The figure above again shows consistency in the selection of the three most important competencies based on the type of contract. For subject teachers, two competencies were directly selected: those related to the structure of the work, the review of the current state of the art, and the writing of scientific papers. There was

a slight tendency to place greater value on the competency involving specialized knowledge of the discipline (0.7% higher).

A similar situation applies to part-time employees; for the same two competencies, C2 and C3, the differences are less than 1%, and in the case of C1, the difference is more pronounced at 2%. However, this trend did not hold true for full-time employees, as there were significant differences among the three competencies, with competency C3 being the most highly valued for this group.

An indicator of the recognition that researchers have in Mexico is their participation in the National System of Researchers (*Sistema Nacional de Investigadoras e Investigadores* [SNII]) of the National Council of Humanities, Sciences, and Technologies (*Consejo Nacional de Humanidades, Ciencias y Tecnologías* [CONAHCYT]). In this regard, it is observed that 868 (69.7%) of the surveyed educational researchers do not belong to this System, while the remaining 378 (30.3% of the total) do. The latter are distributed across the following levels of recognition:

Candidates = 95 (7.6%)
 Level I = 134 (10.7%)
 Level II = 116 (9.3%)
 Level III = 21 (1.7%)
 Emeritus = 12 (1%)

The responses provided in the questionnaire show that the share of those surveyed maintains percentages very similar to the total participation of each sector, being slightly higher for those who are part of the SNII, Level I and those who are not part of the System. Otherwise, the percentage share of responses that prioritize these three competencies as the most important for the professional practice of educational research is slightly lower for those with the highest levels of the SNII (II, III and emeritus), as shown in Figure 7.

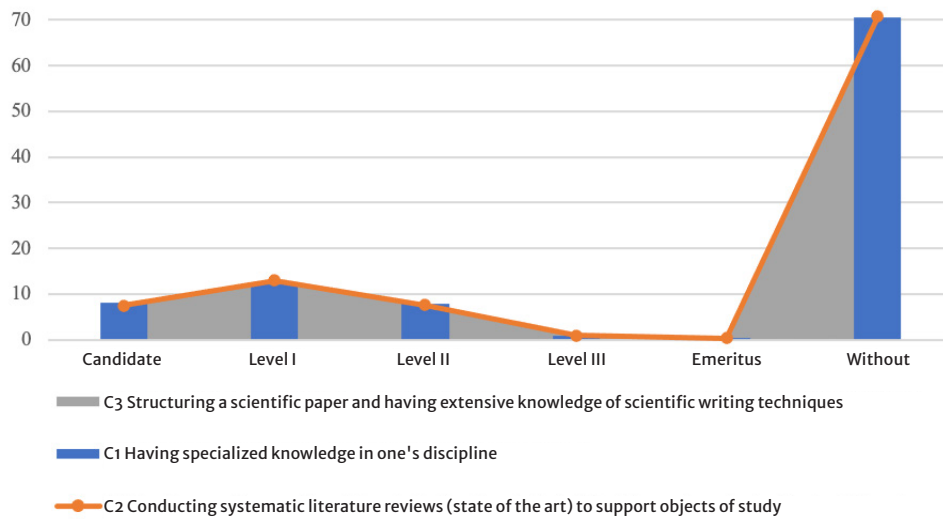


Figure 7. Most Important Competencies for Professional Performance in Educational Research According to Educational Researchers' Membership Status in the National System of Researchers (SNII).
Source: Author's own elaboration

In the distribution of choices for the three most important competencies among participants according to their SNII membership, there is a very equidistant preference. While Candidate and Level II and III view competency C2 as the most important. Peculiarly, participants who do not belong to the SNII and those who hold emeritus status are the only ones who value competency C3 as the most important. The average percentage differences for each category across the three competencies are shown in Figure 8.

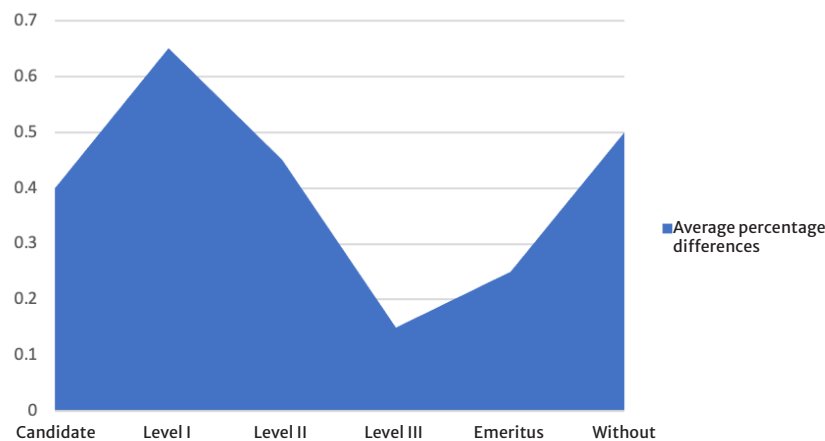


Figure 8. Differences in the Choice of the Most Important Research Competencies According to the Level Held in the SNII. Source: Author's own elaboration

Another indicator of the recognition of researchers in Mexico is their membership to one of the State Systems that exist in the entities in which they reside; in this case

there are 210 (16.9%) of the respondents, while 794 (63.7%) do not belong to any of these systems and 242 (19.4%) responded that they did not apply in their situation. Once the process of interviews with 9-year-old girls and boys studying in the municipalities of Huejotzingo, Libres, Puebla, and Teziutlán has been completed, it can be pointed out that educational policy still has a long way to go to ensure that knowledge regarding civic and citizenship education is based on the educational process.

