

Understanding the pedagogical gap between the educational research and the reality of teachers: an analysis of the difficulties and proposals

Entendiendo la brecha pedagógica entre la investigación educativa y la realidad del profesorado: un análisis de las barreras y propuestas

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ABSTRACT

Unlike other fields of knowledge in which research is synonymous of progress, in the educational field, research is not seen as a pillar to improve teaching practice. Taking this problem as a starting point, open responses of 264 Spanish teachers from all educational stages were analysed on the reasons why teachers do not give importance to educational research, as well as the possible proposals to improve this situation. After an inductive analysis, the findings suggest that there was a total of 19 reasons why teachers do not give importance to educational research, and 15 proposals to improve their involvement, being these categories accepted unanimously regardless the educational stage of the teachers. On the one hand, the main reasons why educational research does not impact on teaching practice were 4: lack of training, lack of time, teachers' comfort zone and difficulty of transference of the results to the classroom. On the other hand, the main proposals to improve this situation were also 4: training throughout the university degree and throughout working life, changing the distribution of time (fewer hours of teaching and more hours of research), distribution of incentives (economic, merits ...), and proposal of practical and real topics of what the teachers need in class.

Keywords: educational research, evidence-based practice, teachers, barriers, research proposals

RESUMEN

Al contrario que en otras áreas del conocimiento en las cuales la investigación es sinónimo de progreso, en el ámbito educativo la investigación no se acaba de concebir como un pilar esencial que permite mejorar la práctica educativa. Tomando este problema como punto de partida, se analizaron las respuestas abiertas de 264 docentes españoles de todas las etapas educativas, quienes dieron sus razones principales por las que el profesorado no le daba la suficiente importancia a la investigación educativa, así como sus propuestas para mejorar esta situación. Después de un análisis inductivo, los hallazgos apuntan a que se detectaron un total de 19 razones por las que el profesorado no le da importancia a la investigación educativa y 15 propuestas para mejorar la implicación y competencia del profesorado. Tras los correspondientes análisis se apreció un alto grado de unanimidad en la amplia mayoría de las dificultades o barreras del profesorado hacia la investigación educativa, así como en las propuestas para mejorar esta situación independientemente de su etapa educativa de origen. Por una parte, las principales dificultades que presenta el profesorado y por las cuales no se implica lo suficiente con la investigación educativa son 4: Falta de formación, falta de tiempo, zona de confort docente y dificultad de transferencia de los resultados al aula. Por otra parte, las principales propuestas que hace el profesorado para mejorar esta situación son 4: Formación a lo largo de la etapa universitaria así como a lo largo de sus vidas profesionales, cambio en la distribución del tiempo destinando una serie de horas a la investigación y reducir en cierto grado las horas de docencia, reparto de incentivos al profesorado que investiga (económicos, méritos...), y la presentación de

propuestas de investigación prácticas y reales con temas que el profesorado se encuentre en clase.

Palabras Clave: investigación educativa, práctica basada en evidencias, profesorado, barreras, propuestas de investigación

INTRODUCTION

The concept of evidence-based practice has its origin in the field of medical education, quickly becoming the main tool in clinical decision making. This paradigm has not been isolated in the medical field, but over the years it has also expanded to other areas related to medicine such as dentistry, nursing or physiotherapy, among others, as well as other unrelated areas with medicine such as sociology or in personal relationship management (Davies et al., 2000). However, in education this view regarding the importance of scientific evidence has been more difficult to establish. In fact, in 1996, the British researcher David Hargreaves installed the debate within the educational field by pointing out that teaching, unlike medicine, is not an evidence-based field. The author indicated that, while physicians make their professional decisions based on the best scientific evidence available, education does not use evidence to decide what is best for their processes. Despite this critical opinion, Hargreaves (1996) maintains that educational research is the one that must change the way it is being carried out, generating, among other things, a greater dialogue between researchers and teachers.

What is to be noted is that over the years and with the society increasingly entering the information and technology bubble, the myths related to psychoeducational processes, or neuromyths, have continued to expand among teachers, leading to the consolidation of misunderstanding of scientific knowledge about their area of study that can have harmful consequences in teaching practice (Karakus et al., 2015).

Why is educational research hardly considered important by educational practitioners?

Looking at the recent literature, it is appreciated how the nature of the main reasons why teachers consider educational research irrelevant are varied. Studying the internal reasons that prevent some teachers from engaging in research, the lack of skills of teachers to use scientific knowledge is mainly pointed out (van Schaik et al., 2018), probably because of the lack of training of teachers around the topic of educational research (Ion & Iucu, 2014), even though other internal reasons are pointed out like lack of time for researching (Kostoulas et al., 2019). Along these

lines, authors such as Anwaruddin & Pervin (2015) point out that teachers do not commit to research because they have not been “literate” in it when they were in initial training. This lack of intentional and sustained training on the subject makes it difficult for them to subsequently apply it in their teaching practice (Perines & Campaña, 2019). This training also includes the language used by research, which according to authors such as van der Linde & van Braak (2010) also becomes an obstacle for teachers to consult educational research. A large part of the work places the responsibility of training teachers in universities by having the duty to provide curricula in which future teachers are taught to carry out research and to use its results appropriately (Vereijken et al., 2018).

The inclusion of subjects that address aspects of educational research in the curricular organization is an element that is mentioned in the literature. In this sense, Demircioglu (2008) emphasizes the relevance of reviewing the weaknesses of the plans and programs of the teaching staff in matters of educational research. For instance, several studies (e.g., Ion & Iucu, 2014; Anwaruddin & Pervin, 2015; van Schaik et al., 2018) highlight that in some cases teachers knew how to carry out a research very superficially, but they have practically not met educational researchers within their training process.