Regarding how the responses regarding the most important competencies for conducting educational research differ from the three highlighted by the group, if we consider this indicator, we observe that the percentage of responses increases among those who indicated that they do not belong to a state research system and decreases among those who indicated that they do not belong, while it remains consistent among those who do participate in two of the three highlighted competencies: *Having specialized knowledge in one's discipline* and *Structuring a scientific paper and having extensive knowledge of scientific writing techniques*.

For this last group of researchers, the only decrease observed is in the percentage of responses regarding the task of conducting systematic literature reviews (state-of-the-art) to support research topics (see Figure 9).

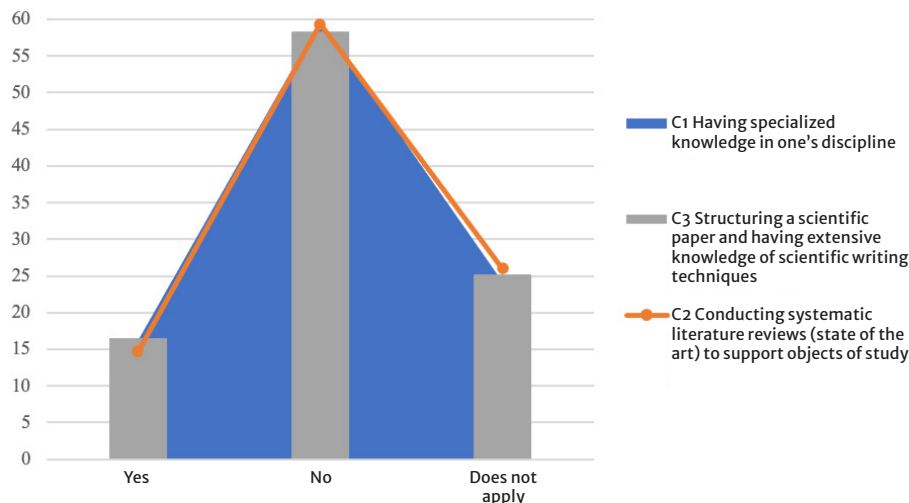


Figure 9. Most Important Competencies for Professional Performance in Educational Research According to Educational Researchers' Membership Status in State Research Systems. Source: Author's own elaboration

In relation to the most important competencies according to the classification of participants by their membership status in the State System of Researchers, a marked difference is observed in the choice of competencies C1 and C3. While those who belong to the SNE value C3 as the most important, those who do not belong privilege competency C1; particularly, those to whom this category does not apply were the only ones who placed C2 above the other three competencies. The average percentage distribution of the difference among each of the three most important competencies is represented in the following Figure (see Figure 10).

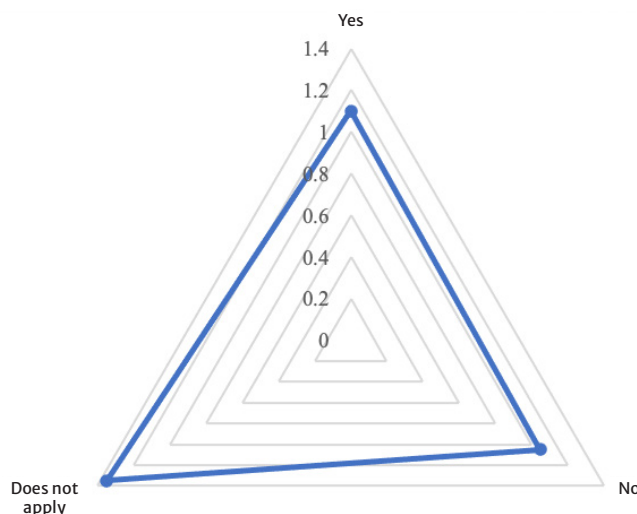


Figure 10. Differences in the Choice of the Most Important Research Competencies According to the Level Held in the SNII. Source: Author's own elaboration.

DISCUSSION AND CONCLUSIONS

Given the need to update training processes across all fields of knowledge to respond to new socio-professional dynamics (Schwab, 2016), it is considered timely to conduct research such as the present study. This study seeks to analyze which professional competencies are valued by communities dedicated to the generation and application of knowledge, particularly in the field of education, where severe problems prevail worldwide (PNUD, 2023). Mexico is no exception, and the improvement of its SEN requires relevant research and professionals who possess the competencies needed to face this challenge.