But if it is not through research, how do teachers generate knowledge? The reality is that from previous studies it is observed how the professional knowledge of the teacher is built mainly through their own experience or that of their colleagues, rather than being based on any scientific evidence (Díaz, 2010). This purely empiricist and pragmatic way of generating knowledge supposes that teaching can end up being understood as a purely practical discipline, lacking a theoretical basis (Díaz, 2010), which consequently can cause a greater rift between pedagogical practice and the knowledge generated through the Sciences of Education (Perines, 2017). However, on occasions this experience is completed with theoretical and practical information through various sources, highlighting the training courses offered by the school, the publications of official institutions and books (Everton et al., 2000).

However, it is curious to think how among the teaching practices most used to improve teaching is reflection (Galaz et al., 2011; López-Yañez et al., 2011). Reflection should be understood, in this line, as a powerful tool that provides teachers to a high degree with the necessary skills to transform their professional practice based on evaluation processes of their own educational action (Tardif, 2004). Starting from this point of view, it may be pertinent to think that teachers require a scientific knowledge basis in Educational Sciences that allows them to think not only from an empirical point of view, but also from a theoretical and meta-theoretical point of view, with the aim of, in that reflection process, have the greatest number of opportunities to significantly transform their educational practices (Díaz et al., 2019). Bridging the gap between educational research and

teaching practice and moving towards science-based teaching has become a key and priority consideration for professional development and public policy in several countries (e. g., British Education Research, Royal Society of Arts, 2014; The Teaching Council of Ireland, 2017).

Another group of reasons unrelated to the teachers themselves lie in the constitution of educational research. Among the main difficulties in the use of research innate to educational research itself, the literature mainly reflects the complexity of the language that is used (van der Linde & van Braak, 2010), the difficulty of extrapolating the results of the studies to the classroom itself (van Schaik et al., 2018) and the low relevance of the research results for their teaching (Kostoulas et al., 2019). In reference to the difficulty of extrapolation, authors such as Biesta (2007) highlight the dangers of understanding educational research as a tool that allows us to know only which teaching methodologies work. This author explains how educational research is much more than explaining what techniques or strategies work for a certain objective, since the findings found in a certain study only allow us to verify what worked, but they will not help us to know what works or what will work, which means that the results of the investigations cannot be written up as absolute truths. The purpose of being in possession of this knowledge is none other than knowing the relationship that exists between actions and the consequences of our actions in advance when solving problems in the most intelligent way.

Finally, the literature also includes some difficulties linked to the little support that teachers receive from school management teams to read, get involved and carry out research in the school. classroom. This fact makes it difficult to link the university and researchers with the classroom teachers (Hemsley-Brown y Sharp, 2003; van Schaik et al., 2018).

How to improve the commitment of teachers to educational research?

In a work focused on how to improve the relationship between educational research and teaching practice, Perines & Murillo (2017) conclude that the teachers' suggestions point towards four elements: the need for researchers to publish studies close to the teachers, the role of educational administrations in the dissemination of research, changes in teacher training within universities and the critical analysis of teachers' attitudes towards research. The idea of bringing educational research closer to a non-research public and collaborating with researchers and teachers in order to bring research closer to practice has been an idea previously discussed (Broekkamp & Hout-Wolters, 2007). Indeed, from previous literature, it is known that the main issues that concern teachers are those on which they would like to continue learning and investigating more. These issues are mainly linked to being able to improve motivation and eliminate the lack of involvement of students, to

know and compare the different teaching strategies, to improve the relationship between teachers and students, to improve the academic performance of students, and with helping students manage and analyse information in the best possible way, among others (Everton et al., 2000; Perines y Murillo, 2017). Taking these interests into account could be key to proposing attractive studies to teachers.

In addition, over the last few years, work has already been done on projects that seek to reduce the gap between research and practice. One of the most prominent projects on the international scene is the “Teachers Research Exchange (T-REX)” project proposed by McGann et al. (2020). This project has been materialized as an online community that is being piloted in Ireland, in response to the gap between research and practice. According to these authors, *evidence-based teaching practice* has become a fashionable phrase that has good intentions; however, to avoid becoming an empty term, the practices of different groups-politicians, researchers, teachers have to line up more. In addition to the aspects of global and organizational contexts, other problems arise such as limited time for people and the access to research resources.

In the current university outlook, a series of aspects arise in order to understand the lack of involvement with educational research. Specifically, it is seen as one of the main obstacles for university faculty not to investigate the type of contract with few hours that they have. This means that the hours they spend at the university are few, and those hours are used purely for teaching (Perines, 2020). In addition, they also mention the lack of training and support in terms of financial resources (MacDonald, Badger y White, 2001; Levin et al. 2011) It is for these reasons that working from institutions to improve these conditions can be interesting to promote teachers’ interest in educational research.

Justification and objective of this research

In current literature there are works that have investigated the distance between educational research and teaching practice (e. g. Broekkamp & van Hout-Wolters, 2007; Perines y Murillo, 2017; Van der linde & van Braak, 2010), showing the low impact that research has on the reality of teachers. In this regard, Díaz (2010) highlights the need to gradually form a broader theoretical framework to consolidate the phenomenon of the lack of impact of educational research. Along the same lines, authors like Bauer et al. (2015) indicate that one way to reduce the distance between educational research and teaching practice is to implement evidence-based teaching practices. Venet & Barros (2017, p.421) point out, “the evaluation of the impact of educational research is an insufficiently studied process, both from a theoretical and a practical-methodological point of view”

A way of moving towards reducing this gap and optimizing the way in which scientific knowledge in the field of education impacts the reality of teachers is to investigate both the causes of this distance and the ways to improve teachers' involvement in research.

On the one hand, this work seeks to systematize the main problems or barriers that teachers encounter when investigating in education. On the other hand, the work also seeks to systematize the main contributions made by teachers to improve their involvement with educational research.

METHODOLOGY

Sample

A total of 264 teachers (Age = 36.03; SD = 11.64) with high experience in the field of education (Years = 7.94; SD = 10.24) participated to the present work. Of the total, 195 were women and 69 were men. Finally, 45 were Early Childhood Education teachers, 101 were Primary Education teachers, 58 were Secondary Education, Baccalaureate and Professional Training teachers, and 60 were University Education teachers in the field of Pedagogy and Education.

Table 1

Distribution of the sample by gender and educational stage

Variable	Categories	n (%)
Gender	Men	195 (73.9%)
	Women	69 (26.1%)
Educational stage teachers' work in	Early Childhood Education	45 (17.0%)
	Primary Education	101 (38.3%)
	Secondary Education, Baccalaureate and Professional Training	58 (22.0%)
	University Education	60 (22.7%)

The sample was selected by non-probabilistic methods. On the one hand, the non-university teaching staff were teachers from all over Spain who were studying a university master's degree in which the authors work as teachers within it. On the other hand, the university faculty was faculty from the universities where the authors work and those with which they are closest. Specifically, teachers from the Camilo José Cela University, the University of the Basque Country, the University of Cantabria, the University of Deusto, the King Juan Carlos University and the

University of Vigo participated in this research. The response rate for non-university teachers was of 17% (204 / 1200), and the response rate for university teachers was of 14.3% (60 / 858). All this information is graphically represented in Table 1.

Data collection

For the present work, an ad-hoc questionnaire was used. In the questionnaire, we collected contextual variables on participants (gender, age, years of teaching, and educational stage), and answers to two open-ended questions related to educational research. These two open-ended questions were unanimously discussed, elaborated and accepted by the research team. It was decided to present these two questions as they are two questions that allow us to know the origin of the problem and the possible solutions to it.

- What are the main reasons why teachers do not give enough importance to educational research?
- What proposals would you make for teachers to become more committed to educational research?

In order to respond to the questions, the authors contacted the teachers explaining the objective of the study and the tasks to be carried out. Likewise, they were informed of the ethical principles (protection, treatment and processing of the information; possibility of non-participation...), as well as the possibility of receiving a report with the main most outstanding results of the study once it was concluded. In this case, the participants, through another link, had to indicate the email to which they wanted the report to be sent. Thus, responses and email were provided by different digital links. Anonymity was guaranteed by not asking for information that could compromise or be linked to each individual (names, surnames, ID ...), and privacy was guaranteed by collecting and making use of data in private databases for the authors (in this case, stored in the *DropBox* application).

Those who agreed to participate, responded digitally and outside of business hours, through Google Forms, to the questions shown above. Finally, all the responses were collected in an *Excel* document.

Data analysis

The analysis was carried out through two different programs: *Excel* and *SPSS Statistics 24.0*. At first, an inductive analysis was performed, the categories were built and the different responses were coded. In order to guarantee the validity of the categories, each answer was verified by each of the authors of the present investigation. To carry out the coding process, after listing the topics that were

included in the answers, a 1 was scored for the answers that dealt with a certain topic and with a 0 for the answers that did not deal with a certain topic. Once this first analysis was completed, the database was transferred to *SPSS Statistics* where frequency analyses, *Kruskal-Wallis* tests and correspondence analyses were performed. The frequency analyses were carried out with the total sample, whereas the *Kruskal-Wallis* tests and correspondence analyses were carried out considering the educational stage teachers' work in, in order to seeking possible significant differences.

These possible significant differences amongst groups were analysed by means of the p-values of *Kruskal-Wallis* tests, as well as by means of the explained variance values and p-values.

RESULTS

Main reasons why teachers do not give enough importance to educational research

To proceed with this analysis, three large groups were found, each with a series of reasons. These groups were: reasons due to institutional aspects ($f = 40$), reasons due to research aspects ($f = 88$), and reasons due to personal aspects ($f = 266$). Firstly, in relation to *institutional reasons* and gathered in order of frequency the following ones were mentioned:

Firstly, in relation to *institutional reasons*, the following ones were mentioned, in order of frequency:

- Lack of resources ($f = 13$): It refers to the lack of resources available for research in education. For example, "the lack of resources to investigate" (case 86).
- Institutional support ($f = 5$): It refers to the little support received and little perceived institutional value that is given to educational research. For example, "Lack of motivation on the part of the management team" (case 238).
- Disassociation ($f = 5$): It refers to the disconnection that exists between the university, researchers and other professionals with the school environment. For example, "Lack of approach of professionals to educational centres to demonstrate what they are working on" (case 63).
- Excess of bureaucracy ($f = 5$): It refers to the excess of bureaucracy or paperwork that teachers encounter. For example, "Excess of bureaucracy that prevents us from having time to focus on studying the novelties in educational research" (case 84).

- Not required for the job ($f = 5$): It refers to how doing research is not a requirement of the job. For example: “work not required to choose or stay in the job” (case 169).
- Not rewarded or low-paid work ($f = 4$): It refers to research tasks as underpaid or not paid at all. For example: “Unpaid work” (case 169).
- Working instability ($f = 3$): It refers to contractual aspects, such as job instability presented by part of the teaching staff, short-hour contracts, etc, a fact that makes it difficult for teachers to devote time to research. For example: “Sometimes it is difficult to involve people for various reasons: for lack of motivation, for lack of knowledge, for lack of job security in the same centre” (case 119).

Secondly, in relation to *research features*, the following ones were mentioned in order of frequency:

- Transference difficulty to classroom ($f = 43$): It refers to the difficulty in transferring the data obtained from educational research to the classroom or the ability to not reflect the reality of the classroom. For example, “The answers you bring to problems in the classroom don’t always work. The most determining factor is by far the teacher.” (case 30).
- Lack of Value or importance ($f = 21$): It refers to the little value that teachers place on educational research. For example: “They think they have no value or importance in daily life” (case 5).
- Difficult concepts to interpret ($f = 16$): It refers to the lack of understanding of statistical concepts and the difficulty in interpreting the results of educational research. For example, “Sometimes it is complex to understand” (case 118).
- Lack of benefits ($f = 8$): It refers to the complexity to observe the potential benefits of educational research. For example: “Lack of information on its positive effect” (case 92).