In the research conducted, educational research is highlighted as a complex network of operations among which none of the 19 competencies presented in the instrument used to collect the information are absolutely discarded. Those classified as having little or no importance were not shared by more than 29% of the respondents. Among the least valued competencies, the following stand out: *Holding a master's degree and Having completed at least one year of postdoctoral residency or studies* (with 28.7% of references in each case); followed by *Having completed national and/or international research residencies with highly prestigious academics in the educational field* (with 21.3% of references).

However, while there is no consensus regarding the little or no importance that any of the competencies considered in educational research might have, conversely, a consensus does emerge in favor of three competencies that are assumed to be the most important. This consensus encompasses more than 65% of the researchers who participated by answering the questionnaire. Regarding each of these three competencies, the following considerations can be made:

Having specialized knowledge in one's discipline.

Specialized knowledge stemming from specialized professional training guarantees the ability to know how to do what is necessary. This is the competency most valued by educational researchers, reaching nearly 70% approval. What is specific to the training of those dedicated to conducting educational research? According to Pérez-Reveles et al. (2014) and Vásquez-Villanueva et al. (2020), those who conduct educational research know how to design and coordinate research projects, know how to communicate the results of their research, and know how to train new specialists in the field. However, educational research is a multidisciplinary field in which pedagogues, educators, sociologists, and psychologists, among other specialists, collaborate. This complicates the definition of what is specific to the discipline of the educational researcher. Suffice it to mention the 18 thematic areas defined by the Mexican Council of Educational Research (*Consejo Mexicano de Investigación Educativa* [COMIE, 2023]), which demonstrate the diverse possibilities for incorporating specialists into the field (e.g., educational technologies, curriculum, educational policy, learning processes, etc.). Nevertheless, this specialized knowledge is recognized by those who conduct educational research.

Who values this knowledge the most? According to the collected information, this competency is most valued by female researchers, those aged 51 and older, individuals with a doctoral or postdoctoral degree, and those holding full-time positions (and, to a lesser extent, those who work on a course-by-course or hourly basis). It is also highly valued by those who are not part of the SNII or, if they are, are located in the lower levels (Candidate and Level I), as well as by those who consider that their incorporation into a State Research System does not apply due to lack of knowledge or its nonexistence in the state where they reside. In these cases, the percentages of responses in favor of this competency exceed the participation percentage of each sector in the total.

Conducting systematic literature reviews (state of the art) to support objects of study.

The fulfillment of this competency is linked, on the one hand, to a necessary know-how as the starting point of any research and, on the other, to the need to publish as an indicator of academic productivity. Regarding the latter, this aligns with the approaches of Acuña-Gamboa et al. (2023), Ocampo-Gómez et al. (2019), and Turpo Gebera et al. (2021), who suggest a certain orientation of educational research toward credentialism goals.

Who values knowing how to conduct systematic reviews to support objects of knowledge the most? According to the collected information, the behavior of the responses is similar to the previous competency, as approval is higher among female researchers, those aged 51 and older, individuals with a doctoral or postdoc-

toral degree, and those holding full-time positions (and, to a lesser extent, those who work on a course-by-course or hourly basis). It is also higher for those who are not part of the SNII or, if they are, are located at Level I, as well as for those who consider that their incorporation into a State Research System does not apply due to lack of knowledge or its nonexistence in the state where they reside.

Structuring a scientific paper and having extensive knowledge of scientific writing techniques.

This competency is linked to the previous one in the sense that it promotes practices related to the publication of research results. Who values having knowledge of scientific writing techniques the most? It is the same sectors identified in the previous competency, with slight percentage variations. The only notable difference is that this competency is also highly valued by the sector of researchers under 30 years of age, placing them as novices or individuals at the initial stage of their professional careers, for whom knowledge of writing techniques appears to be essential.

In general terms, it is observed that the most important competencies identified today as key to the practice of the educational researcher profession are being defined according to the conditions faced in their professional exercise, with the type of employment contract standing out as an essential attribute. Notably, participants holding part-time positions accounted for 41.3% of the total; however, this sector valued the importance of the three competencies highlighted by the other sectors the least. In this regard, the considerations of Lozoya (2017) and Pons Bonals and Espinosa Torres (2020) can be extrapolated regarding the fact that researchers interpret and explain phenomena from the space within which they are circumscribed.

To close this section, it is necessary to mention that what has been presented here constitutes an initial approach to understanding the conditions under which agents in the field of educational research carry out their professional practice, and how these conditions define their positions regarding the competencies they must possess. The analysis initiated with the three competencies that proved to be of greatest importance should be extended to the others to delve deeper into the matter and define the paths to follow in training future generations of educational researchers in Mexico through quantitative approaches and, perhaps, through approaches that delve deeper into academics regarding their stances, feelings, and thoughts concerning this object of study (qualitative approach). In addition to the above, complementary studies of a qualitative nature are also required to identify the problems and possible solutions that arise in each case to achieve the competencies that are currently considered important for conducting educational research in Mexico.

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