Thirdly, in relation to *personal reasons*, the following ones were mentioned:

- Lack of training ($f = 91$): It refers to the lack of training, practice or ignorance to carry out educational research. For example: “Because they may not have received enough information and training about it” (case 102).
- Lack of time ($f = 77$): It refers to the shortage of time available to do research in education. For example, “Due to lack of time, teachers have to dedicate a lot of time to our work and the biggest problem in investigating or implementing new strategies is that they usually do not have the necessary time” (case 126).
- Convenience / Comfort zone ($f = 43$): It refers to the teacher’s posture of not leaving their comfort zone. Include traits such as comfort, conformity, or laziness. For example, “The tranquillity they have in the classroom following traditional education and not joining the search for new methodologies, seeking to achieve better results” (case 27).

- Lack of interest and implication ($f = 26$): It refers to the lack of involvement, interest, motivation, dedication or initiative that teachers can show towards educational research. For example, “I guess the lack of desire and interest in it” (case 106).
- Excess work overload ($f = 16$): It refers to the excess of work with which the teaching staff is in the institutions. For example: “Overload of practical work prevents dedicating time to theoretical work” (case 36).
- Fear of the unknown ($f = 7$): It refers to fear or mistrust in the abilities of teachers when conducting research. For example: “Fear of the unknown” (case 183).
- Practice only based in experience ($f = 6$): It refers to the perception that teachers have of giving full importance in their practice to experience. For example, “Perhaps because they think that what is important is educational practice, that is, the experience of the rest of their classmates at school” (case 78).

Finally, a category of *Others* ($f = 7$) was created that gathered the ideas not included in the previous categories.

Table 2

Reasons of the lack of importance towards educational research by educational stage

Category	Aspect	Total		Groups				p - value
		Frequency	%	EC	PE	SE	UE	
Lack of training	Personal	91	34.5	18	39	15	19	.324
Lack of time	Personal	77	29.2	10	25	21	21	.225
Convenience / Comfort zone	Personal	43	16.3	8	19	10	6	.510
Transference difficulty to classroom	Research	43	16.3	5	14	10	14	.317
Lack of interest and implication	Personal	26	9.8	6	8	5	7	.716
Lack of value or importance	Research	21	8.0	4	9	4	4	.940
Excess work overload	Personal	16	6.1	0	8	4	4	.306
Difficult concepts to interpret	Research	16	6.1	5	8	1	2	.150
Lack of resources	Institutional	13	4.9	3	6	2	2	.776
Lack of benefits	Research	8	3.0	1	2	2	3	.726

Category	Aspect	Total		Groups				p - value
		Frequency	%	EC	PE	SE	UE	
Fear of the unknown	Personal	7	2.7	2	4	1	0	.384
Practice only based in experience	Personal	6	2.3	2	2	0	2	.451
Institutional support	Institutional	5	1.9	2	2	0	1	.439
Disassociation	Institutional	5	1.9	0	1	3	1	.198
Excess of bureaucracy	Institutional	5	1.9	0	0	4	1	.014
Not required for the job	Institutional	5	1.9	1	1	0	3	.196
Not rewarded or low-paid work	Institutional	4	1.4	0	1	1	2	.529
Working instability	Institutional	3	1.1	0	1	0	2	.288
Others	-	7	2.7	1	2	0	4	.138

Note. EC, Early Childhood Education; PE, Primary Education; SE, Secondary Education, UE, University Education.

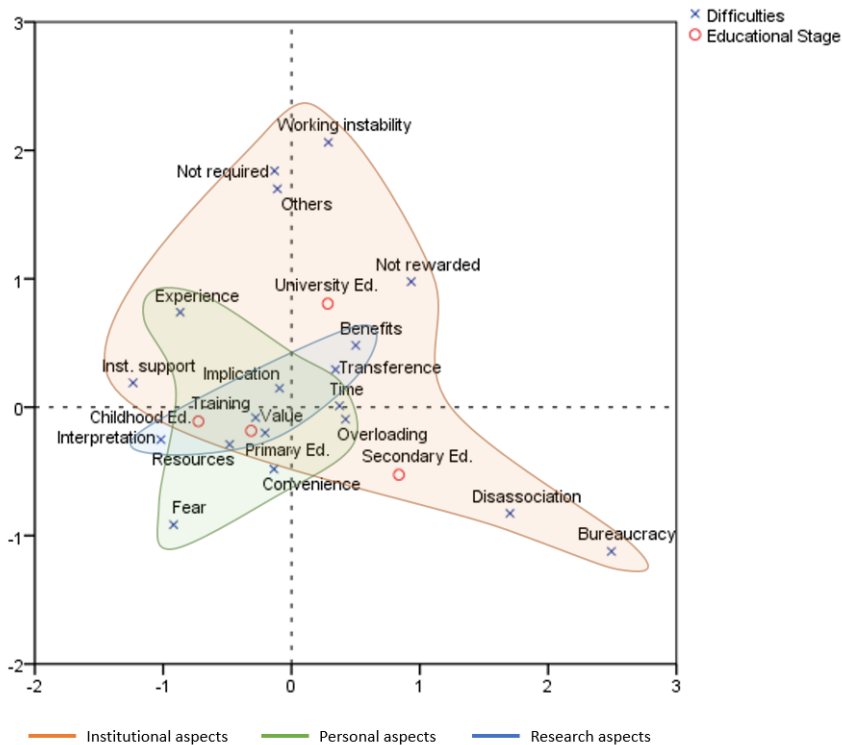
Through this *Kruskal-Wallis* analysis, it is intended to know possible statistically significant differences between the different educational stages for each of the categories studied. Several interesting results are observed from this analysis.

On the one hand, it can be seen how the most important reasons provided by teachers are mainly personal reasons, followed by reasons innate to educational research. These data suggest that the main focus of attention should be placed on work with classroom teachers, rather than on aspects related to the research itself or institutional aspects.

On the other hand, it is appreciated that these results are shared almost unanimously among the teachers of all the different educational stages, as no statistically significant differences were found. The only exception is the category of *Excess of bureaucracy* ($p = .014$), in which the Secondary Education teachers made reference to it to a greater degree.

In order to represent more visually the different categories and their relationship with the different educational stages, a correspondence analysis was carried out. In this case, the total inertia explained was $\Phi^2 = .153$; $p = .328$. The distribution of axes was quite equitable so that the X axis explained a part of that inertia ($\lambda = .085$; 55.6%) and the Y axis another part quite similar to the first axis ($\lambda = .053$; 35.0%).

Figure 1
Difficulties by educational stages



As expected from the previous *Kruskal-Wallis* analysis, the vast majority of categories, such as the different educational stages, were very close to the point of origin, assuming a high degree of agreement between both variables. Finally, as gathered in Figure 1, it can be seen how it is true that there are a series of *institutional reasons*, which, without being statistically significant, are more linked to a certain educational stage, as is the case of the category of *dissociation* and the stage of secondary education, or *job instability* and *not required for the job* categories with university education. Despite the fact that the model was not statistically significant, this correspondence analysis (see *Appendix I* for more information) highlights the fact that for the X axis, Early childhood teachers ($CPID^1 = .307$; $SID^2 = -.726$) tend to remark personal reasons, like lack of training ($CPID = .061$; $SID = -.279$), difficulties

1 Contribution of Point to Inertia of Dimension
 2 Score in Dimension

for them when interpreting a study (CPID = .142; SID = -1.01), fear when conducting a research (CPID = .051; SID = -.918)... in contrast to Secondary Education teachers (CPID = .498; SID = .837) who tend to remark more institutional and research reasons, like the disassociation between research and pedagogical practice (CPID = .124; SID = 1.70) or the excess of bureaucracy they deal with (CPID = .266; SID = 2.49). In the case of the Y axis, it was found that secondary education teachers (CPID = .248; SID = -.526) tend to remark personal reasons like fear when conducting a research (CPID = .063; SID = -.915) or comfort zone (CPID = .108; SID = -.482), in contrast to university education (CPID = .688; SID = .806) teachers who tend to remark more institutional reasons, like their working instability (CPID = .138; SID = 2.06), or the non-requirement of carrying out research for their job (CPID = .183; SID = 1.70).

Main proposals in order to improve the educational research

Once again, three large groups were found in this analysis. These groups were: Proposals related to personal aspects ($f = 138$), proposals related to institutional aspects ($f = 155$) and proposals related to research aspects ($f = 75$). Firstly, in relation to *institutional reasons* and gathered in order of frequency the following ones were mentioned:

- Time distribution ($f = 58$): It refers to how time should be redistributed, dedicating more hours to research, and reducing teaching hours. For example: “I am sure that if they could do it within their working hours, people would get much more involved. Once their working hours are over, teachers want to have time for themselves (which I see is logical)” (case 13).
- Incentives ($f = 49$): It refers to how some type of incentive (financial, scholarship, recognition, merit, motivation, better contracts ...) should be given to the teachers to investigate. For example: “Recognition of merits and recognition of salary” (case 31).
- Resources ($f = 14$): It refers to how a greater amount of material and spatial resources should be given to teachers to facilitate research. For example: “Facilitate the investigation and give them the means to carry it out” (case 23).
- Institutional support ($f = 13$): It refers to how the educational centres’ management should make a bigger effort giving ideas, motivation, proposals, involvement in order to promoting educational initiatives related to educational research. ... For example: “The need for a greater number of proposals by schools to teachers” (case 53).
- University link ($f = 13$): It refers to how the link between universities and educational centres should be improved, through groups of experts or advisers, to name a few. For example: “Establish a real and effective line of collaboration between educational centres and the university. That is, based

on a need experienced in the centres or a need detected by the university, working groups will be established so that the support from research and experts will help and facilitate teachers in their daily practice "(case 39).

- Bureaucracy ($f = 6$): It refers to how the amount of bureaucracy that a teacher must manage should be reduced. For example: "Reduction of paperwork in the day to day" (case 58).
- Ratio / Class size ($f = 2$): It refers to how the ratio of students per teacher should be reduced. For example: "Reduction of ratios that allow all work to be done during working hours, and thus have time for research, innovation, introduction of new methodologies ..." (case 24).

Secondly, in relation to *proposals related to research aspects*, the following ones were found:

- Class reality ($f = 34$): It refers to how research should approach the reality of the classroom and teaching practice. It is discussed how one possible way could be the dissemination using simple language, which allows it to be understood by all teachers. For example: "That the results of the research carried out are adapted to the reality of teaching practice and that it involves a transfer of real knowledge" (case 106).
- Interests ($f = 23$): It refers to how research should be carried out on topics of interest, significant and current in order to motivate teachers to investigate. For example: "Provide interesting and current topics in the educational field" (case 2).
- Expose utility ($f = 18$): It refers to how the usefulness and potential benefits of the use of educational research should be presented to teachers. For example: "It is necessary to teach how educational research can contribute to improving the teaching function" (case 42).

Thirdly, in relation to *personal reasons* and collected in order of frequency the following ones were mentioned:

- Training ($f = 90$): It refers to how training and practice in research should be promoted both throughout the university degree, and throughout the years of in-service teaching. For example: "Specific education research courses, and training in the analysis and interpretation of results" (case 88).
- Teamwork ($f = 22$): It refers to how teamwork should be promoted when introducing educational research to teachers. For example: "Collaborate with other teachers to promote motivation" (case 20).
- Job's Task ($f = 17$): It refers to how teachers should consider educational research as one more objective in their daily work. For example: "Incorporate in our pedagogical objectives to carry out an investigation per course" (case 8).

- Social impact ($f = 5$): It refers to how the mentality of teachers should be changed to make them see that research in education should be done to contribute our bit to society. For example: “I would try to make the whole world of research and publication a more honest world, with less competitiveness and more real desire to contribute to society” (case 85).
- Professional aims ($f = 4$): It refers to how teachers should feel motivated to set more professional goals, among them, to advance in educational research. For example: “Set yourself more challenges and goals in your daily work” (case 3).

Finally, a category of *Others* ($f = 14$) was created that gathered the ideas not included in the previous categories.

Table 3

Proposals to improve the involvement of teachers towards educational research by educational stage

Category	Aspect	Total		Groups				p - value
		Frequency	%	EC	PE	SE	UE	
Training	Personal	90	23.5	14	37	15	24	.503
Time distribution	Institutional	58	15.1	6	17	17	18	.079
Incentives	Institutional	49	12.8	7	14	11	17	.250
Class reality	Research	34	8.9	7	14	6	7	.810
Interests	Research	23	6.0	4	12	4	3	.388
Teamwork	Personal	22	5.7	4	13	4	1	.069
Expose utility	Research	18	4.7	6	7	3	2	.193
Job's task	Personal	17	4.4	2	4	5	6	.451
Resources	Institutional	14	3.6	2	6	5	1	.329
Institutional support	Institutional	13	3.4	4	4	1	4	.372
University link	Institutional	13	3.4	1	4	2	6	.298
Bureaucracy	Institutional	6	1.5	0	2	3	1	.310
Social impact	Institutional	5	1.3	0	2	0	3	.207
Professional aims	Personal	4	1.0	2	0	0	2	.108
Ratio	Institutional	2	0.5	0	1	1	0	.638
Others	-	14	3.6	4	4	2	4	.584

Note. EC, Early Childhood Education; PE, Primary Education; SE, Secondary Education, UE, University Education.

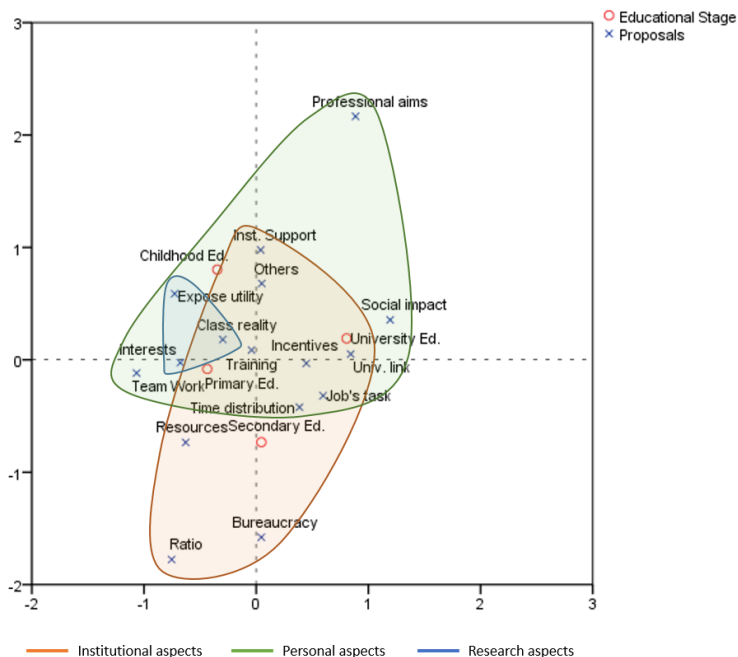
On the one hand, regarding this second question, the proposals are quite balanced in the three areas analysed: personal, institutional and investigative

aspects. That is why the teaching staff points out that in order to improve the involvement of the teaching staff with educational research, the problem should be tackled from these three types of proposals.

On the other hand, it is appreciated that these results are shared almost unanimously, regardless the educational stage of the teachers, as non-statistically significant differences were found in any of the categories of the inductive analysis. Despite these results, it should be pointed out that two tendential values were found with regard to *time distribution* ($p = .079$) in favor of primary, secondary and university education teachers, and *teamwork* ($p = .069$) in favor of primary education teachers.

In order to represent more visually the different categories and their relationship with the different educational stages, a correspondence analysis was carried out. In this case, the total inertia explained was $\Phi^2 = .140$; $p = .178$. The distribution of axes was quite even so that the X axis explained a part of that inertia ($\lambda = .067$; 47.8%) and the Y axis another part quite similar to the first axis ($\lambda = .053$; 37.5%).

Figure 2
Proposals by Educational Stages



As expected from the previous *Kruskal-Wallis* analysis, the vast majority of categories, such as the different educational stages, were very close to the

point of origin, assuming a high degree of agreement between both variables, educational stage teachers work in and proposals for improving the perception toward educational research. Finally, in Figure 2 we can see how the vast majority of proposals are shown at a close distance between them. However, there is also a series of *institutional aspects* such as the *Ratio* and the *Bureaucracy*, and a series of *personal aspects*, such as *professional aims*, which are shown to be more disconnected from the cloud of proposals from teachers of the different educational stages. Despite the fact that the model was not statistically significant, this correspondence analysis (see *Appendix II* for more information) highlights the fact that for the X axis, Primary Education teachers tend to highlight proposals related to the research as an object that must be approached to teachers by carrying out research of interesting topics (CPID = .106; SID = -.676) and exposing its utility (CPID = .096; SID = -.727); in addition to referring to the institutional importance of promoting teamwork (CPID = .253; SID = .447) by providing them with sufficient material resources (CPID = .056; SID = -.628), in contrast to University teachers who highlight other type of external proposals, like fostering incentives (CPID = .099; SID = .447), improving the link between university and schools (CPID = .093; SID = .842), requiring the research as a job's tasks (CPID = .061; SID = .596), as well as fostering the social impact of the research studies (CPID = .072; SID = 1.19). In the case of the Y axis, it was found that Secondary education teachers (CPID = .484; SID = -.733) tend to remark management proposals, like time distribution (CPID = .118; SID = -.422), reduction of the bureaucracy (CPID = .171; SID = -1.57), more quantity of resources (CPID = .086; SID = -.735), and a reduction of the ratio per class (CPID = .072; SID = -1.77), in contrast to Childhood education teachers who tend to remark personal, institutional and research proposals, like setting more professional aims (CPID = .214; SID = 2.16), exposing the utility of conducting a research (CPID = .071; SID = .588), as well as improving the institutional support (CPID = .142; SIC = .977).

DISCUSSION AND IMPLICATIONS

The objective of this study has been to know the barriers faced by teachers of all educational stages when getting involved with educational research, as well as the proposals made by teachers of all educational stages to improve their involvement with educational research.

The results show that there is high unanimity in the difficulties and in the proposals collected by the teaching staff of the different educational stages. In total, after the inductive analysis carried out, 19 barriers were detected that make it difficult for teachers to get involved with educational research and 15 proposals to improve this situation.

On the one hand, among the most relevant barriers that hinder the involvement of teachers in educational research we find *lack of training*, *lack of time*, difficulty in leaving the *comfort zone*, all of them difficulties related to personal aspects, and finally, difficulty of transferring research results to the classroom (*transference difficulty to classroom*), which we could consider as a research barrier. Some of these barriers have been previously mentioned in the current literature; for instance, *Lack of training* (e.g., Ion & Iucu, 2014), *lack of time* (e.g., Kostoulas et al., 2019) and difficulty of transferring research results to the classroom (e.g., Schneider & Keesler, 2007; Van der Linde & Van Braak, 2010; van Schaik et al., 2018). Nonetheless, the current study not only mentions them but also highlights them as the most significant difficulties and, in addition, highlights a new difficulty that arises among teachers not previously collected in the literature, such as the difficulty to leave the *comfort zone* once the teacher is working. From previous studies, it is known that in order to grow and learn professionally, it is necessary for in-service teachers to leave their comfort zone (Falter & Barnes, 2020).

This hypothesis is motivated by the findings of previous works (to cite a few, Brown, 2008; Davis-Berman & Berman, 2002; Leberman & Martin, 2003) that bear that risk taking and a moderated vulnerability can result in a higher quality learning process. In addition, authors such as Fecho et al. (2005) even talk about the fact that real learning occurs in this setting outside the comfort zone, in which the teacher is in a state of *wooble*, and embrace a moderate tension and uneasiness. Being aware of these findings, it is necessary to emphasize the need to motivate teachers in order to leave this comfort zone by making use of the diversity of tools that educational institutions have at their disposal (incentives, training, temporal distribution ...)

On the other hand, among the most prominent proposals to get teachers to become more involved with educational research, we find the following 4: (1) the need for more *training* throughout the university degree, as well as throughout professional life; (2) improve *temporal distribution*, dedicating a number of hours to research and fewer hours of teaching; (3) provide *incentives* to teachers who do research; (4) focus the educational research on *class reality*. Previous literature highlights the importance to foster *training* (e.g., Everton et al., 2000; Perines y Murillo 2017; Vereijken et al., 2018), rethink the *time distribution* dedicated to researching and teaching (e.g., McGann et al., 2020), and considering the *class reality* when carrying out a research (Everton et al., 2000; McGann et al., 2020), but this research goes a step further and gathers these categories as key factors to improve the educational research within teachers in all educational levels. In addition, even though previous works have pointed out the need to promote financial resources specially in university teachers in order to promote the educational research (e.g., Perines 2020), it seems that it is still a pending

challenge. As reflected in this work, teachers of all educational stages consider this factor essential to begin to get more involved with educational research. The findings of the present work have a series of implications, both theoretical and practical. Theoretically, the greatest contribution of this work lies in the ability to develop a more solid and robust theoretical foundation on a relevant social phenomenon such as the lack of impact of educational research (Díaz, 2010).

In relation to the practical implications, this work seeks to serve as a point of reference to improve the teaching plans of universities and educational centres. In this sense, previous studies have pointed out that educational research teaching plans must be based on two principles: (1) foster cooperation amongst teachers, and (2) foster reflection habits that could help teachers in their process of generating educational knowledge (Izquierdo & Izquierdo, 2010). Based on these two principles and considering all the difficulties and proposals emerged in our research, a re-elaboration of action plans for universities and educational centres seems to be necessary.

In addition, this study also tries to serve as an inflection point of public and school policies that are linked to this issue. In this sense, we must consider that today, there are already educational laws that contemplate the importance of educational research and the need to carry it out. For example, in the Spanish context, these details have been included very recently in the educational law. In this sense, in article 102.3 of the recent Organic Law amending the LOE (Ley Orgánica 3/2020) the following is commented on the obligation of the central administrations to guarantee permanent teacher training in innovation and research programs:

“Likewise, [the administrations] are responsible for promoting research and innovation programs, promoting collaborative work and professional networks and centres for the promotion of training, self-evaluation and improvement of teaching activity” (p. 122918).

In the same way and recently added to the educational law, in article 132, the competences of the director of educational centres include the need to encourage and motivate research programs in their contexts:

“It is a director’s competence to promote the qualification and training of the teaching team, as well as the research, experimentation and educational innovation in the centre” (p. 122925).

It is important to consider this legal framework since, it has been found that when educational research policies based on teachers’ needs are correctly taken into account, they significantly impact on the quality of teaching-learning processes (Darling-Hammond, 2016; Davies et al., 2000).

Finally, this work is not exempt from limitations that should be addressed in future studies. First, the most significant limitation is related to the type of

methodology used. It is true that the type of qualitative methodology used to analyse open responses from teachers is valid to capture a greater amount of detail, but it could be less valid and reliable information than that obtained by other types of more robust research methods, such as that obtained through quantitative parametric tests, provided that instruments with good psychometric properties and significant samples are used. In this case, to ensure that all responses were reflected in their respective categories, the authors performed the classification as a group to discuss possible discrepancies and select the most relevant category or categories for a given response (Lew et al., 2018). However, it could be interesting that future studies, both nationally and internationally, repeat this work in order to give a greater degree of solidity to the phenomenon studied.

Even considering the above limitations, it is expected that the present work will serve as a reference to educational and political institutions, as is already beginning to be seen in some Spanish universities that are improving the involvement and competence in educational research of its students and teaching staff. These difficulties and proposals could serve as possible guidelines when designing practical interventions and policies related to educational research within their institutional plans.

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APPENDIXES

Appendix 1: Correspondence analysis of Q1: Reasons of the lack of importance towards Educational Research.

Table 4

Summary of the model

	Singular Value	Inertia	X ²	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	SD	Correlation
								2
1	.291	.085			.556	.556	.042	.078
2	.231	.053			.350	.906	.050	
3	.120	.014			.094	1.000		
T		.153	61.1	.328	1.000	1.000		

Table 5

Overview Row Points

Ed. Stage	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
Childhood Ed.	.170	-.726	-.110	.034	.307	.009	.767	.014	.781
Primary Ed.	.379	-.314	-.183	.020	.129	.055	.542	.146	.688
Secondary Ed.	.207	.837	-.526	.056	.498	.248	.752	.236	.988
University Ed.	.244	.282	.806	.042	.067	.688	.134	.866	1.000
Active Total	1.000			.153	1.000	1.000			

Table 6
Overview Column Points

Difficulties	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
Value	.052	-.205	-.200	.001	.008	.009	.551	.415	.966
Transference	.107	.343	.293	.006	.043	.040	.629	.365	.993
Implication	.065	-.094	.148	.003	.002	.006	.065	.129	.194
Benefits	.020	.501	.482	.003	.017	.020	.543	.399	.942
Training	.227	-.279	-.081	.006	.061	.006	.912	.061	.973
Interpretation	.040	-1.018	-.252	.013	.142	.011	.948	.046	.994
Resources	.032	-.482	-.290	.003	.026	.012	.776	.222	.998
Time	.192	.374	.011	.008	.092	.000	.987	.001	.988
Convenience	.107	-.137	-.482	.006	.007	.108	.091	.892	.983
Disassociation	.012	1.702	-.827	.013	.124	.037	.837	.157	.993
Overloading	.040	.421	-.094	.009	.024	.002	.238	.009	.247
Inst. support	.012	-1.235	.190	.007	.065	.002	.839	.016	.854
Fear	.017	-.918	-.915	.008	.051	.063	.556	.438	.995
Bureaucracy	.012	2.493	-1.123	.028	.266	.068	.802	.129	.931
Experience	.015	-.867	.740	.006	.039	.035	.543	.314	.857
Working instability	.007	.287	2.063	.008	.002	.138	.022	.884	.906
Not rewarded	.010	.933	.978	.005	.030	.041	.518	.451	.969
Not required	.012	-.132	1.841	.010	.001	.183	.006	.961	.967
Others	.017	-.110	1.700	.012	.001	.218	.005	.993	.999
Active Total	1.000			.153	1.000	1.000			

Appendix 2: Correspondence analysis of Q2: Proposals to improve the involvement of teachers towards educational research.

Table 7

Summary of the model

	Singular Value	Inertia	X ²	Sig.	Proportion of Inertia		Confidence Singular Value	
					Accounted for	Cumulative	SD	Correlation 2
1	.259	.067			.478	.478	.045	-.064
2	.229	.053			.375	.852	.047	
3	.144	.021			.148	1.000		
Total		.140	53.5	.178	1.000	1.000		

Table 8

Overview Row Points

Ed. Stage	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
Childhood Ed.	.165	-.347	.803	.036	.077	.464	.144	.684	.829
Primary Ed.	.369	-.436	-.082	.026	.272	.011	.700	.022	.722
Secondary Ed.	.207	.046	-.733	.032	.002	.484	.004	.797	.801
University Ed.	.259	.806	.190	.047	.650	.041	.932	.046	.978
Active Total	1.000			.140	1.000	1.000			

Table 9
Overview Column Points

Proposals	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
Interests	.060	-.676	-.025	.008	.106	.000	.891	.001	.892
Class reality	.089	-.298	.181	.003	.031	.013	.754	.246	1.000
Professional aims	.010	.886	2.166	.016	.032	.214	.137	.727	.864
Training	.236	-.042	.087	.003	.002	.008	.034	.130	.164
Time distribution	.152	.385	-.422	.013	.087	.118	.454	.481	.935
Bureaucracy	.016	.046	-1.579	.010	.000	.171	.001	.926	.927
Expose utility	.047	-.727	.588	.013	.096	.071	.516	.299	.815
Team Work	.058	-1.066	-.118	.018	.253	.003	.936	.010	.946
Incentives	.128	.447	-.031	.007	.099	.001	.973	.004	.977
Resources	.037	-.628	-.735	.009	.056	.086	.396	.480	.877
Ratio	.005	-.754	-1.777	.005	.012	.072	.166	.817	.983
Inst. Support	.034	.040	.977	.008	.000	.142	.002	.976	.978
Univ. link	.034	.842	.051	.008	.093	.000	.802	.003	.805
Job's task	.045	.596	-.319	.006	.061	.020	.693	.176	.869
Social impact	.013	1.193	.355	.011	.072	.007	.448	.035	.483
Others	.037	.050	.679	.005	.000	.074	.005	.815	.820
Active Total	1.000			.140	1.000	1.000			